SIMON ASHER LEVIN

James S. McDonnell Distinguished University Professor in Ecology and Evolutionary Biology
Princeton University, Department of Ecology and Evolutionary Biology
102 Guyot Hall, Princeton, NJ 08544-1003, USA. Telephone: 609.258.6880
Mailing Address: 106A Guyot Hall, Princeton, NJ 08544-1003, USA
EEB Website: https://eeb.princeton.edu/people/simon-levin
Levin Lab Website: http://slevin.princeton.edu
ORCID: https://orcid.org/0000-0002-8216-5639

EDUCATION

B.A. The Johns Hopkins University, Baltimore, MD	Mathematics	1961
Ph.D. The University of Maryland	Mathematics	1964
NSF Postdoctoral Fellow, University of California, Berkeley	Operations Research	1964-65

PROFESSIONAL EXPERIENCE

Princeton University

2022-	Faculty, Program in Biophysics
2022-	Affiliated Faculty, Center for Health and Wellbeing
2019-	Associated Faculty, Andlinger Center for Energy and the Environment
2017-	Associated Faculty, Princeton University Center for Human Values
2016-	Associated Faculty, Program in Global Health and Health Policy, Princeton School of Public and International Affairs
2016-	James S. McDonnell Distinguished University Professor in Ecology and Evolutionary Biology
2014-	Affiliated Faculty, Center for Policy Research on Energy and the Environment (C-PREE)
2012-	Faculty Associate, Graduate Certificate in Computational and Information Science (PICSciE)
2012-	Faculty Associate, Princeton Institute for International and Regional Studies (PIIRS)
2009-	Faculty, Quantitative and Computational Biology Program, Princeton University
2001-	Director, Center for BioComplexity
1994-	Affiliated Faculty, High Meadows Environmental Institute
1993-98	Founding Director, Princeton Environmental Institute (changed to High Meadows Environmental Institute)
1992-	Affiliated Faculty, Program in Applied and Computational Mathematics
1992-2016	George M. Moffett Professor of Biology

Cornell University

1992-	Adjunct Professor, Ecology and Evolutionary Biology; Center for Applied Mathematics
1990-92	Director, Program on Theoretical and Computational Biology
1987-90	Director, Center for Environmental Research
1985-92	Charles A. Alexander Professor of Biological Sciences
1980-87	Director, Ecosystems Research Center
1977-92	Professor of Applied Mathematics and Ecology
1974-79	Chair, Section of Ecology and Systematics, Division of Biological Sciences
1971-77	Associate Professor
1965-70	Assistant Professor

Visiting & Honorary Positions

2020-23	Honorary Professor, Tsinghua University, Beijing, China
2018-	Distinguished Visiting Professor, Arizona State University
2014-18	External Scientist, Johns Hopkins University, Center for Advanced Modeling
2014-	Distinguished Guest Professor, The Center for Human-Environmental System Sustainability (CHESS), State Key Laboratory of Earth Surface Processes and Resource Ecology (ESPRE), Beijing Normal University (BNU)
2010-11	External Faculty, Santa Fe Institute
2008-09	Pardee Visiting Professor of Future Studies, The Frederick S. Pardee Center for the Study of the Longer-Range Future, Boston University
2008-09	Visitor, Institute for Advanced Study, Princeton, NJ
2007-16	Visiting Distinguished Professor, Institute for Mathematical Behavioral Sciences, and in Ecology and Evolutionary Biology (2009-16), University of California, Irvine

2007 Visiting Researcher, University of California, Irvine
2004-05 Visiting Professor, University of Miami, Department of Mathematics
2003 Visiting Miller Research Professor, University of California, Berkeley
1999 Visitor, Institute for Advanced Study, Princeton, NJ
1994 Woods Hole Oceanographic Institution, Geophysical Fluid Dynamics Summer Program
1988-93 Quondam Fellow, All Souls College, University of Oxford
1988 Visiting Fellow, All Souls College, University of Oxford (Trinity Term)
1988 Stanford University, Stanford, CA
1983-84 University of Kyoto, Kyoto, Japan
1980 The Weizmann Institute, Rehovot, Israel
1979-80 The University of British Columbia, Vancouver, Canada
1977 The Weizmann Institute, Rehovot, Israel
1973-74 University of Washington, Seattle
1968 University of Maryland, College Park

HONORS AND AWARDS

Major International Prizes

A.H. Heineken Prize for Environmental Sciences 2004, Royal Netherlands Academy of Arts and Sciences (2004)
Kyoto Prize in Basic Sciences, Inamori Foundation, Japan (2005)
Margalef Prize, Government of Catalonia (2010)
Tyler Prize for Environmental Achievement (2014)
Luca Pacioli Prize, Ca'Foscari University of Venice, Italy (2014)
National Medal of Science (2014)
BBVA Foundation Frontier of Knowledge Award in Ecology and Conservation Biology (2022)

Major Honorary Societies

Fellow, American Academy of Arts and Sciences (1992)
Member, National Academy of Sciences (2000)
Member, American Philosophical Society (2003)
Foreign Member, Istituto Veneto di Scienze, Lettere ed Arti, Venice, Italy (2008)
Foreign Member, Istituto Lombardo, Milan (2014)
Member, Academia Europaea (2022)

Major Society Awards

MacArthur Award, Ecological Society of America (1988)
Distinguished Statistical Ecologist Award, International Association for Ecology (INTECOL) (1994)
Distinguished Service Citation of the Ecological Society of America (1998)
The First Okubo Lifetime Achievement Award, Society for Mathematical Biology and Japanese Society for Mathematical Biology (2001)
Distinguished Landscape Ecologist Award, U.S. Regional Association of the International Association for Landscape Ecology (US-IALE) (2003)
I.E. Block Community Lecture Award, Society for Industrial and Applied Mathematics (2006)
Distinguished Scientist Award, American Institute of Biological Sciences (2007)
Eminent Ecologist Award, Ecological Society of America (2010)

Honorary Degrees

Honorary Doctor of Sciences, Eastern Michigan University (1990)
Honorary Doctor of Humane Letters Honoris Causa, Whittier College (2004)
Honorary Doctor of Science, Michigan State University (2009)
Honorary Doctor of Science, McMaster University (2015)
Honorary Doctor of Science, University of Victoria (2019)

Fellowships

NSF Postdoctoral Fellow, University of California, Berkeley (1964-65)
NSF Predoctoral Fellow, University of Maryland, College Park (1962-64)
Guggenheim Fellow (1979-80)
Japan Society for the Promotion of Science Fellowship, Kyoto, Japan (1983-4)

Publication Awards

1990 Best Publication in Landscape Ecology Award, U.S. Chapter, International Association for Landscape Ecology for: Andow, D.A., P.M. Kareiva, S.A. Levin, and A. Okubo. 1990. Spread of invading organisms. *Landscape Ecology* 4 (2/3): 177-188.

2001 Outstanding Paper in the Discipline of Landscape Ecology Award for 2001 (U.S. Chapter, International Association for Landscape Ecology) for: Keymer, J.E., Marquet, P.A., Velasco-Hernandez, J.X. and S.A. Levin. 2000. Extinction thresholds and metapopulation persistence in dynamic landscapes. *American Naturalist* 156(5): 478-494.

2002 Most Cited Paper in the Field of Ecology and Environment for the 1990s (Institute for Scientific Information, Philadelphia, PA) for: Levin, S.A. 1992. The problem of pattern and scale in ecology. *Ecology* 73(6): 1943-1967.

2010 A Most Cited Paper(s) 2005-2009, Elsevier's *Economic and Finance Journals* for: Durrett, R. and S.A. Levin. 2005. Can stable social groups be maintained by homophilous imitation alone? *Journal of Economic Behavior and Organization* 57(3): 267-286.

2012 Co-author of George Mercer Award 2012 for: Staver, A.C., Archibald, S. and S. Levin. 2011. Tree cover in sub-Saharan Africa: Rainfall and fire constrain forest and savanna as alternative stable states. *Ecology* 92(5): 1063-1072.

2014 Co-author of President's Award for best paper in the *American Naturalist* for: Farrior, C.E., Dybzinski, R., Levin, S. and S. Pacala. Competition for water and light in closed-canopy forests: A tractable model carbon of allocation with implications for carbon sinks. *American Naturalist* 181(3): 314-330.

2018 International Consortium of Chinese Mathematicians (Beijing) Best Paper Award 2018 for: Lei, J., Levin, S.A., and Nie, Q. 2014. Mathematical model of adult stem cell regeneration with cross-talk between genetic and epigenetic regulation. *PNAS* 111(10): E880-887.

2018 Co-author of One of the Most-Cited 2018 *PNAS* Papers for: Klein, E.Y., Van Boeckel, T.P., Martinez, E.M., Pant, S., Gandra, S., Levin, S.A., Goossens, H., and R. Laxminarayan. 2018. Global increase and geographic convergence in antibiotic consumption between 2000 and 2015. *PNAS* 115(15): E3463-E3470.

2020 Co-author of ESA Outstanding Paper Award 2020 (Theory Section) for: Tekwa, E., Fenichel, E.P., Levin, S.A., and M. Pinsky. 2019. Path-dependent institutions drive alternative stable states in conservation. *PNAS* 116(2): 689–694.

2021 Co-author of ESA Outstanding Paper Award 2021 (Theory Section) for: Goel, N., Guttal, V., Levin, S.A., and A.C. Staver. 2020. Dispersal increases the resilience of tropical and savanna and forest distributions. *The American Naturalist* 195(5): 833-850.

2023 Co-author of Most Cited Paper in Population Ecology, 2021-2023, for: Pinsky, M.L., Fenichel, E., Fogarty, M., Levin, S., McCay, B., St. Martin, K., Selden, R.L., and T. Young. 2020. Fish and Fisheries in hot water: What is happening and how do we adapt?" *Population Ecology*. https://doi.org/10.1002/1438-390X.12050.

2023 Co-author of Honorable Mention (Outstanding Ecological Theory Paper Award category) from the Ecological Society of America (ESA) for: Gibbs, T., Levin, S.A., and J.M. Levine. 2023. Coexistence in diverse communities with higher-order interactions. *PNAS* 119(43): e2205063119.

Honorary & Distinguished Fellowships

Beijer Fellow, Beijer Institute of Ecological Economics, Sweden (2007)
University Fellow, Resources for the Future (2008)
SIAM Fellow (2009)
Fellow, Ecological Society of America (2012)
Academic Fellow, BCG Henderson Institute, Boston Consulting Group (2012)
SparcS Fellow, Synergy Program on Resilience and Critical TransitionS (from Echteld Workshops) (2012)
IIASA Distinguished Visiting Fellow (2014)
Society for Mathematical Biology Fellow (2017)
Science Board Lifetime Fellow, Santa Fe Institute (2018)
Research Fellow, Gruter Institute for Law and Behavioral Research (2020)
Distinguished Fellow, Luohan Academy, Hangzhou, China (2021-Sept. 2023)
Fellow, American Mathematical Society (AMS) (2021)
Fellow, Academia Europae (2022)
Distinguished Senior Fellow, Intercollegiate Biomathematics Alliance (2022)

Other

The Honor Society of Phi Kappa Phi Biology Colloquium Award (1991)
The Haldane Award Lecture, John Innes Centre, Norwich BioScience Institutes, Norwich, UK (2011)
World Innovation Foundation, Honorary Member (2003)
Clay Mathematics Senior Scholar-in-Residence (2004-2005)
Medallion of the Université de Montpellier (2004)

Distinguished Alumnus of the Year Award, University of Maryland, College of Computer, Mathematical and Natural Sciences (2011)
Honorary Scholar, IIASA, Laxemburg Austria (2012-)
Theoretical Ecology 4(2), 2011, Special Issue in Honor of Simon Levin's 70th Birthday
Journal of Mathematical Biology, 2012, Special Issue in Honor of Simon Levin's 70th Birthday
Journal of Biological Dynamics 6, Supplement 2, 2012, Special Issue in Honor of Simon Levin's 70th Birthday
The Mathematical, Computational and Modeling Sciences Center at Arizona State University Relaunched in Honor of Simon A. Levin as The Simon A. Levin Mathematical, Computational, and Modeling Sciences Center (2014)
Lifetime Achievement Award, Who's Who (2019)
Lifetime National Associate of the National Research Council of the National Academies
Affiliate, MIT Laboratory for Financial Engineering (LFE) (2020-23)
Member, World Laureates Forum (2020)
Simon A. Levin honored with iFAST Symposium Held to Celebrate His 80th Birthday and Outstanding Contributions to Theoretical Ecology (2021)
Highly Cited Researcher, Web of Science Group (2019-23)
Sven Berggren Prize Royal Physiographic Society, Lund, Sweden (announced in 2023; to be awarded in 2024)
Research Excellence Award, University of Maryland Alumni Association (announced in 2023; awarded in 2024)
Ecology & Evolutionary Leader Award, Research.com (2024)

NAMED LECTURES

The Distinguished Brin Lecture, Brin Mathematics Research Center, Department of Mathematics, University of Maryland (2023)
The Messenger Lectures (3 lectures), Cornell University (2023)
The Frederic and Julia Wan Distinguished Lecture Series (Inaugural Lecture), University of California, Irvine (2023)
The Huck Distinguished Lecture, The Pennsylvania State University (2019)
Lawrence B. Slobodkin Lecture (2 Lectures), Stony Brook University (2018)
Dr. Erik B. & Mrs. Joyce D.C. Young Lecture, Bioscience Day, University of Maryland, College Park (2017)
Federico Leighton Lecture, Pontificia Universidad Católica de Chile (2017)
McKnight-Zane Lecture, University of Miami, Florida (2017)
John R. Raben/Sullivan & Cromwell Fellow Lecture, Yale University Law School (2017)
Siemens Lecture, Carl Friedrich von Siemens Foundation, Munich, Germany (2016)
The Fridtjof Nansen Lectures on Ocean Life, University of Oslo, Norway (2016)
Milton Wing Lecture (2 lectures), University of Rochester, NY (2016)
Moore Lecture, University of Virginia, Dept. of Environmental Sciences (2016)
C.C. Mei Distinguished Speaker Series, Civil and Environmental Engineering, MIT (2015)
Hugh Hanson Ecology Seminar Series, University of Arizona, Tempe (2015)
The John H. Rassweiler Annual Science Forum on Strategic Techniques and Innovations in Land Preservation and Stewardship, D&R Greenway Land Trust, Princeton, NJ (2014)
The Stockholm Seminars: Frontiers in Sustainability, Science and Policy, Sweden (2014)
Tyler Prize Laureate Lecture, University of Southern California, Los Angeles (2014)
Aisenstadt Chair for the Pan-Canadian Thematic Program on Models and Methods in Ecology, Epidemiology and Public Health Related to Mathematics of Planet Earth 2013, Université de Montréal (3 Lectures)
Simons Public Lecture, MPE 2013, Melbourne, Australia (2013)
Roland Lamberson Lecture in Ecology, Humboldt State University, Arcata, CA (2011)
The David Bradford Seminars in Science, Technology and Environmental Policy, The Program in Science, Technology and Environmental Policy (STEP), Princeton University (2011)
The Haldane Lecture, John Innes Centre, Norwich BioScience Institutes, Norwich, UK (2011)
Lansdowne Lecturer, University of Victoria, Victoria, British Columbia, Canada (2011)
Edward L. Reiss Memorial Lectures in Applied Mathematics (2 lectures), Northwestern University (2010)
Rachel Carson Distinguished Lecture, Center for Systems Integration and Sustainability, Michigan State University (2009)
Shih-I Pai Lecture, Institute for Physical Science and Technology, University of Maryland (2009)
Carnegie Capital Science Evening Lecture, Washington, DC (2008)

Pardee Distinguished Lectures (2 lectures), Boston University (2008)
Stelson Lecturer (2 lectures), Georgia Institute of Technology, Atlanta, GA (2008)
Distinguished Lecturer, Distinguished Ecologists Lecture Series, University of Wyoming (2007)
Distinguished Lecturer, Workshop on the Mathematics of Global Public Health. ASU, Phoenix, AZ (2007)
Storer Life Sciences Lecturer, University of California, Davis (2006)
Louis Thaler Lecturer, Université Montpellier II, France (2004)
Michael Perkins Lecturer, University of Cambridge, UK (2003)
Okubo Distinguished Scholar Lecturer, State University of New York, Stony Brook (2003)
Frank G. & Jean M. Chesley Lecturer, Carleton College, Northfield, MN (2002)
Kaeser Lecturer, University of Wisconsin (2001)
Okubo Prize Lecturer, Society for Mathematical Biology and Japanese Society for Theoretical Biology (2001)
Per Brinck Lecturer, Lund University (1999)
R. Kent Nagle Lecturer, University of South Florida, Tampa (1999)
The Third Annual Stanislaw Ulam Memorial Lecturer, Santa Fe Institute, Santa Fe, NM (1996)
Ostrom Lecturer, Washington State University, Pullman (1994)
Commencement Speaker, Eastern Michigan University (1990)
MacArthur Lecturer, Ecological Society of American (1989)
H.J. Oosting Memorial Lecturer, Duke University, Durham, NC (1987)
Distinguished Ecologist Lecture Series Colorado State University (1987)
Grace Kimball Memorial Lecturer, Wilkes College, Wilkes-Barre, PA (1986)
Alexander Professorship Lecturer, Cornell University, Ithaca, NY (1985)
CBMS Lecturer, Conference on Mathematical Ecology, University of California, Davis (1985)
Lansdowne Lecturer, University of Victoria, Victoria, British Columbia, Canada (1981)

PROFESSIONAL SOCIETIES AND ORGANIZATIONS

American Association for the Advancement of Science, Lifetime Member
American Institute of Biological Sciences (AIBS)
American Mathematical Society, Lifetime Member
American Society of Naturalists
British Ecological Society
Ecological Society of America (ESA) (President-Elect, 1989-90; President, 1990-91; Past President, 1991-92)
National Academy of Sciences, Lifetime Member
- Member, Board on Mathematical Sciences and Analytics, National Research Council, The National Academies (2015-18)
- Board of Biology (service completed)
- Commission on Life Sciences (service completed)

National Academy of Sciences Section 63; (from 2021-2024 secondary affiliation Section 64)
Sigma Xi
Society for Conservation Biology
Society for Industrial and Applied Mathematics (SIAM)
Society for Mathematical Biology (President, 1987-89; Past President and Vice President, 1989-91; Nominating Committee, 1994-95), Lifetime Member

CURRENT PROFESSIONAL ACTIVITIES

SCIENCE/ADVISORY BOARDS:

Board of Directors

Vice Chair (Mathematics), The Committee of Concerned Scientists (1979-)

Science/Advisory Boards

Advisory Board, Institute for Medical BioMathematics, Bene Ataroth, Israel (1999-)
Chair, Scientific Advisory Board, Quantitative Biology Group, African Institute for Mathematical Sciences (AIMS) (2014-)
Science Advisory Board, Complexity Sciences Hub of Vienna, Austria (2016-)
Advisory Board, Institute for the Mathematical Sciences of the Americas, University of Miami (Funded by the Simons Foundation) (2018-)
Scientific Advisory Council, Stockholm Resilience Centre (2019-)
Scientific Advisory Board, Instituto Serrapilheira, Brazil (2019-); SAB, Serraphilheira: Training Program in Biology and Ecology (Serraphilheira with ICTP-SAIFR (2020-)

Advisory Board, Approaches to Causation in the Social and Natural Sciences and their Implications for Theory Building in Sustainability Science (CauSES) (2021-03/24)
Scientific Advisory Board, The Future of the Greater Venice: Toward Seven Transition Scenarios to a Thriving Venice 2100, Istituto Veneto di Science, Lettere ed Arti, Venice (2023-)

Advisory Committees

Advisory Committee, Program at the Isaac Newton Institute for Mathematical Sciences on "The Mathematics of Movement" (2021-)
Advisory Board, UVA Global Biothreats T32 Training Program (2022-)
Advisory Group, Complexity Science Coalition, UNESCO Management of Social Transformations (MOST) Program (2023-)

Planning/Organizing Committees

Co-Director and Co-Organizer, Planning Committee, Complexity Theory and International Relations Study Group, with the New America Foundation and Arizona State University (2023-)

Other Committees

ESA Past Presidents Committee
Review Committee, NAS, Review of Board on Mathematical Sciences and Analytics
Fellows Selection Committee, Schmidt Futures and Rhodes Trust, Oxford, UK (2021-)
Scientific and Strategic Partnerships Committee, Global South Artificial Intelligence for Pandemic and Epidermic Preparedness and Response Network, University of Toronto, Canada (2022-)
External Review Committee, Natural Capital Project, Stanford University (2023-)

Memberships

Pandemic Research for Preparedness and Resilience (PREPARE), University of Virginia, Biocomplexity Institute (2021-)
SSE Corona Economics Research Network (SSE-CERN), Stockholm School of Economics (2020-)

PRINCETON UNIVERSITY SERVICE:

Directorships

Founder, Director, and Faculty Organizer, Theoretical Ecology Lab Tea (1992-2022); Co-Director and Co-Faculty Organizer, Theoretical Ecology Tea (Fall 2022-)

Advisory Boards

Faculty Advisory Board/Faculty Review Board, Princeton Undergraduate Research Journal (2016-)
Faculty Advisory Group, Center for Jewish Life (2021-)

Committees

Faculty Advisory Committee, High Meadows Environmental Institute (formerly Princeton Environmental Institute) (1993-)
Innovation Fund for the Campus as a Lab, Office of the Dean of Research
Executive Committee of the Sustainable Energy (SE) Program, Andlinger Center (2019-25)
Advisory Committee, Electoral Innovation Lab, Princeton University (2021-)

Memberships

Research Community on Global Systemic Risk, PIIRS

Other

Faculty Fellows Program, Butler College
Participant, Princeton's Chapter of EWB (Engineers Without Borders with SEADS (Sustainable Engineering and Development Scholars) Program
Coordinator, MBI-Princeton Institute Partner Program (2015-)
Princeton Director of Princeton University Partnership with Stockholm Resilience Centre and Potsdam Institute for Climate Impact Research, Resilience in Social and Environmental Systems Project
Director and Co-Organizer, Princeton University-Arizona State University Partnership, Dialogues in Complexity
Mentor, Climate and Environmental Sciences and Engineering Graduate Fellowship Program, HMEI, Princeton University (2023-)

EDITORIAL:

Editor-in-Chief/Managing Editor

Monographs in Population Biology (with Corina Tarnita and Rob Pringle), Princeton University (1992-)

Complexity Series (with co-editor Stephen Strogatz), Princeton University Press (1997-)
Princeton Series in Theoretical and Computational Biology, Princeton University Press (2003-)

Honorary Editor
Journal of Mathematical Biology (Co-Managing Ed. 1976-95; Advisory Ed., 1973-76; Honorary Ed. 1995-)
Bulletin for Mathematical Biology (1996-)
Theoretical Ecology (2006-)

Editor
Founding Associate Editor, Collective Intelligence (2020-)

Editorial Boards
Mathematical and Computer Modelling (1979-)
Applied Mathematics Letters (1987-)
Mathematical Biosciences (1987-)
Papers on Mathematical Ecology (1987-)
Faculty of 1000, Co-Section Head, Theoretical Ecology (2004-)
Journal of Biomathematics (Series B, English) (2006-)
Princeton University Press, Primers in Complexity (2007-)
Princeton University Press, Science Essential Series (2007-)
PNAS (2011-)
PeerJ (2012-)
Movement Ecology (2012-)
Experiments in Engagement (EiE), part of PNAS (2015-)

Advisory Boards
Mathematical Biosciences and Engineering (2004-)
Journal of Biological Dynamics (2006-)
Landscape Ecology (2006-)
PLoS Computational Biology (2007-)
Specialty Lead of Theoretical Biology, H1Connect (Formerly F1000Prime, then Faculty Opinions) (2013-24)
Collective Intelligence (ACM and Sage) (2020-)
Ecology, Economy and Society (2021-)
Mathematical Biosciences (2023-)

PROFESSIONAL ACTIVITIES (PREVIOUS)

SCIENCE/ADVISORY BOARDS:

Boards of Directors
Society for Mathematical Biology (1987-91)
New York Sea Grant Institute (1988-90)
Ecological Society of America (1989-91)
American Association for the Advancement of Science (1994-98)
The Beijer International Institute of Ecological Economics, Stockholm, Sweden (1994-99; Chair, 1997-99)
H. John Heinz III Center for Science, Economics and the Environment (1994-99)
The Nature Conservancy, New Jersey Chapter (1995-97)

Governing Councils
IIASA, Laxenburg, Chair (2003-08); Vice-Chair (January 2009-12)

Technical Advisory Councils
British Petroleum (2001-03)

Science/Advisory Boards, Councils, Panels
Scientific Panel, Hudson River Foundation (Chair, 1985-86; Chair, Subcommittee on Community and Ecosystem Dynamics; Member, Executive Committee, 1982-85)
Science Advisory Board, Santa Fe Institute, NM, (1991-99; 2001-05; 2011-17; 2018-23); Co-Chair (2007-10)
Scientific Advisory Committee, Multiscale Experimental Ecosystem Research Center (MEERC), University of Maryland
Advisor, Studying Complex Systems Program, James S. McDonnell Foundation (2000-09)
Chair, U.S. National Committee for IIASA, The National Academies (2003-12)
Chair, Steering Committee, Models of Infectious Disease Agent Study (MIDAS), National Institutes of Health (2004-05)
Advisory Board, Biodiversity Science and Education Initiative (BSEI), Smithsonian Institution (2005-6)

Chair, Class II, Section 4, American Academy of Arts & Sciences (2006-09)
Science Advisory Board, Gordon and Betty Moore Foundation (2006-2018)
Abroad Advisor, Arab Healthy Water Association (2007-09)
Chair, Section 63, National Academy of Sciences (2007-10)
Advisory Board, DIMACS, Rutgers University (2008-current)
Advisory Board of the Miller Institute for Basic Research in Science, UC Berkeley (2009-12)
Advisory Board, International Network of Research on Coupled Human and Natural Systems (CHANS-Net) (2009-15)
Advisory Board, Global Partnership Promoting Science Education through Engagement, Founding Summit, Chicago
Advisory Council, Smart Energy, Sustainable Environment Institute, University of California, Irvine (2010-12)
Advisory Board, National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD (2011-16)
Science Advisory Board, Stockholm Resilience Center (2014-19)
Science Advisory Board, Mathematical on Sciences and Analytics, National Academy of Sciences, Engineering, and Medicine
International Advisory Board, Graduate Education and Research Training Program in Decision Science for a Sustainable Society of the Program for Leading Graduate School of the Japan Society for the Promotion of Science, Kyushu University (2015-21)
Scientific Advisory Board, Antimicrobial Resistance (AMR) Project, Livestock Systems and Environment, International Livestock Research Institute, Nairobi, Kenya (2016)
Science Advisory Board, EcoPotential: Improving Future Ecosystem Benefits through Earth Observations, Politecnico DiMilano, Italy (2016-2019)

Additional Science Advisory Boards, Councils, Panels

Advisory Board, BioGraph: Graphical Programming for Constructing Complex Systems Understanding in Biology
Advisory Board, Center for Social and Economic Dynamics, Brookings Institute /Johns Hopkins University
Advisory Board, McGill University, Centre for Applied Mathematics in Bioscience and Medicine
International Advisory Board, CABDyN Complexity Center, Oxford University
International Science Advisory Board, JST Crest (Novel Technologies to Evaluate Multi-Scale Variations of Marine Community and Biodiversity Under the Influence of Kuroshio and Internal Waves in Coastal Habitats
Advisory Council of Fellowship Advisors, The Nature Conservancy
Advisory Panel, Mathematical and Complex Systems Approaches for Brain Cancer Program, McDonnell Foundation (2012-2017)
Advisory Council, NCEAS II
Scientific Advisory Board, NorMer (Nordic Centre for the Study of Nature, Ecosystems, Society, and Economic Effects of Climate Change in Marine Ecosystems) (2013-16); Chair (2015-16)
Advisory Panel, Brain Tumor Funder's Collaborative
Advisory Board, SIAM Activity Group on Mathematics of Planet Earth
Advisor, Special Initiatives Program, James S. McDonnell Foundation

Advisory Committees

World Economic Forum Committee: Re-thinking Risk Management Project (2009-11)
Advisory Committee, Environmental Conservation Program, Gordon and Betty Moore Foundation (2012-13)
Quantitative and Statistical Thinking in the Life Sciences Committee, Burroughs Wellcome Fund (2018)
Advisory Committee, International Selection Committee for the AIMS-Canada Research Chairs in Climate Change Science (2018-19)

Steering Committees

Founding Member, Science Steering Committee for PECS (Programme in Ecosystem Change and Society), Complexity Programme of Nanyang Technical University (NYU), Singapore
Steering Group, US/NMO, IIASA's Advanced Systems Analysis (ASA) Forum for Exploratory Projects
Steering Committee, Course Guide, Moscow Summer Academy on Economic Growth and Governance of Natural Resources 2015 (MSA 2015)
Steering Committee, Stockholm Resilience Centre Meeting August 2018 (2018)
Conference on Evolution and Financial Markets (with Andrew Lo, M.I.T.), American Academy of Arts and Sciences, Cambridge, MA (October 2018)
Interdisciplinary Perspectives on Complex Systems: The Promise and Limitations of Metaphor (with Stephen Kotkin, Princeton), PIIRS (Fall 2018)
Scientific Steering Committee, Institute for Global Change Studies, Tsinghua University
Advisor, Steering Committee for Pilot Research into Complexity Measures for Ecoacoustics, University of Sussex (2022-23)

Selection Committees

Selection Committee, Margalef Prize (2011-17)
Jury for the Dr. A.H. Heineken Prize for Environmental Sciences (2016-20)
Search Committee for the Carnegie Global Ecology Director, Carnegie Group (2016-18)
Chair, Committee to Select the Gibbs Lecturer for 2018 and 2019, American Mathematical Society (2017-2018)
Screening Committee, ISC, AIMS-Canada Research Chairs in Climate Change Science (2018-19)
Advisory Committee to the Search Committee, DIMACS, Rutgers University (2018)

Planning/Organizing Committees

Organizing Committee Member, Resilience 2017, Resilience Alliance (2016-17)
Co-Chair, Chinese SMB Meeting Committee, June 15-18, 2018 in Beijing, China
Planning Committee, Strategic Futures Day, Stockholm Resilience Center (2016)
Program Committee Member, TerMARisk (GreenMAR) Workshop, Moscow State University, Russia (2017-18)
Co-Chair, Scientific Committee, 6th ICMB, CSMB, Beijing, PR China (2018)
Science Advisory Committee/Organizing Committee, International Conference on Mathematical Modelling and Analysis of Populations in Biological Systems (October 12-14, 2019), Arizona State University, Tempe (2018)
Scientific Committee of ICCMB2021, Bangladesh Society for Mathematical Biology (BSMB) (2021)
Scientific Committee of the CBMS conference "Interface of Mathematical Biology and Linear Algebra," University of Central Florida, Orlando, FL (2022)
Organizing Committee, ITCP Workshop on Quantitative Human Ecology (2022)
Invited Participant in the preparation of a high-level international meeting to celebrate the 50 years of the historic Stockholm 1972 Conference: Action, Renewal and Trust "Economy and Finance for People and Planet" (participation in the writing of the science synthesis) (2022)
Participant, SMF Complex Systems Scholars, Konstanz, Germany (2022)
Program Advisory Committee, APC for the IIASA 50th anniversary conference "Systems Analysis for Reducing Human Footprints and Enhancing Resilience," Austrian Academy of Science (2022)
Program Committee; LEVERS: Lessons & Experiences on Viable Epidemic Response Strategies, PREPARE (Pandemic Research for Preparedness & Resilience), University of Virginia, Charlottesville (Virtual) (2023)

Other

External Reviewer of the Major Program in Quantitative Biology in the Department of Ecology & Evolutionary Biology (EEB), Faculty of Arts & Science, University of Toronto
Sabin-Aspen Vaccine Science and Policy Strategy Group, The Sabin Vaccine Institute, Washington, D.C.
Campaign Committee, Friends of IIASA Campaign: Roger Levien IIASA-RAND YSSP Fellowship (2023)

PRINCETON UNIVERSITY SERVICE (PREVIOUS):

Directorships

Co-Director, NSF Training Grant, PACM

Committees

Executive Committee for the Graduate Program in Quantitative and Computational Biology (2011-15)
Chair, Faculty Committee for EEB 504, Dept. of Ecology and Evolutionary Biology (2016)
Junior Assignment Committee, Dept. of Ecology and Evolutionary Biology (2016)
Deputy Chair, Climate for All in EEB Committee (2016-19)
Co-Chair, HMEI Postdoctoral Research Associate Search Committee (2018-2019)
Chair, EEB Search Committee for Junior Ecologist (2018-19)
Organizing Committee, Julis-Rabinowitz Center for Public Policy & Finance Conference about Finance and Climate Change (held February 2022); 2021-2022
Junior Faculty Search Committee for China, Ecology, Environment, Energy Position (PIIRS) (2021-2022)
EEB Graduate Student Review Committee (2022)
EEB Faculty Search Committee (2023)

Memberships

Member, Environmental Studies Building Committee
Climate for All in EEB Committee Member, (2016-18)

Other

Alternate Princeton Representative to the NJ Sea Grant Consortium (2012-17)
Faculty Fellows Program, Butler College (2012-22)
Co-Organizer of Humboldt University-Princeton University Strategic Partnership

Co-Organizer of Social Norms Research Group, Princeton University
Core Participant in the Rapid Switch Program
Acting Chair, Department of Ecology & Evolutionary Biology (in Chair's absence) (2023)

EDITORIAL (PREVIOUS):

Editor-in-Chief/ Managing Editor

Lecture Notes in Biomathematics, Springer-Verlag (1973-95)
Biomathematics, Springer-Verlag (1976-95)
Journal of Mathematical Biology (1976-1995)
Founding Editor, Ecological Applications (1988-95)
Series in Mathematical and Computational Biology, John Wiley & Sons (1997-00)
Encyclopedia of Biodiversity, Academic Press (1997-00); Online Editor, Elsevier (2005); Second edition, 2013

Honorary Editor

The Scientist (2006-19)

Co-Managing Editor

SIAM Journal on Applied Mathematics (1975-79)

Editor

Ecology and Ecological Monographs/ESA (1975-77; Associate Editor, 1973-75)
Lectures on Mathematics in the Life Sciences: American Mathematical Society (1974-79)
Princeton Guide to Ecology, Princeton University Press (published 2009)
PLoS Biology, Challenges Series

Associate Editor (Ad Hoc)

Biometrics (1984)

Associate Editor

PLoS Computational Biology (2005-08)

Editorial/Advisory Boards

Biomathematics (1974-76)
Theoretical Population Biology (1976-84)
Evolutionary Theory (1976-2009)
Journal of Theoretical Biology (1977-2008)
Discrete Applied Mathematics (1978-87)
Natural Resource Modeling
Landscape Ecology (1987-92)
Applied Mathematics Letters (1987-2012)
Mathematical Biosciences (1987-2009)
Environmental and Ecological Statistics
Conservation Ecology (1995- 2009)
Issues in Ecology (1995-2009)
Ecosystems (1996-2012)
Ecological Research (1996-2017)
Philosophical Transactions of the Royal Society, Series B (1998-2003)
Santa Fe Institute (1998-2004)
Proceedings of the National Academy of Sciences (2000-03)
Frontiers in Ecology and the Environment (2002-21)
PLoS Biology
SIAM Review
The Scientist
Ecological Complexity
F1000 Biology Reports (Faculty of 1000 Biology)
Ecosystem Health and Sustainability (EHS) (2014-21)

Editorial Committees

Annual Review of Ecology and Systematics (1977-81)

MAJOR OTHER PROFESSIONAL ACTIVITIES

2024
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group

2023
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group
- Co-Organizer; Participant; Speaker, Complexity and International Relations Working Group; First meeting of group held in Princeton on May 18-19

2022
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group
- Consultant, Mekong: LIFE Project (Concert), Princeton University

2021
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group
- Panelist, Nobel Prize Summit 2021: Our Planet, Our Future (Virtual)

2020
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group
- Director; Organizer; Participant, Princeton University-Arizona State University Dialogues in Complexity Workshop, Arizona State University (Workshop I – Second Series: Political Polarization)
- Director; Organizer; Participant, Princeton University-Arizona State University Dialogues in Complexity Workshop (Virtual) (Workshop II – Second Series: Political Polarization)
- Co-Organizer, Network Resilience, Sustainable Cities, and the Global Food System Conference (Princeton University, Stockholm Resilience Centre, Potsdam Institute for Climate Impact Research) (Virtual)

2019
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group
- Director, Princeton University-Arizona State University Dialogues in Complexity Workshops, Arizona State University (Workshop I – Series I: Challenges in Cybersecurity: Lessons from Biological Defense Systems) and Princeton University (Workshop II – Series I: Challenges in Cybersecurity: Lessons from Biological Defense Systems)
- Co-Organizer/Participant of the CoCCon Workshops (with Humboldt University) Princeton University & Humboldt University, Berlin, Germany
- Co-Organizer, Extending the Cure: Individual Behavior and Public Health Conference, Princeton University
- Co-Organizer of Political Polarization Workshop, Princeton University
- Co-Organizer of Resilience 2020 Workshop, Princeton University

2018
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group
- Co-Organizer/Moderator/Participant, Sackler Colloquium: Economics, Environment, and Sustainable Development, University of California, Irvine
- Co-Organizer/Moderator/Speaker/Participant (with Stephen Kotkin, History Dept.), Interdisciplinary Perspectives on Complex Systems: The Promise and Limitations of Metaphor, PIIRS, Princeton University
- Co-Organizer of Patterns in Biology Workshop, Princeton University
- Co-Organizer of Food System Transformation to Improve Sustainability and Health: Integrating Social and Biophysical Dynamics, Stockholm Resilience Center, Stockholm Sweden

2017
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group
- Co-Organizer/Moderator/Speaker/Participant, Earth in 2050: Boundaries, Obstacles, and Opportunities Conference, Princeton University
- Co-Organizer, Understanding the Dynamics of Social Norms Workshop, Princeton University

2016
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group
- Co-organizer with Andrew Lo (MIT) and Bill Miller (Legg Mason) of conference "New Approaches to Financial Regulation," sponsored by the Santa Fe Institute, held in Washington DC

2015
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group
- Co-organizer with Robert Keohane (Princeton), Evolutionary Theory and World Politics Workshop

2014
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group

2013
- Academic Fellow in the BCG Henderson Institute, Boston Consulting Group

2012
- Academic Fellow, Boston Consulting Group
- Completed (as editor) second edition of the *Encyclopedia of Biodiversity*, including about 100 new articles as well as revisions of the great majority of entries from the first edition.

2011
- Co-organizer, Research Frontiers in Sustainability Science: Bridging Disciplines and Practices Workshop, AAAS Annual Meeting, Washington, DC

2010
- Organizer, 2nd Symposium of Mathematical Systems Biology: Collective Dynamics in Biological Systems, University of California, Irvine
- Advisor; Chair, Public Goods: From Ecology to Economics Conference, Institute for Mathematical Behavioral Sciences, University of California, Irvine
- Leader, DARPA Investigator Meeting on Fundamental Laws of Biology, Dana Point, CA
- Participant, Framing an Economic Approach to Biodiversity Loss in the Context of Climate Change and Deforestation Conference, World Bank, Washington, DC
- Participant, Taskforce on Resilience and Risk Management, New York Forum, New York, New York

2009
- Advisor, Program on Systemic Risk in Financial Systems, World Economic Forum
- Co-Director, A Special Year on Social Norms, Institute for Advanced Study, Princeton, NJ
- Co-Organizer and Leader/Participant, Strategies to Predict the Antigenic Evolution of H1N1 Conference, Chauncey Conference Center Princeton, NJ
- Co-Organizer and Leader/Participant, National Science Foundation, Towards a Science of Sustainability Conference, Airlie Conference Center, Warrenton, VA

2008
- Project Leader, Scientific Committee for the EUROCORES Programme, TECT, European Science Foundation

2006
- Chair, PED Review Committee, Harvard

2002
- Committee on Science and Technology for Countering Terrorism: Biological Panel, The National Academies: Institute of Medicine

2001-03
- Science Commission, Smithsonian Institute

2001-02
- Working Group, Modeling the Intentional Release and Emergence of Novel Infectious Agents, NIH, Bethesda
- Committee of Experts, The Blasker Award for Environmental Science and Engineering, San Diego Community Foundation (1996-2001)
- Committee on Inquiry into Infectious Diseases in Livestock, Royal Society, UK

2000
- Co-director, Fifth Autumn Course on Mathematical Ecology, ICTP, Trieste, Italy
- Scientific Advisory Committee for Theoretical Biology, Institute for Advanced Study (1998-2000)
- Recovery Science Review Panel, National Marine Fisheries Service (2000-04)

1999
- Advisory Board, 21st Century Scientist Awards Competition—Studying Complex Systems, James S. McDonnell Foundation (1999)

1998
- Program Organizer, Beijer International Institute Advanced Course: Ecological Modeling for Economists, Santa Fe Institute

1996
- Co-director, Third Autumn Workshop on Mathematical Ecology, ICTP, Trieste, Italy

1994
- Co-director, Fourth Autumn Course and International Conference on Mathematical Ecology, ICTP, Trieste, Italy

1993-94
- U.S. National Committee for Man and the Biosphere Program (MAB)
- Committee of Proponents, Center for Environmental Science and Economics

1992
- Co-Director, Second Autumn Workshop on Mathematical Ecology, ICTP, Trieste, Italy

1991-93
- Study Committee on Environmental Research, National Research Council, National Academy of Sciences
- Steering Committee, Sustainable Biosphere Initiative, ESA, Washington, D.C.

1991-92
- Past President, ESA
- Executive Committee, ESA

1991
- Co-organizer, Patch Dynamics in Terrestrial, Marine and Freshwater Ecosystems, A Summer School at Cornell University, Ithaca, NY

1990-91
- President, ESA
- Commission on Ecology, International Union for Conservation of Nature and Natural Resources (IUCN)

1990
- Co-Director, Second Autumn Course on Mathematical Ecology, ICTP, Trieste, Italy

1989-92
- Ad Hoc Committee to Establish a Research Agenda for the 1990's, ESA

1989-90
- President-Elect, ESA
- Past President, Society for Mathematical Biology
- Executive Committee, Finance Committee, Future Meetings Committee, ESA

1987-90 • Advisory Board, Air Resources Information Clearinghouse, Center for Environmental Information, Inc., Rochester, NY

1986-90 • Member, Health and Environmental Research Advisory committee, Dept. of Energy

1987-89 • President, Society for Mathematical Biology

1983-89 • Board on Biology, National Research Council, National Academy of Sciences
• Commission on Life Sciences, National Research Council, National Academy of Sciences

1988-89 • Chair, Scientific Advisory Committee, Genetically Designed Organisms in the Environment, SCOPE

1988 • Co-director, First Autumn Workshop on Mathematical Ecology, ICTP, Trieste, Italy

1987-88 • Nominating Committee, ESA

1987 • Co-organizer, NSF Conference on Future Directions in Theoretical Ecology, Monterey, CA

1986-88 • Chair, Subcommittee on Ecology and Ecosystems, Committee on Research Opportunities in Biology, Board on Basic Biology, National Research Council, National Academy of Sciences

1986-87 • Committee on Release of Genetically Engineered Organisms into the Environment, A Committee of Council, National Academy of Sciences
• Executive Committee, Association of Ecosystem Research Centers

1986 • Co-Director, Second Autumn Course on Mathematical Ecology, ICTP, Trieste, Italy

1985-88 • Public Affairs Committee, ESA

1983 • Director, American Mathematical Society Short Course, Mathematical Population Biology, Albany

1982 • Co-Director, First Autumn Course on Mathematical Ecology, ICTP, Trieste, Italy

1981-82 • Public Affairs Committee, ESA

1978-80 • Advisory Committee, Environmental Sciences Division, Oak Ridge National Laboratory

1978-79 • Representative of Council to Board of Trustees, SIAM
• Executive Committee of Council, SIAM

1978 • Co-Convenor, Biomathematics Conference, Oberwolfach, West Germany
• U.S. Delegation, SCOPE-MAB Symposium on Mathematical Modelling of Man-Environment Interaction, Telavi, Georgia, USSR

1977-79 • Council, SIAM

1977-78 • Core Panel on Mathematics in the Biological Sciences, Program Committee, International Congress of Mathematicians, Helsinki, Finland

1976 • Chair, Mercer Awards Subcommittee, ESA

1975-79 • Publications Committee, SIAM

1975-77 • Council, ESA

1975 • Co-convener, The Institute of Ecology (TIE) Workshop on Theory in Ecosystem Analysis, Cornell University

1974 • Chair, SIAM Institute for Mathematics and Society (SIMS) Conference on Ecosystems, Alta, UT

1973-79 • Chair, AMS/SIAM Committee on Mathematics in the Life Sciences

1973 • NAS Committee, Environmental Effects Panel, Working Conference on Principles of Protocols for Evaluating Chemicals in the Environment, San Antonio, TX

1971 • Chair, Gordon Research Conference on Theoretical Biology and Biomathematics, Andover, NH

1970 • Co-Chair, Gordon Research Conference on Biomathematics, Andover, NH

OTHER PROFESSIONAL ACTIVITIES

2024 • Participant, Schmidt Fellows Fellowship Committee Meeting, Schmidt Futures
• Participant, AI/Tech Meeting, Complexity and IR Series, Rockefeller Offices, NY, NY
• Participant, Infectious Diseases and Global Biothreats T32 External Advisory Board Meeting
• Participant, Annual Meeting for the Committee of Concerned Scientists
• Participant, 2024 National Academy of Sciences 161st Annal Meeting (Virtual)

- Co-organizer & Participant, Abdus Salam International Centre for Theoretical Physics (ICTP)/LQS Workshop on Limits to Collective Agency, Trieste, Italy (Virtual) (May 6-10, 2024)

2023
- Participant, Space: The Final Frontier of Microbial Communities Conference, Princeton Center for Theoretical Science, Princeton University
- Program Committee; Participant, LEVERS: Lessons & Experiences on Viable Epidemic Response Strategies, PREPARE, (Pandemic Research for Preparedness & Resilience) University of Virginia, Charlottesville
- Participant, Science and Business Dinner, The Boston Consulting Group, London, UK
- Participant, Schmidt Fellows Fellowship Interviews, Schmidt Futures
- Participant, Santa Fer Institute Working Group: Is There a Cross-Scale Theory of Regeneration and Failure for Complex Adaptive Systems?
- Participant, Critical Transitions Workshop, Earth Resilience and Sustainability Initiative, Princeton University
- Participant, Workshop on Mathematical Social Science, University of Pennsylvania
- Participant, Celebration for Bill Clark, Harvard University
- NAS 160th Annual Meeting, Section 63: Environmental Sciences and Ecology
- Participant, Human Behavior and Disease Dynamics Workshop, Brin Mathematics Research Center, Department of Mathematics, University of Maryland
- Participant (as a member of the External Review Committee), Program Assessment – Natural Capital Project, Stanford University
- Participant, GPCE Spring Meeting: Research Integration, University of Virginia, Charlottesville
- Participant, NSF PREPARE RP3, University of Virginia Review
- Participant, SMB Presidential Symposium
- Participant, Scientific Advisory Board, Serrapilheira Institute, 2023 Annual Meeting
- Participant, GPCE Quarterly All-Team meeting, University of Virginia, Charlottsville
- Participant, Science Advisory Board Meeting, Complexity Science Hub, Vienna
- Participant, Naomi E. Leonard Festschrift, MAE, Princeton University
- Participant, Global Development Conference on Biodiversity and Sustainable Development, Global Development Network in collaboration with Future Earth and Universidad San Francisco de Quito
- External Advisory Committee Meeting, UVA Global Biothreats T32 Training Program
- Participant, 2023 SFI ACtioN and Board and Trustees Symposium on *The Complexity of Civilization*, Santa Fe Institute, Santa Fe, NM

2022
- Participant, Santa Fe Institute Virtual Workshop on Constructing and Deconstructing Collectives: Signals to Space and Society
- Participant, Mini-Symposium in Honour of Professor Fred Brauer (Virtual)
- Participant, "How Do We Reach the 2050 Targets Panel," Evidence to Action: Achieving the Net-Zero 2050 Targets: Julis-Rabinowitz Center for Public Policy & Finance Eleventh Annual Conference, Princeton University (Virtual)
- Participant, "Complex Systems and Governance," Princeton Forum on Diplomacy and Statecraft, Princeton University
- Participant, Banff International Research Station for Mathematical Innovation and Discovery (BIRS) Conference: Rate-Induced Transitions in Networked Systems (Virtual)
- Participant, 7th ERSI Workshop: Building Collaborations, Princeton University (Hybrid)
- Participant, Prevention, Early Detection and Response to Antimicrobial Resistance Pandemics Conference, Center for Health and Wellbeing & the High Meadows Environmental Institute, Princeton University, Princeton, NJ
- NAS Annual Meeting 2022; Chair, Section 63 Population and Community Ecology Interest Group (Virtual)
- Science Advisory Board Meeting, Santa Fe Institute (Virtual)
- Participant, Festschrift in Honor of Professors Nikolaos Christodoulakis and Anastasios Xepapadeas, Athens University of Economics and Business, Greece (Virtual)
- Participant, Scientific and Mathematical Approaches to Climate and Ecology Confernce, Year of Climate Action, Brandeis University (Virtual)'
- Participant, Global Pervasive Computational Epidemiology Spring Meeting (Hybrid)

- Participant, International Cooperation for Global Challenges: 50 Years of Building Research Bridges at IIASA, (Sponsored by IIASA, the U.S. Committee for IIASA at the National Academy of Sciences, and the Friends of IIASA), Boston University, Pardee School of Global Studies (Virtual)
- Participant, High-Level International Meeting to Celebrate the 50 years of the Historic Stockholm 1972 Conference: Action, Renewal and Trust "Economy and Finance for People and Planet" (Science Synthesis) (Virtual)
- Participant, Ned Wingreen Festschrift, Department of Molecular Biology, Princeton University
- Participant, Vaccine Preventable Diseases in a Post-COVID World Workshop, PREPARE, University of Virginia (Virtual)
- Participant, Critical Transitions Workshop, ERSI, (Virtual) Princeton University
- Awardee and Participant, BBVA Foundation Frontiers of Knowledge in Ecology and Conservation Biology Awards Ceremony & Events
- Working Group, Frontier Dialogue: The Value of Diversity for Organizations and Society, Luohan Academy (Virtual)
- Participant. Economy of Francesco (EofF) School: Listening to Plants for a New Economic Paradigm Conference (Virtual)
- Co-organizer and Participant, Mathematical Models of Vegetation Dynamics (Minisymposium), Mathematical Models in Ecology and Evolution Conference, Reading, UK (Virtual)
- Workshop on Quantitative Human Ecology, The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (Virtual)
- Science Advisory Board Annual Meeting, Serrapilheira Institute, Brazil (Virtual)
- Askö Annual Meeting, Beijer Institute, Sweden (Virtual)
- Participant, From Climate Crisis to Positive Transformation Conference, University of Exeter, UK (Virtual)
- CSH Science Advisory Board Meeting (Virtual)
- Participant, NSF Review of Expeditions Project, UVA Biocomplexity Institute, Charlottesville, VA (Virtual)
- Participant, The 5th WLA Zero Carbon Forum: Panel 1: "Carbon Strategy" – Global Collaboration on Climate Governance, Shanghai, China (Virtual)
- Advisory Board Meeting, Participant, UVA T32 External Advisory Committee Meeting (Analysis of the State of the Global Biothreats T32 Training Program) (Virtual)
- Participant, BEER (Biomathematics and Ecology Education and Research), XV International Symposium, Illinois State University (Virtual)
- Participant, The Forum of Nature and the Nature of Economics Conference, London School of Economics, London, UK (Virtual)
- Participant, Meeting of the Minds: Nature of Diversity, Boston Consulting Group, New York
- Co-Organizer, Systems Analysis for Reducing Footprints and Enhancing Resilience: IIASA-ÖAW Conference, IIASA and the Austrian Academy of Sciences, celebrating the 50th anniversary of IIASA (Hybrid)
- Participant, Ignacio Rodríquez-Iturbe (1942-2022) Memorial Symposium, Texas A&M University, College Station, TX (Virtual)

2021
- Organizer; Moderator; Participant, Political Polarization Workshop for Special Issue of *PNAS* (Virtual)
- Participant, Workshop on Limits to Diversity Assembly, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (Virtual)
- PREPARE (Pandemic Research for Preparedness and Resilience) Bimonthly Meetings, University of Virginia, Biocomplexity Institute (Virtual)
- Co-organizer; Participant, Mathematics of Human Environmental Systems Workshop, The Banff International Research Station for Mathematical Innovation and Discovery (BIRS) (Virtual)
- Participant, Dasgupta Review, hosted by the Royal Society (Virtual)
- Participant, Earth Resilience and Sustainability Initiative Monthly Meetings (Virtual)
- Participant, NAS Annual Meeting (Virtual)
- Participant, PNAS Editorial Board Meeting (Virtual)
- Participant, Member, Schmidt Science Fellow Panel Meeting (Virtual)
- Participant, American Philosophical Annual Meeting (Virtual)
- Participant, CauSES Meeting (Virtual)
- Co-Organizer and Participant, SIAM Mini Symposium "Stochastic Networks in Neuroscience and Ecology," The SIAM Conference on Applications of Dynamical Systems (DS21) (Virtual)

- Participant, The Green Swan Conference - Coordinating Finance on Climate**,** How in Practice Can the Financial Sector Take Immediate Action Against Climate Change-Related Risks? (Virtual)
- Participant, Tyler Prize Ceremony (Virtual)
- Participant, Schmidt Fellows Meeting (Virtual)
- Participant, Science Before the Storm, Podcast (PREPARE) (Virtual)
- Participant, International Conference on Dynamics in Systems and Synthetic Biology (Ecological Systems), Centre de Recerca Matemàtica, Barcelona, Spain (Virtual)
- Participant, Unlimited Opportunities to Change the World (PREPARE) Workshops (3) (Virtual)
- Participant, SFI ACtioN Virtual Roundtable, The Complexity of Sustainability: Climate Change and Human Resilience
- Participant, Online International Conference on Computational and Mathematical Biology 2021 (ICCMB 2021), Bangladesh Society for Mathematical Biology (BSMB)
- Participant ESA Past Presidents' Forum (Virtual)
- Participant, SAB Serrapilheira 2021 Annual Meeting (Virtual)
- Participant, Climate and Finance Conference Planning Meeting, Princeton University (Virtual)
- Participant, Current Issues in Climate Research Conference, Accademia Nazionale dei Lincei (Virtual)
- Participant, SAB, Santa Fe Institute (Virtual)
- Participant, Askö Workshop, Beijer Institute of Ecological Economics, Stockholm, Sweden (Virtual)
- Participant, BIOECON XXII, Snow King Resort, Jackson, WY (Virtual)
- Participant, AI for Health in India, Google Research, India (Virtual)
- Participant, Evolution and Social Systems Webinar, Center for the Dynamics of Social Complexity (DySoc) (Virtual)
- Participant, SAB, CNH, Vienna Complexity Hub (Virtual)
- Participant/Discussion Leader, NSF Site Visit/Review Meeting for the Expeditions Team (Virtual) Expeditions: Collaborative Research: Global Pervasive Computational Epidemiology grant)
- Participant, EEB Scholars Program, Department of Ecology & Evolutionary Biology, Princeton University (Virtual)
- Participant and Mentor, World Laureates Forum (WLA) (Virtual)
- Social Media as a Crisis Discipline Workshop: Understanding the Catastrophes and Successes of Collective Online Behavior, Rebooting Social Media, Berkman Klein Center, (Virtual) Harvard University
- Lazard's Inaugural Climate Center Conference (Virtual)
- Rapid PI Meeting, University of Virginia (Virtual) (2021)
- Luohan Academy Frontier Dialogue #7: Boosting Shared Prosperity: Technology and Equality in the Digital Era, Luohan Academy (Virtual)

2020

- Participant, NAS 2020 Annual Meeting (Virtual)
- Participant, Expeditions: Collaborative Research: Global Pervasive Computational Epidemiology Grant Kick-Off Meeting (Virtual)
- Participant, NAE Convocation of Professional Engineering Societies (Virtual)
- Participant, Corona Economics Research Network (CERN), Stockholm School of Economics Kick-Off Meeting (Virtual)
- Participant, Social Externalities: A Workshop on Concepts and Applications, Princeton University (Virtual)
- Participant, Corona Economics Research Network (CERN) at the Stockholm School of Economic Webinars (Virtual)
- Participant, Don't Waste the Covid-19 Crisis: Reflections on Resilience and the Commons Revealed by Covid-19, A Webinar Panel Series, Hosted by the Center for Behavior, Institutions and the Environment, and the International Association for the Study of the Commons at ASU, and the Resilience Alliance (Virtual)
- Participant, The Complexity of Sustainability and Investing, ACTION Network Virtual Meeting, Santa Fe Institute
- Participant, Virtual Town Hall with President Julio Frenk of the University of Miami on Mathematical
- Modeling of Pandemics, COVID-19, and Social Consequences Across the Americas
- Simons Foundation Research Meeting (Virtual)
- Participant, Evolutionary Models of Financial Markets, MIT Laboratory for Financial Engineering
- Participant, Expeditions All-Team Quarterly Meetings
- Participant, 30th Annual International Conference, Society for Chaos Theory in Psychology and Life Sciences (Fields Institute, University of Toronto (Virtual)

- Participant, Scientific Advisory Board meeting, Serrapilheira, Brazil (Virtual
- Participant, Complex Adaptive Systems Virtual Meeting, Greater Philadelphia Futures Group, Delaware Valley Regional Planning Commission
- Participant, NASEM-IIASA Panel (Webinar)
- Participant, Sabin-Aspen Vaccine Science and Policy Group 2020 Meeting (Virtual)
- Participant, Askö Workshop, Beijer Institute of Ecological Economics, Stockholm, Sweden (Virtual)
- Participant, Sabin-Aspen Vaccine Science and Policy Group 2020 Meeting
- University of Toronto, Virtual Site Visit
- Participant, SAB, Vienna Complexity Hub
- Participant, Gruter Institute for Law and Behavioral Research, The Evolution of Cooperation, Virtual Squaw Valley Conference
- Participant, Google Virtual COVID-19 Modeling and Data Virtual Roundtable Discussion
- Participant, What Can We Learn from the Anti-Vaccination controversy? Council on Science and Technology, Living at the Intersection Symposium 2020: Truth and Evidence Conference (Virtual)
- Participant, 3rd World Laureates Forum, Summit Series 3: What Next? Climate Change and the Fate of Humanity (Virtual)
- Co-organizer and Participant, SFI Working Group, Ecological Complexity and the 6th Extinction (Virtual)
- Participant, SFI's Virtual ACtioN & Board of Trustees Symposium, The Complexity of Crisis
- Participant, The National Academies of Sciences, Engineering, and Medicine's Workshop, *Progress, Challenges, and Opportunities for Sustainability Science* (Virtual)
- Participant, Historical Collapse Webinar (Virtual)
- Participant; Chair, Roundtable Pandemic; Chair, Roundtable Economics, Winter School on Quantitative Systems Biology: Quantitative Approaches in Ecosystem Ecology, Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy (Virtual)
- Participant, Annual International Conference of the Complex Systems Society (Virtual) (2020)
- Participant, A Celebration of the Life of Bob May 1936-2020, BES Symposium (Virtual)
- Participant, Festival of Ecology, British Ecological Society (Virtual)
- Participant, International Workshop on Mathematical Biology 2020, Dhaka, Bangladesh (Virtual)

2019

- Participant, Human-Machine Ecology: Emerging Risks, Opportunities, and Governance of Official Intelligence, Princeton University-Stockholm Resilience Workshop, Princeton University\\
- Participant, Climate "How": How to Engage Society and Deploy Decarbonization Conference, Alcantra and Venice International University, Venice Italy
- Participant, Conference on Theory and Biology 2019, Simons Foundation, New York, NY
- Participant, Historical Systemic Collapse Workshop, Princeton University
- Participant, Science and Business Dinner, Boston Consulting Group Henderson Institute, London, UK
- Participant, Climate Change, Decarbonization and Financial Markets Roundtable, Norges Bank Investment Management, New York, NY
- Participant, Levin Fest: A Symposium of the Intersection of Mathematics and Biology, University of Victoria, Victoria, Canada
- Participant, Society of Mathematical Biology Annual Meeting, Montreal, Québec
- Received PEI Urban Challenge Award
- Participant, Ecological Society of America Annual Meeting
- Participant, Askö Meeting and Workshop of the Beijer Institute, Stockholm Sweden
- Participant, SAB, Vienna Complexity Hub, Vienna Austria
- Participant, Advancing Ecological Theory Workshop, The Pennsylvania State University
- Participant, Dreams and Nightmares: Decarbonization in a Complex System Conference, Princeton University
- Participant, Three Decades of DIMACS: The Journey Continues Conference, Rutgers University
- Participant, Geoanthropology: Comprehending the Human-Earth System Symposium, May Planck Institute, Berlin
- Site Visit, NSF, Washington, D.C.

2018

- Participant, Science Advisory Board Meeting, Stockholm Resilience Centre, Sweden
- Participant, PIIRS Global Systemic Risk Workshop, Princeton University
- Co-Organizer, Water Solutions for Mathematical Problems Lecture Series, Princeton University
- External Member, IIASA Task Force, Laxenburg, IIASA, Austria (9 month appointment)
- Participant, SAB Meetings, Moore Foundation, Palo Alto, CA

- Participant, IIASA Task Force Meetings, Austria
- Participant, Conference on Theory and Biology, Simons Foundation, New York, NY
- Participant, Exxon-Mobile-Princeton Climate Policy Forum, Andlinger Center, Princeton University
- Participant, NAS Annual Meeting
- Participant/Discussion Moderator, Business: Is It Rocket Science? Meeting, London Institute of Mathematical Sciences, London, UK
- Participant, Coastal SEES Collaborative Research Meeting, Rutgers University
- MPE 2018: Workshop on Mathematics of Planet Earth – The Future, Rutgers University, New Brunswick
- Participant, Social Media, and Systemic Risk Conference, Princeton University
- Co-Organizer/Participant: Patterns in Biology Workshop, Princeton University
- Co-Organizer/Participant Food System Transformation to Improve Sustainability and Health: Integrating Social and Biophysical Dynamics, Princeton-SRC Workshop, Stockholm Resilience Center
- Participant, Vaccines and AMR: Roadmap Workshop, Princeton University
- Participant, Askö Meeting of the Beijer Institute, Stockholm Sweden
- Participant, Santa Fe Institute Population and the Environment Working Group and Short Course, Santa Fe Institute, Santa Fe, NM
- Participant, Science Advisory Board Meeting, Vienna Complexity Hub Meeting, Vienna, Austria
- Participant, Evolution and Financial Markets Conference, Norton Woods Conference Center, American Academy of Arts and Sciences, Cambridge, MA
- Participant, Sabin-Aspen Vaccine Science & Policy Group Meeting, Aspen, CO

2017
- Co-Organizer/Participant of What is Blue Growth: Conceptualizing Sustainable Development of Marine Environments Workshop at AAAS Annual Meeting, Boston, MA
- Participant, Capturing the Imagination in a Technocratic World, Los Angeles, CA
- Participant, Movement Ecology of Animals Gordon Research Conference, Ventura, CA
- Participant, Conference on Theory and Biology, Simons Foundation, New York, NY
- Participant, Santa Fe Institute Board Meeting
- Participant, Tyler Prize Award Ceremony
- Participant, Data Big and Small, TTI Vanguard Conference, Boston, MA
- Participant, Cambridge Workshop: Celebrating 20 Years of JSMF's Support for Complex Systems Science, Cambridge, UK
- Participant, Science Advisory Board Meetings, Moore Foundation, Palo Alto, CA
- Participant, Sir Roy Anderson's 70th Birthday Research Symposium, The Royal Society, London, UK
- Co-Organizer/Participant, Humboldt University-Princeton University Strategic Partnership Workshop, Princeton University
- Participant, CANDy Workshop. Andlinger Center for Energy and the Environment, Princeton University
- Co-Organizer/Participant, Simons Foundation MMLS Workshop: A New Framework for Ecological Kinetics in Heterogeneous Environments, Princeton University
- Participant, Coastal SEES Meeting, Rutgers University
- Participant, Joint ICGEB-ICTP-APCTP Workshop on Systems Biology and Molecular Economy of Microbial Communities, Trieste, Italy
- Participant, Research Experiences for Undergraduates Summer Program, DIMACS, Rutgers University
- Participant, Resilience Frontiers for Global Sustainability Conference, Stockholm Resilience Centre, Sweden
- Participant, Conservation Reconsidered: A Celebration of the 50th Anniversary of the American Economic Review Publication of John Kutilla's *Conservation Reconsidered* Conference, Resources for the Future, Washington, D.C.
- Participant, Askö Meeting of the Beijer Institute, Stockholm Sweden
- PI Meeting, GreenMAR Grant, Oslo, Norway
- Science Advisory Board Meeting, Complexity Science Hub, Vienna, Austria
- Advisory Board Meeting, BMSA, NAS, Washington, D.C.
- Participant, Bioscience Day, University of Maryland, College Park
- Participant/Panel, Pioneer a Brighter Future, Today Conference, Envision, Princeton University
- Co-Organizer, Water Solutions for Mathematical Problems Lecture Series, Princeton University

2016
- Member, Heineken Prize Jury, Amsterdam, The Netherlands
- Participant, Molecular Co-Evolution Lessons from Pathogen-Immune System Interactions, Princeton Center for Theoretical Science, Princeton University

- Participant, Immersion Workshop: Change in Socio-Environmental (S-E) Systems, SESYNC, Annapolis
- Participant, NAS Annual Meeting/PNAS Editorial Board Meeting, Washington DC
- Participant, Microbiome Workshop, New York University Langone Medical Center, NY, NY
- Participant International Council for the Exploration of the Sea (ICES) Symposium MSEAS 2016:
- Participant, Understanding Marine Socio-Ecological Systems: Including the Human Dimension in Integrated Ecosystem Assessments, Brest, France
- Participant, Modelling and Predicting Ecological Transitions Symposium, Collège de France
- Participant, Science Advisory Board Meetings, Moore Foundation, Palo Alto, CA
- Participant, Ecopotential General Assembly 2016, Amsterdam, The Netherlands
- Participant, Modelling Influenza Conference, Dept. of Ecology and Evolutionary Biology, Princeton University
- Co-Organizer/Participant, Critical Transitions in Marine Ecosystems Conference, Dept. of Ecology and Evolutionary Biology, Princeton University
- Participant, Meeting to explore the development of multi-scale modeling/analysis effort aiming at macro-level models (and understanding) derived from population biological considerations (i.e., micro-level/ecology & evolution), CEES and the Parmenides Foundation, Munich, Germany
- Beijer Institute 25, Annual Meeting, Askö Sweden
- Co-Organizer/Participant, Stockholm Resilience Centre, Princeton Day Workshop, Stockholm, Sweden
- Board on Mathematical Sciences and their Applications Meeting, Washington DC
- International Workshop Sustainability of Local Commons with a Global value: Venice and Its Lagoon, San Giorgio Maggiore, Italy
- Co-organizer, Workshop/Conference with Martin Blaser Lab, Princeton University, Department of Ecology and Evolutionary Biology
- Co-organizer, Workshop with Martin Blaser Lab, New York University Langone Medical Center, NY, NY
- Princeton University, Committee on the Library and Computing for the AY 2015-16
- Co-Organizer, Water Solutions for Mathematical Problems Lecture Series, Princeton University

2015
- Co-Organizer/Participant, NCoE Workshop, Princeton University
- Participant, SESYNC Meeting, Annapolis, MD
- Participant, Validation: What Is It: Conference, Institute for Mathematical and Behavioral Sciences, UC, Irvine
- Participant, MASpread/RAPID Trade Meeting, University of Arizona, Tempe
- Participant, Science Advisory Board Meeting, Moore Foundation, Palo, Alto, CA
- Co-Organizer/Participant, Grand Challenges in Theoretical Ecology Symposium, Princeton University
- Panelist/Participant, Science Advisory Board Meeting, NOAA, Washington, DC
- Participant, NAS Annual Meeting/PNAS Editorial Board Meeting, Washington, DC
- Participant, SFI Annual Science Board Symposium and Meeting, Santa Fe, NM
- Participant, Business Strategy Interfaces and Frontiers, PRISM Foundation, New York, NY
- Participant, Symposium Honoring John T. Bruer, James S. McDonnell Foundation, St. Louis, MO
- Co-Organizer/Participant, Social-Ecological Complexity and Adaptation in Marine Systems: NSF: Dynamics of Coupled Natural-Human Systems Project, Princeton University
- Participant, NetSci – International School and Conference on Complex Networks, La Herradura, Spain
- Participant, Eric Maskin Festschrift, Cambridge, MA
- Participant, ESA Annual Meeting and 100th Anniversary, Baltimore, MD
- Co-organizer/Participant, Reinventing the Investment Industry, Business Network Topical Meeting, London, England
- Participant, Unlocking the Microbiome, Wellcome Trust, London, England
- Participant, Beijer Board Meeting and Askö Meeting, Stockholm, Sweden
- Participant, NorMER/GreenMAR Meeting, Oslo, Norway
- Participant, The Nature Conservancy Fellows Orientation, Washington DC
- Participant/Panelist, Panel 2: Responding to Fundamental Financial Challenges, Interdisciplinary Approaches to Financial Stability Conference, University of Michigan Law School
- Participant, Bottom-Up Evolution of Cooperation: Linking Local and Global Environmental Commons, London School of Economics and Political Science, London, England
- Collaborator, Interdisciplinary Team, Antimicrobial Resistance (AMR), International Livestock Research Institute, Nairobi, Kenya
- Coordinator, MBI-Princeton Institute Partner Program

- Mentor/Coach, The PROMISE Career Hack-a-Thon: #ThinkBigDiversity – Preventing Diversity Pipeline Attrition, Increasing STEM Career Advancement, Breakout Session, Maryland's Alliance for Graduate Education and the Professoriate
- Participant, IIASA Systems Analysis Conference, Laxenburg, Austria
- Participant, Science Advisory Board, Moore Foundation, Palo Alto, CA
- Mathematics and the Quest for Fundamental Principles of Biology Conference, University of Utah
- Co-Organizer/Participant, Microbiome Workshop, Princeton University, Dept. of Ecology and Evolutionary Biology

2014
- Participant, Arthur M. Sackler Colloquium: In the Light of Evolution VII: Darwinian Thinking in the Social Sciences Conference, UC, Irvine
- Participant, IMBS Colloquium, UC, Irvine
- Participant, External Advisory Board Meeting, SESYNC, Annapolis, MD
- Co-organizer/Participant, MASspread Workshop, Princeton, NJ
- Co-organizer/Participant, Social-Ecological Complexity and Adaptation in Marine Systems (NSF: Coupled Natural-Human Systems Grant) Meeting/Workshop, Princeton University, Princeton, NJ
- Participant, NAS Annual Meeting, Washington DC
- Participant, PNAS Editorial Board Meeting, Washington DC
- Participant, Science Advisory Board Meeting, Moore Foundation, Tucson, AZ
- Participant, Antibiotic Workshop, Princeton University, Princeton, NJ
- Participant, Co-Infection Workshop, Princeton University, Princeton, NJ
- Participant, World Science Festival, New York, NY
- Co-organizer; Chairperson, Session 2; Participant, Workshop on Climate Change and Public Goods, Fondazione Eni Enrico Mattei, Venice, Italy
- Co-organizer; Participant, Workshop on Discounting and Evaluation of Environmental Policies, Istituto Veneto di Scienze, Lettere ed Arti, Venice, Italy
- Consultant, SFI President Search Committee Meeting, Santa Fe Institute, Santa Fe, NM
- Participant, ESA Annual Conference, Sacramento, CA
- Participant, Nurturing Ideas and Scientists in Ecology: Symposium in Honor of Bill Robertson, ESA Annual Conference, Sacramento, CA
- Participant, Symposium in Honor of Alan Hastings, University of California, Davis
- Participant, Askö Meeting of the Beijer Institute, Stockholm Sweden
- Participant, Stockholm Resilience Board Meeting, Stockholm, Sweden
- Participant, NorMer Annual Meeting, Royal Academy of Science, Copenhagen, Denmark
- Participant, The Nature Conservancy Fellows Orientation, Washington, DC
- Co-organizer; Participant, Advances in the Plankton Ecosystem Model and the Evaluation of Biodiversity, Tokyo University of Marine Science and Technology, Japan
- Participant, The Eighty-Fifth Meeting of the IIASA Council, Laxenburg/Vienna, Austria
- Participant, Science Advisory Board Meeting, Moore Foundation, Sausalito, CA
- Participant, Spatio-Temporal Dynamics in Ecology Workshop, Lorentz Center, University of Amsterdam, The Netherlands
- Participant, Workshop on Mathematical Biology and Nonlinear Analysis, University of Miami, Coral Gables, FL

2013
- Executive Committee for the Graduate Program in Quantitative and Computational Biology (2011-2015)
- Member, Research Community on Communicating Uncertainty: Science, Institutions, and Ethics in the Politics of Global Climate Change, Princeton University (2011-2014)
- Selection Subcommittee (Novel Instruments and Applications), Eric and Wendy Schmidt Transformative Technology Fund (EWSF), Office of Technology Licensing (2012-13)
- Co-Chair, Princeton University Department of Ecology and Evolutionary Biology and Department of Molecular Biology Faculty Search (2012-13)
- Participant, AAAS Annual Meeting and Symposium (Getting to Global Ecological Sustainability: Climate and Small-Planet Ethics)
- Participant, A Crude Look at the Whole Conference, Complexity Program, Nanyang Technological University (NTU); co-sponsored by the Institute for Advanced Studies (IAS) at NTU
- Participant, SESYNC, External Advisory Board Meeting, Annapolis, MD
- Co-organizer/Participant, BESTNet Workshop: Modeling Species Dispersal & Ecosystem Services, Princeton University
- Participant, NAS Annual Meeting, Washington, DC

- Participant, 2013 SFI Annual Board Symposium and Meeting: New Perspectives in Evolution, Santa Fe Institute, Santa Fe, NM
- External Visitor, Review of the Sustainable PhD Program, School of International and Public Affairs (SIPA), Columbia University
- Participant, Natural Algorithms and the Sciences Workshop, Center for Computational Intractability, Princeton, NJ
- Participant, Science Advisory Board, Moore Foundation, Palo Alto, CA
- Member, USA IIASA NMO Delegation Visit to Russia
- Participant, Atelier de Réflexion Prospective: Mathématiques en Interactions pour la Terre, Institute Henri Poincaré, Paris, France
- Participant, Workshop on Biodiversity in a Changing World, Centre de Recherches Mathématiques, Université de Montréal
  Participant, Mathematical Biology Workshop, Atlantic Association for Research in the Mathematical Sciences (AARMS), Memorial University, St. John's Newfoundland
- Participant, ESA Annual Meeting, Minneapolis, MN
- Participant, Ecology: Into the Next 100 Years, International Association for Ecology (INTECOL) 2013, London, UK
- Co-organizer; Participant, Gateways to Emergent Behavior in Science and Society: An ICAM/SFI Workshop, Sante Fe, NM
- Participant, NorMER Annual Meeting, Reykjavik, Iceland
- Participant, NatureNet Fellows Orientation, The Nature Conservancy, Arlington, VA
- Participant, Theory and Knowledge for Sustainability Workshop, Sante Fe Institute, Sante Fe, NM
- Participant, How the Concept of "Complex Adaptive System" Can Be Useful and Used to Better Manage the World's Forests Meeting, Station de biologie des Laurentides, Université de Montréal
- Working Group, The Evolution of Social-Ecological Systems, Sustainability Solutions Initiative, University of Maine (for a proposal will be submitted to NIMBioS)
- Scientific Advisory Committee, The 4th International Conference on Computational and Mathematical Population Dynamics (CMPD4), Taiyuan, China (2013) (2012-)
- Organizing Committee, SIAM Conference on the Life Sciences (LS14), Charlotte, North Carolina (August 4-7, 2014)
- Planning Committee for Anniversary Activities, PNAS 100th Anniversary, National Academy of Sciences, 2014-15 (2013-)
- Organizer, Workshop on Immune System as a Model for Societal Protection, Princeton University
- Participant, Science Advisory Board Meeting, Moore Foundation, Palo Alto, CA
- Organizer, "Coordination and Collective Decision Making" (Army Research Office) Grant Project Review Meeting, Princeton University
- Participant, DIMACS Advisory Board Meeting, Rutgers University
- Evaluator of The National Mineral Resources (University of Mines), St. Petersburg, Russia, for the QS World University Rankings
- Participant, TNC Fellows Meeting, San Jose, CA

2012
- Board of Trustees and Science Advisory Board Meeting, Moore Foundation
- 2012 NAS Class Membership Committee
- Advisory Board, Mathematical Challenges of Understanding Mechanisms for Critical Transitions and Tipping Points in the Earth System (Mathematics of Planet Earth 2013), International Centre for Mathematical Sciences (ICMS), Edinburgh
- Board of Advisors, Global Partnership Promoting Science Education through Engagement, Founding Summit, Chicago 2012
- External Advisory Board Meeting, National Socio-environmental Synthesis Center (SESYNC), Annapolis,
- Participant, The Social Biology of Microbial Communities, Institute of Medicine of the National Academies, Forum on Microbial Threats
- Participant, Critical Transitions in Complex Systems Workshop, Imperial College, London
- Executive Committee, Certificate Program in Quantitative and Computational Biology, Princeton University (2012-2014)
- Participant, Spatial Models of Micro and Macro Systems Workshop, Mathematical Biosciences Institute, The Ohio State University, Columbus, Ohio
- Participant, 2012 National Academy of Sciences Annual Meeting, including *PNAS* Editorial Board Meeting and NRC Meeting, Washington, DC
- Participant, Science Board Symposium and Meeting, Santa Fe Institute, Santa Fe, NM

- Participant, Science Advisory Board Meeting, Moore Foundation, Palo Alto, CA
- Participant, NSF/ARL Locomotion Systems Science Meeting/Workshop, Arlington, VA
- Co-organizer, Dimensions of BioDiversity: Biological Controls on the Ocean C:N:P Ratios Meeting/Workshop, Princeton University, Princeton, NJ
- Participant, Biocomp 2012: Mathematical Modeling and Computational Topics in Biosciences (dedicated to Professor Luigi M. Ricciardi), Vietri sul Mare, Italy
- Participant, IIASA Council Meeting, Laxenburg, Austria
- Participant, Jury of the Premi Ramon Margalef d'Ecologia, Barcelona, Spain
- Participant, SIAM Annual Meeting, Minneapolis, MN
- Participant, Moore Conference (Critical Transitions), Palo Alto, CA
- Participant, Gordon Research Conference (Metabolic Basis of Ecology and Evolution in a Changing World), University of New England, Biddeford, Maine
- Participant, International Conference on Sustainable Development, PSEG Institute for Sustainability Studies, Montclair State University, Montclair, NJ
- Participant, Ecological Society of America Annual Meeting, Portland OR
- Participant, 2012 Askö Meeting of the Beijer Institute, Stockholm, Sweden
- Participant, Math Biology: Looking at the Future: MBI 10th Anniversary Meeting, The Ohio State University, Columbus, OH
- Alternate, Princeton University representative to NJ Sea Grant Consortium (2012-)
- Co-Chair, Princeton University Department of Ecology and Evolutionary Biology and Department of Molecular Biology Faculty Search (2012-13)
- Participant, EcoSummit, The Ohio State University, Columbus, OH
- Participant, NoMER Annual Meeting, Helsinki, Finland
- Participant, Early-Warning Signals for Critical Transitions: Bridging the Gap Between Theory and Practice Colloquium, Royal Netherlands Academy of Arts and Sciences, Amsterdam, The Netherlands
- Participant, Medical Transitions Workshop, Royal Netherlands Academy of Arts and Sciences, Echteld, The Netherlands
- Participant, IIASA 40th Anniversary Conference and Council Meeting
- Participant, Moore Foundation, Board of Trustees and Science Advisory Board Meeting
- Co-organizer, Social-Ecological Complexity and Adaptation in Marine Systems (NSF: Coupled Natural-Human Systems Grant) Meeting/Workshop, Princeton University
- Selection Subcommittee (Geosciences, Ecology, Modeling), Eric and Wendy Schmidt Transformative Technology Fund (EWSF), Princeton University, Office of Technology Licensing (2011-12)
- Executive Committee for the Graduate Program in Quantitative and Computational Biology (2011-2015)
- Member, Research Community on Communicating Uncertainty: Science, Institutions, and Ethics in the Politics of Global Climate Change, Princeton University (2011-2014)
- Selection Subcommittee (Novel Instruments and Applications), Eric and Wendy Schmidt Transformative Technology Fund (EWSF), Office of Technology Licensing (2012-13)
- Member, Research Community on Communicating Uncertainty: Science, Institutions, and Ethics in the Politics of Global Climate Change, Princeton University (2011-2014)

2011
- Steering Committee; Participant, Security in the Age of Systemic Risk: Strategy, Tactics and Options for Dealing with Femtorisks and Beyond: A Workshop to Define Evolving Challenges and Innovative Approaches, IIASA and NAS Committee for IIASA, Laxenburg, Austria
- Steering Committee, MPE 2013
- Participant, NAS CMC (Class IV) Meeting, UC Irvine
- Participant/Panel, International Seafood Sustainability Foundation, Allocation Workshop, Theoretical Approaches to Allocation of Common Property Resources, Panel on Game Theory/Mechanism Design, Yountville (Napa Valley), CA
- Participant, Annual Savanna Science Network Meeting, Johannesburg, South Africa
- Participant, DIMACS Board Meeting, Rutgers University, Piscataway, NJ
- Participant, NAS Annual Meeting, Washington, DC
- Participant, Moore Foundation, Board of Trustees and Science Advisory Board Meeting
- Participant, Evolutionary Approaches to International Environmental Cooperation Workshop, Tilburg Sustainability Center, Tilburg University, The Netherlands
- Participant, Ecology and Biophysics of Synthetic Ecosystems (Keymer Lab Mini Symposium), Delft University of Technology, The Netherlands

- Participant, Mathematical Biology Workshop and IGTC Summit, University of Victoria, Victoria, British Columbia, Canada
- Participant, MMI Investigator Symposium, Moore Foundation, Palo Alto, CA
- Participant, FunBio Final Meeting, DARPA, Washington, D.C.
- Participant, Mathematical Models in Ecology and Evolution Conference, U of Groningen, The Netherlands
- Participant, UCI DARPA Meeting
- Participant, Moore Foundation, Board of Trustees and Science Advisory Board Meeting
- Participant, 19th Askö Meeting, 2011: Food Security and Aquaculture Development in a Globalized World: Links and Tradeoffs Between Marine and Terrestrial Production Systems, Sweden
- Co-Organizer; Participant, Role of Fire in Shaping Vegetation Pattern Symposium, Princeton University
- Participant, American Academy of Arts and Sciences, Annual Meeting, Washington, DC
- Participant, US National Committee IIASA Meeting, Washington, DC
- Participant, IIASA Council Meeting, Laxenburg, Austria
- Participant, Kyushu University Centenary Symposium, Japan
- Participant, Mathematical Ecology Workshop, Kyushu University, Japan
- Advisory Committee: BIOCOMP2012 Conference: Mathematical and Computational Topics in Biosciences, dedicated to the memory of Professor Luigi M. Ricciardi (1942-2011), Vietri sul Mare, Italy
- Participant, Miller Institute for Basic Research in Science Advisory Board Meeting
- Selection Subcommittee (Geosciences, Ecology, Modeling), Eric and Wendy Schmidt Transformative Technology Fund (EWSF), Princeton University, Office of Technology Licensing (2011-12)
- Chair, Faculty Search Committee for EEB Junior Faculty Position
- Executive Committee for the Graduate Program in Quantitative and Computational Biology (2011-2015)
- Member, Research Community on Communicating Uncertainty: Science, Institutions, and Ethics in the Politics of Global Climate Change, Princeton University (2011-2014)

2010
- Participant, 2nd Symposium of Mathematical Systems Biology: Collective Dynamics in Biological Systems, University of California, Irvine
- Participant, Public Goods: From Ecology to Economics Conference, Institute for Mathematical Behavioral Sciences, University of California, Irvine
- Participant, DARPA Investigator Meeting on Fundamental Laws of Biology, Dana Point, CA
- Scientific Committee, Special Year on Mathematics of the Planet Earth 2013
- Participant, Moore Foundation, Board of Trustees and Science Advisory Board Meeting, Palo Alto, CA
- Participant, Science Board Symposium and Meeting, Santa Fe Institute, Santa Fe, NM
- Participant, NAS Annual Meeting, Washington DC
- Co-Organizer, Evolution, Ethics, and Environment: Biological Perspectives on Achieving a Sustainable Future Symposium (In Honor of the Inamori Foundation and Kyoto Prize Laureates B. Rosemary Grant, Peter R. Grant, Simon A. Levin, and Daniel H. Janzen, Princeton University
- Participant, Beijer Institute, BENN Symposium, Stockholm, Sweden
- Organizer; Leader; Participant, DARPA Workshop on Evolution in Coupled Physical-Biological Models of Marine Ecosystems, Princeton University, Princeton, NJ
- Participant, Conservation Roundtable: Conservation Theory and Practice, The Hebrew University of Jerusalem
- Organizing Committee, Stochastic Dynamics, ZiF, Bielefeld, 2012
- Organizing Committee, Session on Research Frontiers in Sustainability Science: Bridging Disciplines and Practices, AAAS Meeting 2011
- Moderator, Princeton Environmental Institute and Grand Challenges (Health and Development Grand Challenges, Infectious Disease Treatment) 2010 Summer of Learning Symposium
- Participant, IIASA, US National Committee for the International Institute of Applied Systems Analysis Meeting/Planning Workshop
- Steering Committee, Disease in Motion Conference, Princeton University
- Steering Committee, Workshop on Mathematical Challenges for Sustainability, DIMACS, Rutgers University
- Participant, Miller Institute for Basic Research in Science Annual Fall Meeting
- Participant, Moore Foundation, Board of Trustees and Science Advisory Meeting Board Meeting

2009
- Member, Program in Global Health and Health Policy, Princeton University
- Leader, Faculty Workshop on Sustainability, Pardee Center Residency, Boston University
- Participant, McDonnell Foundation Social Norms Workshop, Irvine, CA

- Participant, National Security Symposium at AAAS Annual Meeting, Chicago, IL
- Participant, Science Board Symposium, Santa Fe Institute
- Participant, Context and the Evolution of Mechanisms for Solving Collective Action Problems Workshop, Indiana University
- Participant, James M. McDonnell Foundation, Centennial Fellow 10 Year Reunion Conference, St. Louis, MO
- Organizer and Participant: DARPA FunBio Node Meeting, Princeton University
- Participant, Fisheries and Ecosystems Conference, Princeton University
- Participant, Rethinking Risk Cross-Industry Workshop, World Economic Forum, New York, NY
- Participant, Moore Foundation Symposium, Palo Alto, CA
- Participant, Hudson River Foundation Symposium (Tibor T. Polgar 25th Anniversary Celebration), Poughkeepsie, NY
- Participant, 16th Askö Meeting, The Beijer Institute, Sweden
- Advisory Board, Ecosystem Adaptability Workshop, Japan
- Advisory Board, U.S. National Institutes of Health "Innovative Approaches to STEM Education" Grant on Ubiquitous Games for Biology (MIT)
- Facilitator, Celebration in Honor of John Holland, Center for the Study of Complex Systems, University of Michigan, Ann Arbor
- Participant, Moore Foundation, Science Advisory Board Meeting, Palo Alto, CA
- Advisory Board, Mitigating the Spread of A/H1N1 Flu: Lessons Learned from Past Outbreaks, Arizona State University (2009)

2008
- Participant, NSF and Earth Institute at Columbia University, Expert Roundtable on Research Priorities in Sustainable Development, Washington, DC
- Steering Committee, National Academies Keck Futures Initiative (NAKFI)
- Executive Committee, Graduate Program in Quantitative and Computational Biology, Princeton University
- Co-organizer, Sustaining the Global Commons: An Experimental Approach, PIIRS Conference, Princeton University
- Committee, Library and Computing, Princeton University
- Participant, James S. McDonnell Foundation Conference, Social Norms About Health, Health Care, and Medicine: Broadening the Context for the National Health Care Debate, Princeton, NJ

- Advisor, Stochastic Population Dynamics and Applications in Spatial Ecology Workshop, ICMS, Edinburgh, Scotland
- Committee, Search for President, Santa Fe Institute, Santa Fe, NM
- Committee, Future of Climate and Environmental Sciences, Princeton University
- Committee, Search for the Assistant Director, Social, Behavioral and Economic Sciences, National Science Foundation
- Planning Group for Global Health Certificate Program (Global Health Initiatives, Center for Health and Wellbeing), Princeton University (2008-09)
- Committee on Economic Growth, ESA

2007
- Organizing Committee, Economic Epidemiology Conference, Uganda (summer 2010), DIMACS; SMB
- Organizing Committee, International Conference on Complex Systems
- Workshop, Systems Biology of Infectious Diseases, Aspen Center for Physics, Aspen, CO
- Consultant, Judaism and Science Conference, Harvard Divinity School, Cambridge, MA
- Co-chair, Santa Fe Institute Symposium, Santa Fe, NM
- Workshop: Swarms, Biologists and Engineers, University of Pennsylvania, Philadelphia, PA
- Advisory Committee: Resources for the Future: Extending the Cure, Washington, DC
- IUBS Symposium on Biological Sciences and Sustainability, Washington, DC

2006
- Conference on Biology and Mechanics: Applications of Mathematics and Computation, University of California, Irvine, CA
- Symposium on Theoretical Ecology, Oxford University, Oxford, UK
- Science Board Meeting, Santa Fe Institute, Chair of the Science Board, Santa Fe, NM
- Workshop: Cooperation among microorganisms, Park City, UT
- Advisory Committee, Resources for the Future: Extending the Cure, San Francisco, CA,
- Program in Evolutionary Dynamics, Harvard, Cambridge, MA
- Workshop: James S. McDonnell Foundation, So what's in your medicine cabinet?, Babson Park, MA

- Kyoto International Culture Forum, Commemorative Lecture 2, Keynote speaker, Kyoto, Japan
- International Society for Ecological Economics, New Delhi, India
- International Conference on Mathematical Modeling and Computer Simulation, Jaipur, India
- Advisory Committee, PISCO

2005
- Akira Okubo Award Prize Committee, Society for Mathematical Biology
- Co-organizer, DIMACS Epidemiology Minisymposium, Rutgers University
- Panelist, Whole Earth Systems: Integrating Environmental Science, Technology and Policy, Stanford U
- Workshop Co-director and Discussant, How Information Influences Behavioral Change, McDonnell Foundation, La Jolla, CA.
- Advisory Committee, Economics of Antibiotic Effectiveness Study, Resources for the Future, Washington, DC
- International Advisory Board, Complex Agent-based Dynamic Networks (CABDyN), Oxford University, UK (2004-)
- Participant, Integrated Modeling and Analysis – A Start-Up Workshop for a CEES Project, University of Oslo, Norway

2004
- Advisory Board, Life and Environmental Sciences Division, Oxford University
- Workshop: From Structure to Dynamics in Complex Ecological Systems, Santa Fe Institute
- Workshop Director, Spatial Dynamic Models of Economics and Ecosystems, ICTP, Trieste, Italy
- Workshop Director, Spatial Aspects of Reserve Design Optimization under Economic Constraints, ICTP, Trieste, Italy
- 12th Annual Askö Meeting, "Economic and Ecological Resilience in Arctic Areas," Abisko Scientific Research Station, Sweden
- ICTP/IIASA Joint Meeting on the Environment, Trieste, Italy

2003
- Advisory Panel, Research Update Service, Elsevier Science London
- Advisory Committee, Documentary Series on the Environment and Earth System Science, National Geographic and Sea Studios Foundation
- Academic Panel, Workshop on Market-Based Approaches to Biodiversity Conservation, Columbia University
- Advisory Board, Mathematical Models in Biology, Santa Fe Institute
- Interfaces in Science Fellows' Retreat, Burroughs Wellcome Fund, San Diego, CA
- Co-organizer, Resiliency and Change in Ecological Systems Workshop, Resilience Alliance and the Santa Fe Institute
- Mini Symposium on Robustness in Natural and Social Systems, Santa Fe Institute
- Co-organizer, Mathematical Biology, from Molecules to Ecosystems, the Legacy of Lee Segel, Banff International Research Station, Alberta, Canada

2002
- Organizer, NIH workshop Population Biology and Evolution of Influenza A**,** Princeton University
- Co-organizer, DIMACS International Conference on Computational and Mathematical Epidemiology, Rutgers University, Piscataway, NJ (2001-02)
- John Templeton Foundation Workshop, Institute for Advanced Study, Princeton, NJ
- Chair, MacArthur Award Committee, Ecological Society of America (1999-2002)
- 10th Annual Askö Meeting, "Dealing with Uncertainty: Policy making in the 21st Century," The Beijer Institute, Stockholm, Sweden

2001
- NAS Section Liaison to the National Research Council
- Beijer Institute Workshop on "Biodiversity Use and Ecotourism," Hato Piñero, Venezuela
- Co-organizer, Workshop on Evolutionary Epidemiology of Strain Structure in Pathogen Populations, University of Warwick, UK
- Organizer, NSF Workshop on "Space, Food Webs and Biodiversity," Princeton University
- Workshop on Economic Antibiotic Resistance, Resources for the Future
- Co-organizer, Symposium on Long-distance Dispersal, 86th Annual ESA Meeting, Madison, WI

2000
- 8th Askö Meeting: Environment, Development and Trade, The Beijer Institute, Stockholm, Sweden
- Co-organizer, 2nd Workshop on "Biodiversity and Ecosystem Functioning," Imperial College, Silwood Park, UK
- Second International Conference on Environment and Development, Beijer Institute, Stockholm, Sweden

- Co-organizer, Workshop sponsored by the Alfred P. Sloan Foundation on the Known, the Unknown, and the Unknowable, Columbia University, NY
- Co-organizer, Workshop on the Evolutionary Epidemiology of Influenza and Malaria, Santa Fe Institute
- NSF supported workshop "Developing a Research Agenda for Linking Biogeophysical and Socioeconomic Systems," Tempe, AZ
- Ad Hoc Committee, Criteria for selection of individuals who have made significant contribution to the field of ecology, ESA (1999-2000)
- Steering Committee, The University Research Initiative Program (URIP), Woods Hole, MA, (1993-2000)
- Review Committee, Department of Biology, University of Michigan, Ann Arbor, MI
- PISCO/Mellon Symposium: Dynamics of Pacific Coastal Upwelling Ecosystem, Corvallis, OR

1999
- 7th Askö Meeting: Evolution in Biological, Social and Economic Systems, The Beijer Institute, Stockholm, Sweden
- Chair, Procedures for Adopting Existing Publications Committee, ESA (1998-99)
- Advisory Committee, ESA's Ecological and Botanical Journal Archive Project (1998-99)
- Co-organizer, 1st Workshop on "The Relationship between Biodiversity and Ecological Complexity," Kyoto, Japan (1 lecture)
- Workshop Co-organizer, Institute for Mathematics and its Applications (IMA), University of Minnesota
  1. From Individuals to Aggregation: Modeling Animal Grouping
  2. Local Interactions and Global Phenomena in Vegetations and Other Systems
- Symposium "When are Species Expendable?" Festschrift to honor R.T. Paine, Leavenworth, WA

1998
- 6th Askö Meeting: Valuing Ecosystem Services, The Beijer Institute, Stockholm, Sweden
- Organizer, Workshop on Cooperation of Academic Institutions and The Heinz Center in the Area of Global Change, Princeton University
- Chair, Review Committee of Editors-in-Chiefs, ESA (1998)
- Scientific Advisory Committee, Scientific Committee on the Problems of the Environment (SCOPE), International Council of Scientific Unions
- Committee on Ecosystem Management of Sustainable Marine Fisheries, Ocean Studies Board-National Research Council (OSB-NRC) (1995-98)

1997
- Co-organizer, Workshop on the Ecology and Evolution of Biodiversity, sponsored by the Alfred P. Sloa Foundation, Princeton University
- Advisory Board, An Integrated Study on Biodiversity Conservation under Global Change and Bio-inventory Management System, MESSC Funded Project, Center for Ecological Research, Kyoto University, Japan
- Workshop, Scaling in Biology: From Organisms to Ecosystems, Santa Fe Institute, Santa Fe, NM
- 5th Askö Meeting: Population, Food Availability and the Environmental Resource Base, The Beijer Institute, Stockholm, Sweden
- Review Committee, Department of Biological Sciences, Stanford University, CA
- Mathematical Review Committee for Research Training Fellowships, The Wellcome Trust, London, UK
- Steering Committee, Workshop: Universal Phenomena in Ecology? Santa Fe Institute and National Center for Ecological Analysis and Synthesis (NCEAS), Santa Fe Institute, Santa Fe, NM
- Review Committee, Santa Fe Institute, Santa Fe, NM (Co-chair)
- Chair, Program Committee, The International Conference on Mathematical Biology (ICMB), Hangzhou, China

1996
- Workshop on Research Opportunities at the Interface of Biology, Mathematics and Physical Sciences, National Science Foundation, Washington, DC
- 4th Askö Meeting: The Environment and Ethics, The Beijer Institute, Stockholm, Sweden

1980-96
- SIAM Committee on Human Rights of Mathematical Scientists, (Chair, 1980-83)

1995
- Co-organizer and speaker, Symposium for Biodiversity Science and Policy Issues: Meeting Societal Needs., American Association for the Advancement of Science (AAAS)
- Committee of Visitors, Division of Mathematical Sciences and National Science Foundation
- Advisory Committee, Kyoto Conference on Mathematical Biology
- Workshop on Computational Ecology: Key Research Topics and Methods for a Predictive Science, San Diego Supercomputer Center, San Diego, CA

- 3rd Askö Meeting: The Resilience of Social and Biological Systems, The Beijer Institute, Stockholm Sweden

1994
- Co-organizer, Workshop on Individual Based Modeling, Woods Hole Oceanographic Institution, Office of Naval Research (ONR)-University Research Institute Program (URIP), University of Miami
- Nominating Committee, Society for Mathematical Biology
- Committee on Communications in the Electronic Age, ESA
- National Committee, Campaign for the Center for Science and Engineering, AAAS
- Committee on Biological Diversity in Marine Systems, National Research Council (NRC)
- 2nd Askö Meeting: Economic Growth and the Environment, The Beijer Institute, Stockholm, Sweden

1993
- Chair, External Review Committee, Dept. of Biology and the Graduate Programs in Cell and Developmental Biology, Ecology and Evolution, and Physiology and Neurology, Rutgers University, New Brunswick, NJ
- Review for Jasper Ridge CO_2 Project, Annual Meeting, Carnegie Institution of Washington, Stanford, CA
- Moderator, Dynamical Systems Methods for the Study of Interactions of Genes and Environment, Department of Health & Human Services, National Institute of Child Health and Human Development (NICHD), Rockville, MD
- Workshop on Ecology of Infectious Diseases in Natural Populations, Isaac Newton Institute, Cambridge, UK
- Workshop on Models of Ocean Physical/Ecological Processes, Woods Hole Oceanographic Institution, Woods Hole, MA

1992-93
- Synthesis Center Workshop Steering Committee
- Committee on the Future of the Business Office, (Chair), ESA

1992
- Committee on The Future of Long-term Ecological Data, ESA
- International Conference on the Definition and Measurement of Sustainability: The Biophysical Foundations, Washington, D.C.
- Member, Dept. of Zoology Program Review Committee, University of Washington, Seattle
- Member, NASA Landsat Science Working Group
- Chair, Committee on the Future of the Business Office, ESA
- Workshop on the mission of a National Center for Ecological Synthesis & Analysis, Albuquerque, NM
- NSF Workshop on the Role of Ecological Models in Earth System Modeling, Estes Park, CO

1991
- Workshop on Animal Aggregations: Three-dimensional Measurement and Modeling, Monterey, CA
- Workshop on Evolutionary, Population, and Community Responses to Global Change, Friday Harbor, WA
- Chair, Contributed Papers Session, ESA Annual Meeting, San Antonio, TX
- Chair, Nominating Committee, ESA
- Chair, Publications Committee, Society for Mathematical Biology

1990
- Co-organizer, Workshop on Training in Computational Biology/Mathematical Biology, Banbury Center, Cold Spring Harbor, NY
- Scientific Committee, 1st European Conference on Mathematics Applied to Biology and Medicine, Grenoble, France
- Organizer and Chair, NSF Workshop on Mathematics and Biology: The Interface—Challenges and Opportunities, Washington, DC
- Program Committee, SIAM 1990 Annual Meeting, Chicago, IL
- Organizing Committee, Symposium on Modern Perspective of Mathematics: Mathematics as a Consumer Good, Mathematics in Academia. Mathematical Sciences Institute, Cornell University, Ithaca, NY
- Chair, 2nd International Conference on Environmental Analytical Chemistry, Honolulu, HI

1989
- Session Chair, Models for Ecosystems: Conference on The Mathematical Theory of the Dynamics of Biological Systems, University of Oxford, Oxford, England
- Symposium on Classics of Theoretical Biology, University of Oxford, Oxford, England
- NSF Workshop on Computational Biology, Washington, DC
- Conference on the Genetic Revolution: Scientific Prospects and Public Perceptions, American Academy of Arts and Sciences, Cambridge, MA
- Latin American Workshop on Mathematical Ecology, Rio de Janeiro, Brazil
- Bio-Physical Coupling Workshop, sponsored by U.S. Office of Naval Research, Monterey, CA
- Organizer and Symposium Chair, The Science of Ecology in a Changing Environment, AIBS Annual Meeting, Toronto, Canada

- Conference on Grand Challenges to Computational Science, Molokai, HI

1988-90
- Member, Committee on the Environment, Natl. Assoc. of State Universities and Land-Grant Colleges

1985-86
- Whittaker Travel Award Endowment Committee, ESA
- Subcommittee on Ecology—Health and Environmental Research Advisory Committee, DOE
- SCOPE International Synthesis Symposium on the Ecology of Biological Invasions, East-West Center, Honolulu, HI
- Workshop on Ecological Principles for Watershed Management; East-West Center, Honolulu, HI
- Organizer, Symposium on Modeling Complex Systems, International Ecological Conference (INTECOL 1986), Syracuse, NY
- Chair, Advisory Panel on the Biological Effects of Human Population Growth, Board on Basic Biology, National Research Council

1985
- Steering Committee, Shackelton Workshop on Biotechnology Assessment
- Program Committee, Symposium on Mathematical Topics in Biology, Kyoto, Japan
- SCOPE Modelling Group on The Ecology of Biological Invasions, Fontana, NC
- Expert Witness, NYS Dept. of Environmental Conservation Hearings on Lampricides, Ithaca, NY
- Workshop on Applied Control Theory to Renewable Resource Management, Honolulu, HI

1984
- Dahlem Workshop on Exploitation of Marine Communities, Berlin, Germany
- Review Team, Graduate Program in Biology, University of California, Riverside, CA
- Session Chair, Gordon Conference on Theoretical Biology and Biomathematics, New London, NH
- Study Group Session on Effects of Nuclear War, annual joint meeting of ESA/AIBS, Fort Collins, CO
- Whittaker Memorial Award Committee, ESA

1983
- Co-Organizer, Applied Math Days, Center for Applied Mathematics, Cornell University, Ithaca, NY
- Landscape Ecology Workshop, Illinois Natural History Survey, Allerton Park, IL
- Environmental Biology Review Panel, U.S. EPA, Seattle, WA

1982-83
- Ad Hoc Committee to Evaluate the Ecological Consequences of Nuclear War, ESA

1982
- Dahlem Workshop on Population Biology of Infectious Diseases, Berlin, Germany
- Oak Ridge National Laboratory Food Web Workshop, Fontana, NC
- National Institutes of Health Study Section, Bethesda, MD

1981
- Convenor, EPA-ERC Workshop on the State of the Art in Ecotoxicology, Cornell University, Ithaca, NY
- Hudson River Biological Monitoring Workshop, Power Authority of State of New York, NY
- NOAA Workshop on Fisheries Ecology, Woods Hole Oceanographic Institute, Woods Hole, MA
- Working Group on Marine Mammal/Fishery Interactions, International Union for Conservation of Nature and Natural Resources (IUCN), Committee on Marine Mammals, La Jolla, CA

1980-81
- TIE-CEQ Study Panel: Research Trends and Needs in Environmental and Natural Resource Biology: A National Assessment, Chicago, IL

1980
- Workshop on Control Theory Applied to Renewable Resource Management, Christchurch, New Zealand

1979-80
- Expert Witness for Environmental Protection Agency in hearings on effects of power plants on Hudson River

1979
- Chair, Organizing Committee, AMS-SIAM Thirteenth Annual Symposium on Some Mathematical Questions in Biology, AAAS annual meeting, Houston, TX
- Chair, Special Session on Diffusion Reaction Systems in Biology, AMS annual meeting, Biloxi, MI
- External Review Committee, Graduate and Undergraduate Program of the Department of Ecology and Behavioral Biology, University of Minnesota, Minneapolis, MN

1978
- Chair, Organizing Committee, AMS-SIAM Twelfth Annual Symposium on Some Mathematical Questions in Biology, AAAS annual meeting, Washington, DC
- External Reviewer, Ecology Program, Oregon State University, Corvallis, OR

1977
- Program Committee, Annual meeting of the Society for the Study of Evolution, Ithaca, NY
- Program Committee, SIAM 1977 national meeting, Philadelphia, PA
- Chair, Organizing Committee, AMS-SIAM Eleventh Annual Symposium on Some Mathematical Questions in Biology, AAAS annual meeting, Denver, CO
- Invited Participant, NSF Long-Term Ecological Measurements Conference, Woods Hole, MA
- Chair, Special Session on Mathematical Biology, AMS annual meeting, St. Louis, MO
- Co-Chair, Second Annual Northeast Regional Day of Applied Mathematics, Ithaca, NY

1976
- Chair, Organizing Committee, AMS-SIAM Tenth Annual Symposium on Some Mathematical Questions in Biology, AAAS annual meeting, Boston, MA
- Provost's *ad hoc* Committee on Ecology and Evolutionary Biology, Yale University, New Haven, CT

1975
- Chair, Organizing Committee, AMS-SIAM Ninth Annual Symposium on Some Mathematical Questions in Biology, AAAS annual meetings, NY
- TIE Workshop on Analysis of Transient Events in Ecosystems, Seattle, WA
- Invited Discussant, ESA Symposium on Applications of Mathematical Modeling to Ecological Problems Related to the Quality of Life, AAAS annual meeting, NY

1974
- Chair, Organizing Committee, AMS-SIAM Eighth Annual Symposium on Some Mathematical Questions in Biology, AAAS annual meeting, San Francisco, CA

1973
- Site Visitor, NSF Research Associateships Program

1972
- Moderator, Session on Theoretical Biology and Biomathematics, AAAS annual meeting, Washington, DC

KEYNOTE LECTURES

Danish Mathematical Society, Vingsted, Denmark (1981)
1984 Benthic Ecology Meeting, Goucher College, Baltimore, MD (1984)
Population Biologists of New England Annual Meeting, Mount Holyoke College, MA (1992)
Beta Beta Beta Biological Honor Society, College of New Jersey (2001)
Biocomp2002: Topics in Biomathematics and Related Computational Problems at the Beginning of the Third Millennium, Vietri sul Mare, Italy (2002)
91st Annual ESA Meeting, Memphis TN (2003)
Biocomplexity in the Environment Awardees Meeting, NSF, Arlington, VA (2003)
Princeton Environmental Institute 10th Anniversary Celebration, Princeton University (2004)
International Symposium of the Korean Society for Mathematical Biology, Seoul, Korea (2006)
DARPA Fundamentals of Biology Conference, Santa Barbara, CA (2006)
LATSIS Symposium on Ecohydrology 2010, Lausanne, Switzerland (2010)
World Congress of Environmental and Resource Economists, Montreal, Canada (2010)
Theoretical Models in Ecology, Evolution, and Behavior: Recent Advances and Conceptual Issues (Conference in Honor of Prof. Danny Cohen's 80th Birthday, Department of Evolution, Systematics, and Ecology, The Hebrew University of Jerusalem (2010)
Kyushu University Centenary Symposium, Japan (2011)
Montclair State University, PSEG-Institute for Sustainability Studies, International Conference on Sustainable Development (2012)
Arthur M. Sackler Colloquium: In the Light of Evolution VII: Darwinian Thinking in the Social Sciences Conference, University of California, Irvine (2014)
Deutsche Physikalische Gesellschaft, Physics of Socio-Economic Systems Division, Spring Meeting, Berlin, Germany (2015)
Arthur M. Sackler Colloquia of the National Academies of Science, Washington DC (2016)
International Council for the Exploration of the Sea (ICES) Symposium, MSEAS 2016: Understanding Marine Socio-Ecological Systems: Including the Human Dimension in Integrated Ecosystem Assessments, Brest, France (2016)
IIASA Systems Analysis Conference (2016)
UN High-Levin Panel on Sustainable Development: SDG 15, United Nations, New York, NY (2018)
Evolution and Financial Markets Conference, Norton Woods Conference Center, American Academy of Arts and Sciences, Cambridge, MA (2018)
Levin Fest: A Symposium of the Intersection of Mathematics and Biology, University of Victoria (2019)
30th Annual International Conference, Society for Chaos Theory in Psychology and Life Sciences (Fields Institute, University of Toronto (Virtual) (2020)
International Workshop on Mathematical Biology 2020, Dhaka, Bangladesh (Virtual) (2020)

Keynote Speaker in Ecology, Serrapilheira Institute, Launching of Online Training Program (Virtual) (2021)
Keynote Speaker, Online International Conference on Computational and Mathematical Biology (ICCMB 2021), Bangladesh Society for Mathematical Biology (BSMB) (Virtual) (2021)
Keynote Speech, Rapid PI Meeting, University of Virginia (Virtual) (2021)
Keynote Speaker on Ecology, Serrapilheira Institute (Virtual) (2022)
Keynote Speaker, Economy of Francesco (EofF) School: Listening to Plants for a New Economic Paradigm Conference (Virtual) (2022)
Keynote Speaker, BEER (Biomathematics and Ecology Education and Research), XV International Symposium, Illinois State University (Virtual) (2022)
Keynote Speaker, Ignacio Rodríquez-Iturbe (1942-2022) Memorial Symposium, Texas A&M University, College Station, TX (Virtual) (2022)
Keynote Speaker, Paving the Way for Continental Scale Biology: Connecting Research Across Scales Webinar Series, National Academies, Sciences, Engineering, Medicine (2023)
Keynote Speaker, Dialogue on Climate Change and Biodiversity, Shanghai Chenshan Botanical Garden, WLA Forum (2023)
Keynote Speaker, Applied Math Colloquium, Department of Mathematics and Statistics, University of Maryland, Baltimore County, MD (2023)

PLENARY LECTURES

Conference on Differential Equations and Applications to Ecology, Epidemics, and Population Problems, Claremont, CA (1981)
XIth International Biometric Conference, Toulouse, France (1982)
International Conference on Population Biology, Edmonton, Alberta, Canada (2 lectures) (1982)
2nd Pacific Coast Conference on Mathematical Modelling of Renewable Resources, University of Victoria, Canada (1983)
International Symposium on Mathematics in Biology and Medicine, Bari, Italy (1983)
Population Biologists of New England Meeting, University of Massachusetts, Amherst, MA (1983)
Conference on Biotechnology, Brookings Institution, Washington, D.C. (1985)
National Center for Ecological Analysis and Synthesis (NCEAS), Symposium on Synthesis in Ecology: Applications, Opportunities and Challenges, Santa Barbara, CA (1996)
Alcalá 1st International Conference on Mathematical Ecology, Alcalá de Henares, Spain (1998)
2nd Conference on The Mathematical Biology of Pattern and Process, University of Bath (1998)
Symposium "When are Species Expendable?" Festschrift to honor R.T. Paine, Leavenworth, WA (1999)
American Mathematical Society Meeting, "Mathematical Challenges of the 21st Century," Los Angeles, CA (2000)
Woodrow Wilson National Fellowship Foundation, Leadership Program for Teachers, Princeton, NJ (2000)
52nd Annual AIBS Meeting – From Biodiversity to Biocomplexity: A Multidisciplinary Step Toward Understanding Our Environment (2001)
Plenary Speaker and Discussion Panelist, 2004 Annual Meeting of the Society for Mathematical Biology (SMB) and International Conference for Mathematics in Biology and Medicine, Ann Arbor, MI (2004)
Workshop on Spatial Ecology: The Interplay Between Theory and Data, University of Miami (2005)
Symposium on Biodiversity in the Anthropocene: Perspectives on the Human Appropriation of the Natural World, Radcliffe Institute for Advanced Study, Harvard University, Cambridge, MA (2006)
NRC, Federal Reserve Conference on New Directions for Understanding Systemic Risk, (sponsored by the NAS), New York, NY (2006)
IUBS Meeting, Complex Systems and the Challenge of Ecosystem Services, Washington, DC (2007)
SWARMS meeting, Collective Behavior, Philadelphia, PA (2007)
Annual Meeting of Taiwan Mathematical Society (2008)
Symposium on Systems and Control – A Tribute to Three Masters: Guido Guardabassi, Arturo Locatelli, Sergio Rinaldi, Politecnico di Milano, Milan, Italy (2010)
25th US International Association of Landscape Ecologists (IALE) Symposium, University of Georgia, Athens (2010)
Biocomp 2012: Mathematical Modeling and Computational Topics in Biosciences (dedicated to Luigi M. Ricciardi), Vietri sul Mare, Italy (2012)
EcoSummit, The Ohio State University, Columbus, OH (2012)
Workshop on Discounting and Evaluation of Environmental Policies, Istituto Veneto di Scienze, Lettere ed Arti, Venice, Italy (2014)
Spatio-Temporal Dynamics in Ecology Workshop, Lorentz Center, University of Amsterdam, The Netherlands (2014)
Workshop on Mathematical Biology and Nonlinear Analysis, University of Miami, Coral Gables, FL (2014)
Annual International Conference of the Complex Systems Society (Virtual) (2020)
BIOECON XXII, Snow King Resort, Jackson, WY (Virtual) (2021)

Global Development Conference on Biodiversity and Sustainable Development, Global Development Network in collaboration with Future Earth and Universidad San Francisco de Quito (2023)

OTHER INVITED LECTURES, ADDRESSES, ETC.

2024
- AI/Tech Meeting, Complexity and International Relations Series, Rockefeller Offices, NY, NY
- Climate Resilience Webinar Series (Virtual)
- The Abdus Salam International Centre for Theoretical Physics (ICTP)/LQS Workshop on Limits to Collective Agency, Trieste, Italy (Virtual)
- Quantitative Research in the Life and Social Sciences Program Symposium, Arizona State University, Tempe, AZ

2023
- With Nicholas Silitch), Global Health Challenges: Vaccine Hesitancy and Global Warming, Princeton Pulse Podcast, Princeton University
- Panel, Santa Fe Institute Working Group: Is There a Cross-Scale Theory of Regeneration and Failure for Complex Adaptive Systems, Santa Fe Institute
- Opening Remarks, Critical Transitions Workshop, Earth Resilience and Sustainability Initiative, Princeton University
- Workshop on Mathematical Social Science, University of Pennsylvania
- Human Behavior and Disease Dynamics Workshop, Brin Mathematics Research Center, Department of Mathematics, University of Maryland
- Opening Remarks, Complexity and International Relations Workshop, Princeton, NJ
- Lighting Talk and Discussion Leader, GPCE Spring Meeting: Research Innovation, University of Virginia, Charlottesville
- Democracy Reforms and To Do Simulations Workshop, Electoral Innovation Lab, Princeton University
- Opening Speech, Digital Economy as Complex Systems, Luohan Annual Summit Sub-Forum: Exploring Complexity in the Digital Age of Uncertainty (Virtual)
- International Zoom Seminar on Theoretical Ecology, International Initiative for Theoretical Ecology, Eötvös University, Hungary (Virtual)
- Quantitative Research in the Life and Social Sciences, Arizona State University (Virtual)
- Mathematical Physics Seminar, Center for Mathematical Sciences Research, Rutgers University (Virtual)• McGill University Seminar Series in Quantitative Life Sciences and Medicine, McGill University, followed by a discussion with students (Virtual)
- Discussant (with Janet Currie and Ramanan Laxminarayan), following the screening of the film *Silent Pandemic: The Global Fight Against Antimicrobial Resistance,* by Michael Wec
- Invited Lecture, "Modeling the End of Civilization," with David Wolpert, Raissa D'Souza, and Lord John Alderdic, 2023 SFI ACtioN and Board and Trustees Symposium on *The Complexity of Civilization*, Santa Fe Institute, Santa Fe, NM

2022
- "The Dynamics of Political Polarization," with Olivia Chu, CounterBalance Seminar Series (Virtual)
- Moderator, "How Do We Reach the 2050 Targets Panel," Evidence to Action: Achieving the Net-Zero 2050 Targets: Julis-Rabinowitz Center for Public Policy & Finance Eleventh Annual Conference, Princeton University (Virtual)
- "Ecological and Evolutionary Perspectives on Systemic Risk," Lecture given to Behavioral Finance Class at MIT, with a Fireside Chat and Q&A (Virtual)
- "Complex Systems and Governance," Princeton Forum on Diplomacy and Statecraft, Princeton University (Virtual)
- "Rates and Transitions in Social and Economic Systems," Banff International Research Station for Mathematical Innovation and Discovery (BIRS) Conference: Rate-Induced Transitions in Networked Systems, University of British Columbia, Vancouver, Canada (Virtual)
- Discussant, Prevention, Early Detection and Response to Antimicrobial Resistance Pandemics Conference, Center for Health and Wellbeing & the High Meadows Environmental Institute, Princeton University
- Festschrift in Honor of Professors Nikolaos Christodoulakis and Anastasios Xepapadeas, Athens University of Economics and Business, Greece (Virtual)
- "Complex Systems, Polarization, and Governance," FedGov Complexity Monthly (Virtual)
- "Mathematical Challenges in Dealing with Climate Change," Scientific and Mathematical Approaches to Climate and Ecology Conference, Year of Climate Action, Brandeis University (Virtual)
- Introduction, NSF PREPARE Workshop Series: Vaccine Preventable Diseases in a Post-COVID World (Virtual)

- Introduction, Critical Transitions Workshop, ERSI, Princeton University (Virtual)
- Acceptance Speech, BBVA Foundation Frontiers of Knowledge in Ecology and Conservation Biology Award Presentation, Bilbao, Spain
- "The Relationship Between Diversity and the Resilience of Organizations," Frontier Dialogue: The Value of Diversity for Organizations and Society, Luohan Academy (Virtual)
- "Ecosystems and the Biosphere as Complex Adaptive Systems: Scaling, Collective Phenomena and Governance," EcoTalks (China) (Virtual)
- "COVID-19 and Challenges to the Classical Theory of Epidemics," REU Colloquium Series, Arizona State University (Virtual)
- "COVID-19 and Challenges to the Classical Theory of Epidemics," Department of Quantitative and Computational Biology Seminar, University of Southern California (Virtual)
- Invited Commentator, Identifying Positive Tipping Points Plenary Session, Tipping Points: From Climate Crisis to Positive Transformation Conference, University of Exeter, UK (Virtual)
- Invited Speaker, Launch Event for Collective Intelligence Journal (Virtual)
- "A Cross-Disciplinary Perspective on Complex Adaptive Systems," Fung Internal Seminar (Virtual)
- "New Challenges and New Potential for the Theory of Epidemics," NSF Review of Expeditions Project, UVA Biocomplexity Institute, Charlottesville, VA (Virtual)
- Introduction, "Mekong: LIFE," Concert by Van-Anh Vo, The Blood Moon Orchestra with the Cambodian Ballet Master Charya Burt," Princeton University
- Panelist, The 5th WLA Zero Carbon Forum: Panel 1: "Carbon Strategy" – Global Collaboration on Climate Governance, Shanghai, China (Virtual)
- "The Economics of Nature: An Ecologist's Perspective," The Forum of Nature and the Nature of Economics Conference, London School of Economics, London, UK (Virtual)

2021
- Introduction, Political Polarization Workshop for Special Issue of *PNAS* (2021) (Virtual)
- Introduction to Speakers, Evnin 2021 Lecture: *Calling Bullsh*t: The Art of Skepticism in a Data-*
- *Driven World*, Virtual Webinar, Princeton University
  Math Fun, Amherst-Pelham Regional High School, Amherst, MA (Virtual)
- Welcome, Earth Resilience and Sustainability Initiative, Princeton University (Virtual)
- Public Goods: From Biofilms to Societies, Science Week, College of Science, University of Texas, Arlington (Virtual)
- Panelist, Nobel Prize Summit 2021: Our Planet, Our Future (Virtual)
- Science Before the Storm (Podcast), PREPARE (Virtual)
- International Conference on Dynamics in Systems and Synthetic Biology (Ecological Systems), Centre de Recerca Matemàtica, Barcelona, Spain (Virtual)
- Current Issues in Climate Research Conference, Accademia Nazionale dei Lincei (Virtual)
- AI for Health in India, Google Research, India (Virtual)
- Theoretical Updates Section, NSF Site Visit/Review Meeting for the Expeditions Team (Expeditions: Collaborative Research: Global Pervasive Computational Epidemiology grant), The University of Virginia (Virtual)
- Institute of Arctic and Alpine Research, University of Colorado, Boulder, CO (Virtual)
- Simon A. Levin Mathematical, Computational and Modeling Sciences Center, Arizona State University (Virtual)
- MathBio Seminar, School of Mathematical and Statistical Sciences, Arizona State University
- World Laureates Forum (WLA), Moderator & Panelist for Möbius Forum; Panelist: WLA Carbon 2021 Series: Climate Change and Biodiversity) (Virtual)
- Global Pervasive Computational Epidemiology (GPCE) Seminar Series, the University of Virginia (Virtual)
- Fung Global Fellows Program, PIIRS (Virtual)
- Luohan Academy Frontier Dialogue #7: Boosting Shared Prosperity: Technology and Equality in the Digital Era, Luohan Academy (Virtual)

2020
- Widely Applied Maths Seminar Series, Applied Maths Dept., Harvard University
- NAE Convocation of Professional Engineering Societies (Virtual)
- Social Externalities: A Workshop on Concepts and Applications; Panel: Conceptualizing Social Externalities Across the Disciplines, Princeton University (Virtual)
- Don't Waste the Covid-19 Crisis: Reflections on Resilience and the Commons Revealed by Covid-19, A Webinar Panel Series, Hosted by the Center for Behavior, Institutions and the Environment, and the International Association for the Study of the Commons at ASU, and the Resilience Alliance (Virtual)

- Virtual Town Hall with President Julio Frenk of the University of Miami on Mathematical Modeling of Pandemics, COVID-19, and Social Consequences Across the Americas
- Global Pervasive Computational Epidemiology Seminar Series, with Dylan H. Morris, Fernando W. Rossine, and Joshua B. Plotkin, University of Virginia (Virtual)
- Introduction Discussant, and Concluding Remarks, Evolutionary Models of Financial Markets, MIT Laboratory for Financial Engineering (Virtual)
- Special Guest, Coarse Graining in Ecology, Andrew Hein's Zoom Reading Group on Course Graining in Ecology, NOAA Southwest Fisheries Science Center, USCS Institute of Marine Sciences (Virtual)
- SSE-CERN webinar on "Masks, Public Goods and Social Norms," with Stefani Crabtree and Luojun Yang
- Complex Adaptive Systems Meeting, Greater Philadelphia Futures Group, Delaware Valley Regional Planning Commission (Virtual)
- International Forum on Advanced Environmental Sciences and Technology (iFAST), (Virtual)
- Institutions and Cooperation Section, The Evolution of Cooperation, Gruter Institute for Law and Behavioral Research Virtual Squaw Valley Conference
- Google Virtual COVID-19 Modeling + Data Virtual Roundtable Discussion
- Department of Biological Sciences, Simon Fraser University (Virtual)
- What Can We Learn from the Anti-Vaccination controversy? Council on Science and Technology, Living at the Intersection Symposium 2020: Truth and Evidence Conference (Virtual)
- 3rd World Laureates Forum, Summit Series 3: What Next? Climate Change and the Fate of Humanity (Virtual)
- SFI Working Group, Ecological Complexity and the 6th Extinction (Virtual)
- Historical Collapse Webinar, Princeton University (Virtual)
- Winter School on Quantitative Systems Biology: Quantitative Approaches in Ecosystem Ecology, Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy (Virtual)
- Panelist, A Celebration of the Life of Bob May 1936-2020, BES Symposium (Virtual)

2019
- Climate "How": How to Engage Society and Deploy Decarbonization Conference, Venice International University, Italy
- Annual Dinner, Princeton Alumni Association of Palm Beach, FL
- Historical Systemic Collapse Workshop, Princeton University
- Climate Change Perspectives Seminar Series, Cornell University
- Atkinson Center, Cornell University
- EEB Special Seminar, Cornell University
- Climate Change, Decarbonization and Financial Markets Roundtable, Norges Bank Investment Management, New York, NY
- University of Washington Microbiology Seminar Series, University of Washington, Seattle
- Public Lecture, University of Victoria
- Princeton-Humboldt Cooperation and Collective Cognition Network Meeting, Humboldt University of Berlin, Germany (with Mari Kawakatsu and Corina Tarnita)
- Ecological Society of American Annual Meeting, Louisville, KY
- Three Decades of DIMACS: The Journey Continues Conference, Rutgers University
- Dreams and Nightmares: Decarbonization in a Complex System Conference, Princeton University
- DYSoC and NIMBioS, The University of Tennessee, Knoxville

2018
- Sackler Colloquium: Economics, Environment, and Sustainable Development, University of California, Irvine
- Exxon-Mobile-Princeton Climate Change Policy Form, Andlinger Center, Princeton University
- Patterns in Biology: Causes and Consequences Conference, Princeton University
- The BCG Henderson Institute and the Institute for New Economic Thinking, New York, NY
- MPE 2018: Workshop on Mathematics of Planet Earth – The Future, Rutgers University, New Brunswick, NJ
- Collective Behavior, Social Media, and Systemic Risk Conference, Princeton University
- Food System Transformation to Improve Sustainability and Health: Integrating Social and Biophysical Dynamics, Princeton-SRC Workshop, Stockholm Resilience Centre, Sweden
- Santa Fe Institute Population and the Environment Working Group and Short Course, Santa Fe, Santa Fe Institute, Santa Fe, NM
- Utrecht University, The Netherlands (2 lectures)

2017
- What is Blue Growth? Conceptualizing Sustainable Development of Marine Environments, AAAS Annual Meeting, Boston, MA
- Mathematics Department, University of Miami
- Movement Ecology of Animals Gordon Research Conference, Ventura, CA
- Princeton Environmental Institute, Faculty Seminar Series
- Conference on Theory and Biology, Simons Foundation, New York, NY
- Data Big and Small, TTI Vanguard Conference, Boston, MA
- Sir Roy Anderson's 70th Birthday Research Symposium, The Royal Society, London, UK
- Humboldt University-Princeton University Strategic Partnership Workshop, Princeton University
- CANDy Workshop. Andlinger Center for Energy and the Environment, Princeton University
- Simons Foundation MMLS Workshop: A New Framework for Ecological Kinetics in Heterogeneous Environments, Princeton University
- Coastal SEES Meeting, Rutgers University
- Joint ICGEB-ICTP-APCTP Workshop on Systems Biology and Molecular Economy of Microbial Communities, Trieste, Italy
- Research Experiences for Undergraduates Summer Program, DIMACS, Rutgers University
- Resilience 2017: Resilience Frontiers for Global Sustainability Conference, Stockholm Resilience Centre, Sweden
- Institute of Mathematical and Computing Engineering of the Pontificia Universidad Católica de Chile
- Math Colloquium, University of Maryland, College Park
- Earth in 2050: Boundaries, Obstacles, and Opportunities Conference, Princeton University
- School of Life Sciences and School of Sustainability, Arizona State University
- Pioneer a Brighter Future, Today Conference, Envision, Princeton University
- Water Solutions for Mathematical Problems Lecture Series, Princeton University

2016
- EEB Career Conversations, Princeton University
- Mathematical Methods for Water Problems, Princeton University
- Molecular Co-Evolution Lessons from Pathogen-Immune System Interactions Conference, Princeton Center for Theoretical Science, Princeton University
- University of Virginia, Charlottesville, Dept. of Environmental Studies
- Immersion Workshop, SESYNC, Annapolis, MD
- Nassau Club, Princeton, NJ
- Modelling and Predicting Ecological Transitions Symposium, Collège de France
- Ecopotential General Assembly, Amsterdam, The Netherlands
- Critical Transitions in Marine Ecosystems Conference, Princeton University
- South African Centre for Systems Analysis
- Beijer Institute 25, Annual Meeting, Asko Sweden
- Inaugural Speaker, MBI National Webcast Colloquium
- Mathematical Methods for Water Problems Lunch Seminars, PACM, Princeton University
- Beijing International Center for Mathematical Research, Peking University, China
- Beijing Normal University, China
- Fudan University, Shanghai
- International Workshop Sustainability of Local Commons with a Global value: Venice and Its Lagoon, San Giorgio Maggiore, Italy

2015
- Task Force on the Natural Sciences, Princeton University
- Validation: What Is It? Conference, Institute for Mathematical and Behavioral Sciences, UC, Irvine
- Institute for Mathematical Behavioral Sciences Colloquium, UC, Irvine
- MASpread /RAPID Trade Meeting, University of Arizona, Tempe
- Luca Pacioli Prize Acceptance Lecture, Ca'Foscari University of Venice, Italy
- IGB Colloquium, Leibniz Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany
- Business Strategy Interfaces and Frontiers, PRISM Foundation, New York, NY
- NetSci – International School of Conference on Complex Networks, La Herradura, Spain
- Ecology, Conservation and Human Well-Being: Improving Outcomes for Nature and People Symposium, ESA Annual Meeting and 100th Anniversary
- Reinventing the Investment Industry, Business Network Topical Meeting, London, England
- Unlocking the Microbiome, Wellcome Trust, London, England
- EEB Seminar Series, Yale University

- Weekend of Learning, Class of 1968, Princeton University
- Bottom-Up Evolution of Cooperation: Linking Local and Global Environmental Commons, London School of Economics and Political Science, London, England
- IIASA Systems Analysis Conference, Laxenburg, Austria
- Commencement Address (on receiving Honorary Doctorate of Science), McMaster University
- Mathematical Biology Research Seminar, McMaster University
- Mathematics and the Quest for Fundamental Principles of Biology Conference, University of Utah, Salt Lake City

2014
- Institute for Mathematical Behavioral Sciences Colloquium, UC, Irvine
- Mathematics Education Program, UC, Irvine
- Distinguished Lecturer, ICTP South American Institute for Fundamental Research, San Paolo State University, San Paolo, Brazil (three lectures)
- Department of Ecology, Evolution and Environmental Biology Seminar Series, Columbia University
- Workshop on Climate Change and Public Goods, Fondazione Eni Enrico Mattei, Venice, Italy
- Nurturing Ideas and Scientists in Ecology: Symposium in Honor of Bill Robertson, ESA Annual Conference, Sacramento, CA
- Symposium in Honor of Alan Hastings, University of California, Davis
- Advances in the Plankton Ecosystem Model and the Evaluation of Biodiversity, Tokyo University of Marine Science and Technology, Japan
- IIASA-Austrian Academy Lecture Series, Laxenburg, Austria
- Program in Science, Technology, and Environmental Policy (STEP) Lecture Series, Woodrow Wilson School, Princeton University

2013
- Department of Physics and Astronomy Colloquium, UC Irvine
- Institute for Mathematical Behavioral Sciences Colloquium, UC Irvine
- Mathematics of Planet Earth Lecture Series 2013, Australian Mathematical Sciences Institute, University of Melbourne (2 lectures), Australia
- AAAS Symposium: Getting to Global Ecological Sustainability: Climate and Small-Planet Ethics, AAAS Annual Meeting, Boston, MA
- A Crude Look at the Whole Conference, Complexity Program, Nanyang Technological University (NTU); co-sponsored by the Institute for Advanced Studies (IAS) at NTU, Singapore
- Mathematics Department Colloquium, Tulane University
- Natural Algorithms and the Sciences Workshop, Center for Computational Intractability, Princeton, NJ
- Steklov Mathematical Institute, Russian Academy of Sciences, Moscow, Russia
- Atelier de Réflexion Prospective: Mathématiques en Interactions pour la Terre, Institute Henri Poincaré, Paris, France
- Collège de France, Paris, France
- Atlantic Association for Research in the Mathematical Sciences (AARMS) Mathematical Biology Workshop, Memorial University, St. Johns's, Newfoundland
- ESA Annual Meeting, Minneapolis
- Special Session: Managing the World's Forests as Complex Adaptive Systems – Sustainable Pathways for a Changing World, ESA Annual Meeting, Minneapolis, MN
- Ecology: Into the Next 100 Years, International Association for Ecology (INTECOL) 2013, London, UK
- Gateways to Emergent Behavior in Science and Society Workshop, Santa Fe Institute, Santa Fe, NM
- NorMER Annual Meeting, Reykjavik, Iceland
- MathAcrossCampus Colloquium Series, University of Washington, Seattle

2012
- Evolution of Religious and Social Norms Conference, IMBS Conference, UC Irvine
- Emergent Issues in Ecology Lecture Series, NEAT, ORU, and Peter A. Rock Thermochemistry Laboratory, UC Davis
- High Table Dinner, Graduate College, Princeton University
- The Social Biology of Microbial Communities, Institute of Medicine of the National Academies, Forum on Microbial Threats, Washington, D.C.
- Critical Transitions in Complex Systems Workshop, Imperial College, London
- Boston Consulting Group, New York, NY
- Spatial Models of Micro and Macro Systems Workshop, Mathematical Biosciences Institute, The Ohio State University, Columbus, Ohio

- NSF/ARL Locomotion Systems Science Meeting/Workshop, Arlington, VA
- SIAM Annual Meeting, Minneapolis, MN
- Gordon Research Conference (Metabolic Basis of Ecology and Evolution in a Changing World), University of New England, Biddeford, Maine
- Math Biology: Looking at the Future, MPI 10th Anniversary Meeting, The Ohio State University, Columbus, OH
- NoMER Annual Meeting, Helsinki, Finland
- IIASA 40th Anniversary Conference, Laxenburg, Austria
- NIMBIOS Interdisciplinary Seminar, University of Tennessee, Knoxville
- ATP Group, Centro de Matemática e Aplicações Fundamentais, Universidade de Lisboa, Portugal

2011
- Systems Biology Seminar Series, The Center for Complex Biological Systems and The Mathematical, Computational and Systems Biology Graduate Program, UC Irvine
- International Seafood Sustainability Foundation, Allocation Workshop, Theoretical Approaches to Allocation of Common Property Resources, Yountville (Napa Valley), CA
- IBMS Colloquium, UC Irvine
- Research Frontiers in Sustainability Science: Bridging Disciplines and Practices Workshop, AAAS Annual Meeting, Washington, DC
- Sustainability Seminar Series, Network for Emerging Leaders in Sustainability, NAS, Washington DC
- Universiteit van Amsterdam, Institute for Biodiversity and Ecosystem Dynamics, Amsterdam, The Netherlands
- Utrecht University, Utrecht, The Netherlands
- Mathematical Biology Workshop and IGTC Summit, University of Victoria, Victoria, British Columbia, Canada
- Mathematical Models in Ecology and Evolution Conference, University of Groningen, The Netherlands
- Honorary Lecture, Math and Theoretical Ecology (MATE), University of Essex, UK
- Mathematical Ecology Workshop, Kyushu University, Japan
- Humboldt State University, Arcata, CA

2010
- 2nd Symposium of Mathematical Systems Biology: Collective Dynamics in Biological Systems, University of California, Irvine
- Institute for Mathematical Behavioral Biosciences Colloquium, University of California, Irvine.
- Public Goods: From Ecology to Economics Conference, Institute for Mathematical Behavioral Sciences, University of California, Irvine
- Environmental Affairs Forum, Princeton University
- "Ecological, Evolutionary and Economic Perspectives on Biodiversity" (course), University of Puerto Rico-Rio Piedras, San Juan
- NSF Lecture Series (co-sponsor NSF Directorate for Biological Sciences)
- Evolution, Ethics, and Environment: Biological Perspectives on Achieving a Sustainable Future Symposium (In Honor of the Inamori Foundation and Kyoto Prize Laureates B. Rosemary Grant, Peter R. Grant, Simon A. Levin, and Daniel H. Janzen, Princeton University
- Lecturer/Discussant, Development Challenges in a Post-Crisis World (Environmental Commons and the Green Economy), Annual Bank Conference on Development Economics, Stockholm, Sweden
- Life Sciences Institute Seminar, The Hebrew University of Jerusalem
- Cornell University, Department of Ecology and Evolutionary Biology
- Margalef Prize Lecture, Barcelona, Spain
- SFI Business Network Topical Meeting: Uncertainty, Risk and Vulnerability, New York, NY
- Advanced School on Complexity, Adaptation, and Emergence in Marine in Marine Ecosystems, Trieste, Italy
- International Symposium on Sustainability Science, Institute for Sustainability Studies, Montclair State University
- World Bank, Development Economics (DEC), Operations and Strategy, Washington, DC
- Resources for the Future, Washington DC
- Disease in Motion Conference, Princeton University
- MIT, Civil and Environmental Engineering, Environmental Fluid Mechanics, Hydrology Seminar Series

2009
- Institute for Mathematical Behavioral Sciences Meeting, University of California, Irvine
- IMBS Meeting, University of California, Irvine
- Department of Ecology and Evolution, State University of New York, Stony Brook

- Pardee Center Faculty Seminar on Sustainability, Boston University
- The Center for Quantitative Biology, Inaugural Workshop, University of Utah
- Graduate Student Invited Speaker, The School of Aquatic and Fishery Sciences, University of Washington, Seattle
- Science, Democracy, and Global Environmental Regulation Workshop, Princeton University
- Oster-Inspired Research Conference, University of California, Berkeley
- Lecturer on Sustainability, IIASA, Laxenburg, Austria
- Conference on Evolution of Cooperation, Models, and Theories, IIASA, Laxenburg, Austria
- Santa Fe Institute Systemic Risk Initiative Meeting and Working Group, New York
- Socio-Economic Strategies and Resource Dynamics Conference, Fondazione Giorgio Cini, San Giorgio Maggiore Island, Venice Italy
- Graduate Student Nominated Speaker, Department of Biology, Organismal Seminar Series, McGill University
- Centre for Applied Mathematics in Bioscience and Medicine (CAMBAM), The CAMBAM Seminar Series, McGill University
- Graduate Student Invited Lecturer, Dynamical Systems and Mathematical Modeling, (Graduate Student Organized Course), Princeton University
- DIMACS 20th Birthday Conference: Looking Back: Looking Forward, Rutgers University, New Brunwick, NJ

2008
- Institute for Theoretical and Mathematical Ecology Colloquium, University of Miami, Miami, FL
- Institute for Mathematical and Behavioral Sciences Conference, Luce and Raiffa After 50 Years: What is Next?, Irvine, California
- Applied Math and Computer Science Colloquium, University of Pennsylvania, Philadelphia, PA
- Planning for Resilience Conference, Stony Brook-Millstone Watershed Association, Pennington, NJ
- Cornell Probability Summer School, Cornell University, Ithaca, NY
- European Summer School in Resource and Environmental Economics ("Space in Unified Models of Economy and Ecology"), Venice International University, Venice, Italy
- BIRS (Banff International Station for Mathematical Innovation and Discovery) Workshop, Canada
- Santa Fe Institute, SFI Workshop: Complexity and Foreign Policy: First Steps to an Emerging Paradigm
- 16th Askö Meeting, Multiple Shocks and the Challenges of the Global Economy, The Beijer Institute
- Economics-Sociology Fall Workshop Series, Depts. of Economics and Sociology, Princeton University
- Sustaining the Global Commons: An Experimental Approach, PIIRS Conference, Princeton University
- Festschrift to Honor Burton Singer, Princeton University
- National Science Foundation, Advisory Committee for Environmental Research and Education, Washington, DC
- Graduate Student Invited Lecturer, Dynamical Systems and Mathematical Modeling, (Graduate Student Organized Course), Princeton University
- Applied Mathematics Seminar, Taida Institute of Mathematics, National Taiwan University

2007
- Distinguished Lecturer, Department of Mathematics, UCI, Irvine, CA
- Summer School on Environmental Dynamics: Pathways to Ecological Sustainability, Instituto Veneto di Scienze Lettere ed Arti, Venice, Italy
- AAAS Meeting, San Francisco
- Panel, Resources for the Future, Frontiers of Environmental Economics Conference, Washington DC
- Resources for the Future Conference on Extending the Cure, Washington, DC
- Santa Fe Institute Board Symposium, Sustainability and Complex Adaptive Systems
- IIASA/Young Scientists Summer Program Lecture (YSSP), Learning to Live in a Global Commons: Socioeconomic Challenges for a Sustainable Environment, Vienna, Austria (available as IIASA podcast)
- Workshop on Infectious Diseases, Stellenbosch, South Africa
- Santa Fe Institute President's Circle, Conservation, Robustness and Biodiversity

2006
- Institute for Mathematical Behavioral Sciences, University of California, Irvine, CA
- Institute for Social and Economic Research and Policy, Columbia University, New York, NY
- Rotary Club, San Diego, California
- Workshop on Climate Change, Upwelling, Fisheries, and Coastal Communities, ICTP/IIASA, Trieste, Italy
- Science Colloquium, The College of New Jersey, Ewing, NJ
- Kyoto Laureate Symposium, University of California, San Diego, CA
- Workshop on Stochastic Models in Biological Sciences, European Science Foundation, Stefan Banach

International Mathematical Center, Warsaw, Poland
- New Directions for Understanding Systemic Risks in the Financial Sector, NRC/BMSA and Federal Reserve Bank of New York, NY

2005
- Alpine Summer School: "Water-Vegetation Interactions and Biodiversity in Changing Environments," Aosta Valley, Italy (2 lectures)
- Bucks County Audubon Society, New Hope, PA
- Clay Senior Scholar for the Park City Mathematics Institute 2005 Program on Mathematical Biology, Salt Lake City, UT (3 Lectures)
- Conference on Linking Economic and Ecological Models for Environmental Policy Analysis: Challenges and Research Strategies, Santa Fe, NM, Sponsored by North Carolina State University
- Conservation and Science Program Workshop, David and Lucile Packard Foundation, Los Altos, Ca
- Departments of Ecology & Evolutionary Biology and Mathematics, Environmental Semester Colloquium, University of Tennessee, Knoxville
- Department of Mathematics, University of Miami, Coral Gables (2 lectures)
- Dialogues in Nature, Science and Religion (Lecture Series), University of California, Santa Barbara
- Implementing Marine Ecosystem-Based Management: A Workshop on Applying Resilience Theory to Improve Ocean Management, Resilience Alliance (funded by the Packard Foundation) Princeton, NJ
- Institute of Mathematical Behavioral Sciences Colloquia, UC Irvine
- Investigator Symposium, Gordon and Betty Moore Foundation, San Francisco, CA
- Marschak Interdisciplinary Colloquium Lecture, Anderson School of Management, UC Los Angeles
- Workshop on Collectives Formation and Specialization in Biological and Social Systems, Santa Fe, NM, Sponsored by Los Alamos National Laboratory
- Workshop on Infectious Disease: Theoretical, Ecological and Economic Approaches, ICTP, Trieste, Italy
- Workshop on Social Norms and Social Networks, Boston, MA, Sponsored by Santa Fe Institute

2004
- Advisory Committee and Session Co-organizer, Friday Harbor Laboratory (FHL) Symposium, Managing for Resilience: An Integrated Approach to Coastal Marine Science and Conservation, FHL, WA
- Department of Mathematics, University of Miami, Coral Gables, FL (2 lectures)
- Center for Stock Assessment Research (CSTAR), University of California, Santa Cruz
- Evolutionary Game Theory Conference, University of California, Irvine
- Special Associated Faculty Seminar Series, Princeton Environmental Institute, Princeton University
- Summer School on Environmental Dynamics, Istituto Veneto di Scienze, Lettre ed Arti, Venice, Italy (4 lectures)
- Joint Conference on Computational and Mathematical Population, 7th Mathematical Population Dynamics (MPD) and the 3rd Conference on Deterministic and Stochastic Models for Biological Interactions (DeStoBio). Trento, Italy
- Discussant, Forum on the Environment: Bush and Kerry on Environmental Policy, Princeton University
- Department of Mathematical Sciences and Center for Applied Mathematics and Statistics, New Jersey Institute of Technology
- Heineken Prize Lecturer, Royal Netherlands Academy of Arts and Sciences
- Presentation to NSF-STC Site Visit Review Team, California Institute of Technology

2003
- 6th International Temperate Reef Symposium, Christchurch, New Zealand
- Conference on Theoretical Topics in Ecological Economics, First School on Ecological and Environmental Economics, Trieste, Italy; co-sponsored by International Centre for Theoretical Physics (ICTP), Fondazione Eni Enrico Mattei (FEEM), The Beijer Institute
- Energy Resources Group Colloquium, University of California, Berkeley
- Integrative Biology Departmental Seminar, University of California, Berkeley
- Department of Biology, McGill University, Montreal, Canada
- Department of Mathematics, University of Maryland, College Park, MD
- Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT
- Conference on Application of Discrete Mathematics and Theoretical Computer Science: A Celebration in Honor of the Contributions of Fred S. Roberts on the Occasion of his 60th Birthday, DIMACS Center, Rutgers University
- Marine Science Research Center, State University of New York, Stony Brook (2 lectures)
- Chemical Engineering, Princeton University
- School of Engineering and Applied Science (SEAS), Princeton University
- Workshop on Future Directions in the Study of Collective Animal Behavior, University of Oxford, UK

- Michael Perkins Lecturer, Department of Zoology, University of Cambridge, UK
- Workshop on Ecosystem Evolution and Evolution in Ecosystems, European Science Foundation, Fen, Sweden

2002
- Mathematics and Molecular Biology VII: Modeling Across the Scales—Atoms to Organisms, Program in Mathematics and Molecular Biology (PMMB), Santa Fe, NM
- Distinguished Lecture Series for 2002, Mercer County Community College, East Windsor, NJ
- DIMACS Working Group on Mathematical Sciences Methods for the Study of Deliberate Releases of Biological Agents and Their Consequences, Rutgers University, Piscataway, NJ
- Earth System Initiative Seminar, MIT, Cambridge, MA
- INRA Centre at Versailles, Paris, France
- Current Themes in Ecology Symposium "Spatial Ecology," Universities of Wageningen and Nijmegen, and the Netherlands Institute of Ecology, Wageningen, The Netherlands
- International Symposium on Intervention and Adaptation in Complex Systems, Sante Fe Institute and Institute of Systems Sciences, Beijing, China
- Center for the Study of Institutions, Population, and Environmental Change, University of Indiana, Bloomington

2001
- Okubo Award Lecturer, SMB and JAMB Annual Meeting, Hilo, HI
- Environmental Research and Education Distinguished Lecturer, NSF
- Advisory Council meeting on Modeling Approaches to Bioterrorism, National Institutes of Health
- Self-Healing Networked Information Systems Meeting, Defense Advanced Research Projects Agency (DARPA)
- Department of Biological Sciences, Stanford University
- Institute of Ecology, University of Georgia
- Victor Rothschild Memorial Symposia, 12th Jerusalem Summer School in Economic Theory, The Institute for Advanced Studies at the Hebrew University (4 lectures)
- Mathematics Institute, Warwick University, UK
- Department of Biology, Arizona State University
- Center for Environmental Research and Conservation and the Nonlinear Systems Group, Columbia University
- Northwest Indian College, Bellingham, WA

2000
- XIII International Congress on Mathematical Physics, Imperial College, London, UK
- Symposium on Simplicity and Complexity—A Global Perspective, Santa Fe Institute, Santa Fe, NM
- International Conference on Complex Systems, New England Complex Systems Institute, Nashua, NH
- U.S. Department of the Interior Staff Retreat, Shepherdstown, W VA
- Real World Colloquium, Massachusetts Institute of Technology, Cambridge, MA
- Danish Institute for Fisheries Research, Workshop on Scaling from Individuals to Populations, Charlottenlund Castle, Denmark (2 lectures)

1999
- International School of Ethology 6th Course: Fondazione Eni Envrico Mattei (FEEM), Seminar on Biodiversity: An Economic and Naturalistic Integrated Approach, Erice, Italy (2 lectures)
- Distinguished Lecturer on the Global Environment, Columbia University, NY
- 81st Statistical Mechanics Conference, Rutgers University, NJ
- NSF Symposium on Environmental Research, Education and Assessment, Los Angeles, CA
- NATO Advanced Studies Institute: Problems Arising from Biology, Fields Institute, Toronto, Canada (2 lectures)

1998
- INTECOL VII International Congress of Ecology, Florence, Italy (2 lectures)
- Society for Advancement of Chicanos and Native Americans in Science (SACNAS), Washington, DC
- The University of British Columbia, Crisis Points Group of the Wall Institute of Advanced Study Vancouver, BC (3 lectures)
- The Joseph H. McLain Program in Environmental Studies, Washington College, Chestertown, MD
- Hard Problems in Oceanography Lecture Series, Woods Hole Oceanographic Institution, Woods Hole
- Integrative Themes Workshop, Santa Fe Institute, NM
- Resilience Network for Economic/Ecological Modeling, Malta

1997
- Third Joint Meeting of the Sociedad Matemática Mexicana and American Mathematical Society, Oaxaca, Mexico
- Workshop on Biodiversity and Ecological Complexity, Kyoto University, Japan
- International Conference on Differential Equations with Applications to Biology, Dalhousie University, Halifax, Nova Scotia
- International Conference on Mathematical Biology (ICMB)'97, Hangzhou, China (Program Committee)
- New York Academy of Sciences, Mathematics Section, NY

1996
- Woods Hole Oceanographic Institution, Department of Biology, Woods Hole, MA
- Summer Intern Program on Probability and Stochastic Processes, University of Wisconsin, Madison (4 lectures)
- Kyoto Conference on Mathematical Biology '96, Kyoto, Japan, (Advisory Board, 1995-96).
- Workshop on Ecomachines and Spatial Modeling in Ecology and Biology, Santa Fe Institute, NM
- Workshop/Conference on Spatial Ecology: The Role of Space in Population Dynamics and Interspecific Interactions, National Center for Ecological Analysis and Synthesis (NCEAS), Santa Barbara, CA
- Third Autumn Workshop on Mathematical Ecology, ICTP, Trieste, Italy (3 lectures)

1995
- International Workshop on Applications of Dynamical Systems to Biology, Technion - Israel Institute of Technology, Haifa, Israel
- An Interdisciplinary Symposium on Complex Systems, University of Michigan, Ann Arbor, MI
- Annual Meeting of the Society for Mathematical Biology, Oaxtepic, Morelos, Mexico (2 lectures)
- Pacific Northwest Workshop on Mathematical Biology, University of British Columbia, Vancouver, BC, Canada
- 80th Anniversary Meeting of the ESA; Symposium on What can Theoretical Ecology do for Applied Ecology; Panelist, "Developing the Connection Between Population Pressures and Biodiversity," Snowbird, UT
- Eminent Ecologists and Biologists Seminar Series, Michigan State University, Kellogg Biological Station, Hickory Corners, MI (2 lectures)
- 16th Annual Midwest Conference on Population Biology, Keynote Speaker, Iowa State University, Ames, IA
- Special Year in Mathematical Biology, Principal Lecturer, University of Utah, Salt Lake City, UT

1994
- The 9th Annual U.S. Landscape Ecology Symposium, University of Arizona, Tucson, AZ
- Pacific Northwest Workshop on Mathematical Biology, Washington State University, Pullman, WA
- Symposium on Nonlinear Systems in Medicine and Biology, Indiana University—Purdue University, Indianapolis, IN
- Spatial Stochastic Models in Biology, University of Colorado and the National Science Foundation, Colorado Springs, CO
- International Conference on Differential Equations and Applications to Biology and to Industry, Harvey Mudd College, Claremont, CA
- Canadian Applied Mathematical Society, University of Montrea
- Mathematical Models for Infectious Diseases, Mathematisches Forschungsinstitut Oberwolfach, Germany

1993
- International Symposium on Ecological Perspective of Biodiversity, Kyoto, Japan
- Center for Ecological Research, Kyoto University, Kyoto, Japan
- Mathematical Sciences Symposium: Spatial Processes in Biology, Departments of Mathematics and Zoology, University of Wisconsin, Madison, WI
- Ecotoxicology Conference, University of California Ecotoxicology Program, co-host-UC Davis' USEP Center for Ecology Health and Research Department of Wildlife and Fisheries Biology, Sacramento, CA
- Generalizing Across Marine and Terrestrial Ecology, The Royal Society, London, UK
- Ciba Foundation/Royal Society Discussion Meeting on The Organization of Ecological Research, London
- CRM-UBC Summer School on Mathematical Biology (3 lectures), Canada
- Models of Ocean Physical/Ecological Processes, ONR URIP, Woods Hole Oceanographic Institution, MA
- A NATO Advanced Research Workshop on Epidemic Models: Their Structure and relation to data, Isaac Newton Institute, Cambridge, UK
- Summer School of Nonlinear Systems in Evolutionary and Population Biology, The Netherlands
- G.J. Butler Workshop in Mathematical Ecology at the Applied Mathematics Institute, Waterloo, Canada

1992
- Workshop on Monitoring the Health of Large Marine Ecosystems, Cornell University, Ithaca, NY

- Presidential Lecture, Annual Meeting, ESA, Honolulu, HI
- International Conference on the Definition and Measurement of Sustainability: The Biophysical Foundations, Washington, DC
- Environmental Address, Annual Meeting of the American Mathematical Society/Mathematical Association of America, Baltimore, MD
- Second Autumn Workshop on Mathematical Ecology, ICTP, Trieste, Italy

1991
- Review course (5 lectures), Conference on Mathematical Problems in Environmental Protection and Ecology, Trento, Italy
- Dedication Ceremony, Gilbert Biological Sciences Building, Stanford University, Stanford, CA
- 52nd Annual Biological Colloquium, Oregon State University, Corvallis, OR
- Symposium on Theoretical Approaches for Predicting Spatial Effects in Ecological Systems, Annual Meeting, ESA, San Antonio, TX
- Pacific Northwest Mathematical Biology Meeting, University of British Columbia, Vancouver, BC, Canada

1990
- International Conference on The Large Marine Ecosystem (LME) Concept and Its Application to Regional Marine Resource Management, Monaco
- Workshop on Populations, Community, and Ecosystems: An Individual Perspective, Knoxville, TN
- International Conference on Differential Equations and Applications to Biology & Population Dynamics, Claremont, CA
- Third Autumn Course on Mathematical Ecology, ICTP, Trieste, Italy
- 5th International Congress of Ecology (INTECOL 1990), Yokohama, Japan (2 lectures)
- Fukuoka Symposium of Theoretical Biology, Kyushu University, Fukuoka, Japan (2 lectures)

1989
- Latin American Workshop on Mathematical Ecology, Rio de Janeiro, Brazil (3 lectures)
- Conference on Grand Challenges to Computational Science, Molokai, HI
- The Institute for Advanced Study, Princeton, NJ (2 lectures)
- University of Tennessee, Oak Ridge National Laboratory Distinguished Lecturer Series in the Life Sciences
- Conference on The Genetic Revolution: Scientific Prospects and Public Perceptions, American Academy of Arts and Sciences, Cambridge, MA
- Davis Conference on Population Structure, University of California, Davis

1988
- First Autumn Workshop on Mathematical Ecology, ICTP, Trieste, Italy
- SCOPE Conference on Ecosystem Experiments and Global Environmental Problems, Mitwitz, Germany
- VIIth General Assembly of SCOPE (Scientific Committee on Problems of the Environment), Budapest, Hungary
- Annual Conference of the Mathematical Association, University of Birmingham, England
- Conference on Mathematical Modelling of Fate, Transport, and Effects of Pollutants in the Environment, Cornell University, Ithaca, NY

1987
- Symposium on Theory and Management of Large Marine Ecosystems, AAAS meeting, Boston, MA
- Symposium on Hazards of Biotechnology: Real or Imaginary, University College and Middlesex School of Medicine, London, England
- Workshop on Regulatory Considerations for the Testing and Use of Genetically Engineered Plants, Boyce Thompson Institute for Plant Research at Cornell University, Ithaca, NY
- International Symposium on Mathematical Approaches to Environmental and Ecological Problems, Cornell University, Ithaca, NY
- Conference on Genetically Designed Organisms in the Environment, Scientific Committee on Problems of the Environment and the Committee on Genetic Experimentation, Bellagio, Italy
- NATO Advanced Study Institute Seminar on Mathematical and Statistical Developments of Evolutionary Theory, University of Montreal, Canada (6 lectures)
- Distinguished Visitor Program in Applications of Mathematics, Emory University, Atlanta, GA (4 lectures)

1986
- The Interface of Mathematics and Population Biology, University of California, Riverside (4 lectures)
- Fourth International Congress of Ecology, Syracuse, NY (2 lectures)
- Workshop on Array and Parallel Processing and Landscape Dynamics, Colorado State U, Pingree Park, CO
- Second Autumn Course on Mathematical Ecology, ICTP, Trieste, Italy (4 lectures)

- U.S. Environmental Protection Agency, Office of Pesticides and Toxic Substances Seminar Series,

Washington, D.C.
- International Symposium on Mathematical Biology, Kyoto, Japan
- The 1986 Washington International Conference on Biotechnology (CEEM), Alexandria, VA

1985
- Annual Meeting, Western Society of Naturalists, Monterey, CA
- Annual Meeting, American Society of Zoologists, Baltimore, MD
- Annual joint meeting of Ecological Society of America/American Society of Limnology and Oceanography; 4 Symposium Lectures, Minneapolis, MN
- Cary Conference on the Status and Future of Ecosystem Science, Institute of Ecosystem Studies of The New York Botanical Garden, Millbrook, NY

1984
- Distinguished Visiting Scholar, Marine Sciences Research Center, State University of New York at Stony Brook (3 lectures)
- Joint meeting of Ecological Society of America/American Institute of Biological Sciences, Fort Collins, CO (2 Symposium Lectures)
- Eminent Ecologists and Biologists Seminar Series, Michigan State University, Kellogg Biological Station, Hickory Corners, MI (2 lectures)

1982
- Spring Systematics Symposium, Field Museum of Natural History, Chicago, IL
- Annual Meeting of Society for Environmental Toxicology and Chemistry, Arlington, VA

1980
- American Society of Zoologists Symposium on Theoretical Ecology, Seattle, WA
- IMS Conference: The Mathematical Theory of the Dynamics of Biological Populations, Oxford, England

1979
- International Conference on Synergetics, Schloss Elmau, Germany
- Gordon Research Conference on Theoretical Biology and Biomathematics, Tilton, NH
- International Symposium in Honor of Vito Volterra: Mathematical Models in Biology, Accademia Lincei, Rome, Italy
- Regional meeting of Joint Ecology Groups, University of Washington and University of British Columbia at Vancouver, BC, Canada

1978
- Symposium on Mathematical Modeling of Man-Environment Interactions, Telavi, Georgia, Russia. Soviet National Committee for SCOPE and U.S. International Environmental Problems Committee
- Seminar on Collective Phenomena, Moscow, Russia
- Second International Congress of Ecology, Jerusalem, Israel (2 lectures)
- Biomathematics Conference, Oberwolfach, West Germany

1977
- Taos Biomathematics Conference, Taos, NM (2 lectures)
- NATO School of Marine Ecology, Erice, Sicily
- Special Session on Mathematical Biology, American Mathematical Society annual meeting, St. Louis, MO
- Symposium on the Role of Mathematics in Biology, AAAS meeting, Denver, CO
- Symposium on Ecology and Genetics: The Interface. Annual Meeting: Society for the Study of Evolution, Ithaca, NY

1976
- Gordon Research Conference on Theoretical Biology and Biomathematics, Tilton, NH
- First Annual Northeast Regional Day of Applied Mathematics, Rensselaer Polytechnic Institute, Troy, NY
- SIAM National Meeting, Chicago, IL010

1975
- Symposium on Some Mathematical Questions in Biology, AAAS Annual Meeting, New York

1974
- Conference Board on Mathematical Sciences (at annual meeting of AMS), San Francisco, CA
- Distinguished Lecture Series, University of Maryland, College Park, MD (6 lectures)
- University of California, Berkeley, CA (5 lectures)

1973
- SIAM Institute for Mathematics and Society Conference on Mathematics and Societal Problems, Sterling Forest

FORMER PH.D. STUDENTS

Cornell University

Ph.D.	Name	Department/Program	Current Position
1971	Wohl, Philip, R.*	Applied Mathematics	Deceased 1996
1973	Udovic, J. Daniel*	Entomology	Professor Emeritus, Dept of Biology and Environmental Studies, U Oregon
1974	Sastre, Antonio	Applied Mathematics	Principal, Sastre Consulting, LLC
1977	Hastings, Alan M.	Applied Mathematics	Professor; Chair, Environmental Studies, UC Davis
1979	Gross, Louis, J.	Applied Mathematics	Professor, Mathematics, U Tennessee
1979	Runkle, James, R.	Ecology and Evolutionary Biology	Professor, Dept of Biology, Wright State U
1980	White III, George N.	Applied Mathematics	Biomathematician, Bedford Institute of Oceanography
1981	Kareiva, Peter M.*	Ecology and Evolutionary Biology	President and CEO, The Aquarium of the Pacific
1981	Nedelman, Jerry R.*	Applied Mathematics	Senior Director, TB Alliance, NY
1982	Ellner, Stephen P.	Applied Mathematics	Professor, Dept Ecology and Evolutionary Biology, Cornell U
1984	Castro Ospina, Jose Mildred	Applied Mathematics	Deceased 2017
1985	Craig, Catherine L.	Ecology and Evolutionary Biology	Founder; Director, Conservation through Poverty Alleviation (CPALI)
1987	Liu, Wei-min	Applied Mathematics	Biostatistician, Roche Molecular Systems, Inc. (RMI)
1988	Andreasen, Viggo A.	Applied Mathematics	Professor, Dept of Science, Roskilde U, Denmark
1988	Braner, Moshe	Ecology and Evolutionary Biology	Statistical Analyst, Public Health Surveillance, VT Dept of Health
1989	Cain, Michael L.	Ecology and Evolutionary Biology	Research Associate, Dept of Biology and Mathematics, Bowdoin College
1991	Adler, Frederick R.	Applied Mathematics	Professor, Dept of Mathematics and Biology, U Utah
1991	Nuernberger, Beate D.	Ecology and Evolutionary Biology	Evolutionary Biologist, Institute of Vertebrate Biology, Czech Academy of Sciences
1992	Grünbaum, Daniel	Ecology and Evolutionary Biology	Professor, U Washington
1994	Limburg, Karin E.	Ecology and Evolutionary Biology	Professor, Dept of Environmental Science and Forest Biology, SUNY, College of Environmental Science and Forestry, Syracuse
1996	Deutschman, Douglas	Ecology and Evolutionary Biology	Professor, San Diego State U
1998	Grevstad, Fritzi S.*	Ecology and Evolutionary Biology	Biological Control Specialist, Olympic Natural Resources Center, U of Washington

Princeton University

1996	Gandhi, Amar*	Applied and Computational Mathematics	Group Project Manager, Google, Inc.
1996	Palsson, Eirikur*	Applied and Computational Mathematics	Associate Professor, Dept of Biology, Simon Fraser U
1997	Dushoff, Jonathan	Ecology and Evolutionary Biology	Professor, Dept of Biology; Faculty of Science Research Chair, McMaster U, Canada
1998	Smith, David L.	Ecology and Evolutionary Biology	Professor, Inst for Health Metrics & Evaluation, Dept of Global Health, U of Washington, Seattle
1999	Solorzano, Luis A.	Ecology and Evolutionary Biology	Director of Conservation Science and Strategy, Tompkins Conservation, US
2001	Muller-Landau, Helene C.	Ecology and Evolutionary Biology	Staff Scientist, Smithsonian Tropical Research Institute
2002	Ma, Junling	Applied and Computational Mathematics	Associate Professor, Dept of Mathematics and Statistics, U of Victoria, Canada
2002	Malvadkar, Urmila	Quantitative Analyst, Structured Credit International Corp. (SCIC)	
2003	Chan, Kai, M.A.	Ecology and Evolutionary Biology	Canada Research Chair; Professor, Inst for Resources, Environment and Sustainability, University of British Columbia
2003	Cline, Jon C.	Ecology and Evolutionary Biology	Lead Information Systems Engineer,
2003	Keymer, Juan E.	Ecology and Evolutionary Biology	Faculty, University of Aysen, Chile
2003	Plotkin, Joshua	Applied and Computational Mathematics	Professor, Dept of Biology (SAS); Computer Information and Science (SEAS); Martin Meyerson Assistant Professor of Interdisciplinary Studies, U of Penn
2003	Worden, Lee	Applied and Computational Mathematics	Epidemiologist, Proctor Foundation, UCSF
2003	Zea-Cabrera, Eduardo	Ecology and Evolutionary Biology	Asesor Gerencia General en Empresa De Acueducto, Alcantarillado y Aseo de Bogotá ESP, EAB-ESP

2004 Jolles, Anna E.* | Ecology and Evolutionary Biology | Professor of Epidemiology, College of Veterinary Medicine, Oregon State U
2005 Leslie, Nandi | Applied and Computational Mathematics | Engineering Fellow, Raytheon Technologies
2006 Marissa Baskett | Ecology and Evolutionary Biology | Professor, Dept of Environmental Science and Policy, UC Davis
2006 Adi Livnat* | Ecology and Evolutionary Biology | Associate Professor, Dept of Evolutionary and Environmental Biology and Institute of Evolution, University of Haifa, Israel
2007 Georgii Bazykin | Ecology and Evolutionary Biology | Visiting Scientist, Harvard Medical School, Longwood campus
2007 Strauss, Ben | Ecology and Evolutionary Biology | President, CEO, and Chief Scientist, Climate Control, Princeton, NJ
2007 Sergey Kryazhimskiy | Applied and Computational Mathematics | Associate Professor, University of California, San Diego
2007 Juliet Pulliam* | Ecology and Evolutionary Biology | Branch Chief, Real-Time Monitoring, Center for Forecasting and Outbreak Activities (CFA) at the CDC
2007 Jeremy Lichstein* | Ecology and Evolutionary Biology | Associate Professor, Dept of Biology, University of Florida
2008 Duncan Menge* | Ecology and Evolutionary Biology | Associate Professor, Dept of Ecology, Evolution and Environmental Biology, Columbia University
2009 Wilfred Ndifon | Ecology and Evolutionary Biology | Chief Scientific Officer, AIMS Global Network
2010 Ryan Chisholm | Ecology and Evolutionary Biology | Associate Professor, Dept of Biological Sciences, National University of Singapore
2010 Adrian de Froment | Ecology and Evolutionary Biology | Barrister, Serle Court, London, England
2011 Carey Nadell* | Ecology and Evolutionary Biology | Associate Professor, Dartmouth College
2012 Carla Staver* | Ecology and Evolutionary Biology | Associate Professor, Dept of Ecology & Evolutionary Biology, Yale University
2012 Eili Klein | Ecology and Evolutionary Biology | Associate Professor, Center for Advanced Modeling in the Social, Behavioral and Health Sciences, Dept of Emergency Medicine, Johns Hopkins University
2012 Allison Shaw* | Ecology and Evolutionary Biology | Associate Professor, Dept of Ecology, Evolution and Behavior, University of Minnesota
2012 Caroline Farrior* | Ecology and Evolutionary Biology | Assistant Professor, Dept of Integrative Biology, University of Texas, Austin
2012 Liliana Salvador* | University of Lisbon | Assistant Professor, University of Arizona
2014 Andrew Berdahl* | Ecology and Evolutionary Biology | Assistant Professor, University of Washington, Seattle
2015 Alex Washburne | Applied and Computational Mathematics | Scientist, Sandia National Labs, NM
2015 Eleanor (Brush) Harris | Applied and Computational Mathematics | Managing Director, The Clifton Institute, Warrenton, VA; Research Assistant Professor in Residence, Dept. of Environmental Science, American University; Affiliate Professor, Environment Science and Policy Dept., George Mason University
2016 Emma Fuller | Ecology and Evolutionary Biology | Director of Sustainability; Science Lead for Carbon and Ecosystem Services Global Portfolio, Corteva Agriscience
2017 Charlotte Chang | Ecology and Evolutionary Biology | Assistant Professor, Dept. of Biology and Environmental Analysis, Pomona College
2017 Lisa McManus | Ecology and Evolutionary Biology | Assistant Research Professor, University of Hawaii, Manoa
2017 Andrew Tilman | Ecology and Evolutionary Biology | Research Economist, USDA Forest Service, Northern Research Station
2018 Simon Leblanc* | Applied and Computational Mathematics | Software Engineer, Blend, San Francisco, CA
2019 Bernat Guillén Pegueroles* | Applied and Computational Mathematics | Data Scientist, Google, Inc. (Trust & Safety), Zurich, Switzerland; Founding Software Engineer, OPTIML
2019 Sarah Drohan | Applied and Computational Mathematics | Epidemiologist/Biostatistician, Public Health Agency of Canada
2020 Daniel Cooney | Applied and Computational Mathematics | Assistant Professor, University of Illinois (beginning 09/23)
2020 Edward Schrom* | Ecology & Evolutionary Biology | Data Scientist, CDC Center for Forecasting and Outbreak Analysis (CFA)
2020 Wenying Liao* | Ecology & Evolutionary Biology | Research Officer, Evidence and Learning Team, Sequoia Climate Foundation
2020 Laura Elsler* | Stockholm Resilience Centre | Research Associate, UN, Bali, Indonesia & Duke University

2020 Dylan Morris | Ecology & Evolutionary Biology | Postdoctoral Fellow, U.C.L.A.
2021 Samuel Cho | Quantitative and Computational Biology | Researcher, PCL
2021 Elise Myers* | Columbia University | Climate Strategy Consultant, Boston Consulting Group, Washington, D.C.
2022 Chadi Saad-Roy* | Quantitative and Computational Biology | Postdoctoral Research Fellow, University of California, Berkeley
2022 Mari Kawakatsu* | Applied and Computational Mathematics | Postdoctoral Research Fellow, University of Pennsylvania
2022 Luojun Yang* | Ecology & Evolutionary Biology | ABD; Researcher, Gates Foundation
2022 Nicolas Choquette-Levy* | STEP | Postdoctoral Research Fellow, Brown University
2023 Mayank Sarika | STEP | ABD; Princeton University
2023 Georgios Artavanis | Ecology & Evolutionary Biology | ABD; Researcher, Princeton Research Computing, Princeton University
2024 Maximilian Nguyen | Quantitative and Computational Biology | Emory U Medical School

CURRENT PH.D. STUDENTS

Name	Department/Program
Matthew Cheung	Applied and Computational Mathematics
Jacob Chisausky*	Ecology and Evolutionary Biology
Ari Freedman	Ecology and Evolutionary Biology
Theo Gibbs*	Quantitative and Computational Biology
Anna Jacobson*	Quantitative and Computational Biology
Yimei Li*	Quantitative and Computational Biology
Jaiyu Li	Applied and Computational Mathematics
Victor V. Odouard	Applied and Computational Mathematics
Marcela Ordorica*	Mechanical and Aerospace Engineering

*Co-Advisor

POSTDOCTORAL FELLOWS AND ASSOCIATES

		Cornell University / Current Position
1981-82	Kimball, Kenneth	Director of Research, Appalachian Mountain Club, Gorham, NH
1981-82	McDowell, William	Professor, Natural Resources and the Environment, U of New Hampshire
1981-82	Grover, Herbert	Professor, Dept of Biology, Wayland Baptist U
1981-87	Bedford, Barbara	Senior Research Associate, Dept of Natural Resources, Cornell U
1981-87	Harwell, Mark	Ecosystems Ecologist and Partner, Harwell Gentile Associates, FL
1981-87	Weinstein, David	Senior Research Associate, Boyce Thompson Institute, Cornell U
1981-87	Kelly, John	Branch Chief, Ecosystem Assessment Research, U.S. EPA, Office of Research & Development, National Health & Environmental Research Lab, Mid-Continent Ecology Division, Duluth, MN
1983-84	Ford, Jesse	Retired – Formerly Associate Professor; Senior Researcher, Oregon State U
1983-84	Iwasa, Yoh	Professor of Theoretical Biology, Kwansei-Gakuin University, Japan
1983-86	Birk, Elaine	Managing Director, Elaine Birk, Ltd., Auckland, New Zealand
1983-87	Levine, Suzanne	Retired – Formerly Professor, Rubenstein School of Environment and Natural Resources, U of Vermont
1985-88	Castillo-Chavez, Carlos	Retired, Formerly Regents Professor, School of Human Evolution & Social Change, ASU
1986-87	Andow, David	Distinguished McKnight University Professor, Entomology, U of Minnesota, St. Paul
1986-92	Moloney, Kirk	Professor Emeritus, Ecology, Evolution and Organismal Biology, Iowa State U
1988	Morin, Antoine	Deceased 2018 – Formerly Professor, Dept of Biology, U of Ottawa, Ontario
Cornell & Princeton University		
1991-93	Gueron, Shay	Professor, Dept of Mathematics, U of Haifa, Israel
1991-93	Wu, Jianguo	Deans' Distinguished Professor of Sustainability, Arizona State U
1991-93	Lobo, Agustîn	Environmental Scientist, Instituto de Ciencias de la Tierra "Jaume Almera" (CSIC), Barcelona, Spain
1992-95	Saponara, John	Senior Software Developer, Bloomberg LP, Princeton, NJ
Princeton University		

1993-95	Molofsky, Jane	Professor, Dept of Botany, U Vermont, Burlington
1993-96	Overton, Jacob	Researcher, Landcare Research, Hamilton, New Zealand and Panthera, Kafue National Park, Zambia
1994-95	De Leo, Giulio*	Professor of Biology, Hopkins Marine Station, Stanford U
1994-98	Kinzig, Ann	Professor, Dept of Biology; Senior Sustainability Scientist, Global Inst of Sustainability, Arizona State U
1994-98	Bolker, Ben*	Professor, Depts of Mathematics & Statistics and Biology, McMaster U
1995-98	Hartvigsen, Gregg	Professor of Quantitative Ecology, Dept of Biology, SUNY, Geneseo
1995-97	Pascual, Mercedes	Professor, Dept of Ecology & Evolution, University of Chicago
1996	Gandhi, Amar	Group Project Manager, Google, Inc.
1996-97	Deutschman, Douglas	Associate Vice President and Dean, Wilfred Laurier U, Waterloo, Ontario
1999	Earn, David	Professor, Dept of Mathematics and Statistics, McMaster U
2000	Casagrandi, Renato	Associate Professor, Dept di Elettronica e Informazione, Politecnico di Milano, Italy
2000	Liu, Canran	Senior Scientist, Arthur Rylah Institute for Environmental Research, Dept of Environment, Land, Water, and Planning, Victoria, Australia
1999-00	Norberg, Jon	Professor; Research Fellow, Complex Adaptive Systems, Stockholm Resilience Centre, Sweden
1999-01	Nathan, Ran	Professor, Head of Dept Evolution, Systematics and Ecology; Chairman, Alexander Silberman Inst of Life Sciences, Hebrew U of Jerusalem, Israel
1999-01	Chave, Jérôme	Director of Research, CNRS, Toulouse, France
1999-01	Wiegand, Kerstin	Professor, Ecosystems Modelling, U of Goettingen, Germany
1999-02	Guichard, Frédéric	Professor of Biology, McGill U, Montreal, Canada
2000-07	Dushoff, Jonathan	Professor, Dept of Biology; Faculty of Science Research Chair, McMaster U, Canada
2000-04	Rozdilsky, Ian	Foreign Service Officer (Diplomat), State Department, Washington, DC
2001-02	Klausmeier, Christopher	MSU Foundation Professor of Plant Biology, W.K. Kellogg Biological Station, Michigan State U
2001-03	Loladze, Iralki	Associate Professor, Byran College of Health Sciences, Lincoln, Nebraska
2001 & 2004	Muller-Landau, Helene	Staff Scientist, Smithsonian Tropical Research Institute, Panama
2001-02	Palsson, Eirikur*	Associate Professor, Dept of Biology, Simon Fraser U, Burnaby, BC
2001-03	Webb, Colleen	Associate Dean, Graduate School; Professor, Dept of Biology, Colorado State U, Fort Collins
2003-04	De Leenheer, Patrick*	Professor, Dept of Mathematics, Oregon State U
2003-04	Scanlon, Todd	Associate Professor, Dept of Environmental Sciences, U of Virginia
2004-05	Berger-Wolf, Tanya*	Faculty Director, Translational Data Analytics Inst; Professor, Ohio State U
2005	Rauch, Erik	Deceased July 2005
2001-06	Pratt, Stephen*	Professor, School of Life Sciences, ASU
2002-05	Couzin, Iain*	Director, Dept of Collective Behavior, Max Planck Inst for Ornithology, Konstanz, Germany
2003-06	Girvan, Michelle*	Professor, Dept of Physics, U of Maryland
2003-06	Ogle, Kiona*	Professor, Informatics & Computing Program, Northern Arizona U
2004-06	Annette Ostling	Associate Professor, Ecology & Evolutionary Biology, U of Michigan, Ann Arbor
2004-06	Nikolay Strigul	Associate Professor; Mathematics Program Leader, Washington State U, WA
2005-06	Jinhu Liu	Professor, Chinese Academy of Sciences
2003-06	Weitz, Joshua	Professor of Biology, Georgia Inst of Technology
2005-07	Satake, Akiko	Associate Professor, Hokkaido U, Japan
2006-07	Gross Thilo*	Professor, Computer Science, U of CA, Davis
2004-07	Leslie, Heather	Director, Darling Marine Center, U of Maine; Associate Professor, School of Marine Sciences, U of Maine, Orono
2006-07	Varkonyi, Peter	Associate Professor, Dept of Mechanics, Materials, and Structures, Budapest U of Technology & Economics, Hungary
2006-07	Flaxman, Sam	Associate Professor, Dept of Ecology & Evolutionary Biology, U of Colorado, Boulder
2006-07	Menden-Deuer, Susanne	Professor, Oceanography, U of Rhode Island
2006-07	Charles Stock*	Research Oceanographer, NOAA/Geophysical Fluid Dynamics Laboratory, Princeton, NJ

2007-08	Boni, Maciej	Associate Professor, Center for Infectious Disease Dynamics, Dept of Biology, Penn State U
2006-08	Ballantyne, Ford	Associate Professor, Odum School of Ecology, U of Georgia
2007-08	Giuggioli, Luca	Associate Professor, Dept of Engineering Mathematics and School of Biological Sciences, U of Bristol, UK; Senior Lecturer in Complexity Sciences, Bristol Centre of Complexity Sciences, UK
2006-08	Bartumeus, Frederic	Head of Continental Ecology Dept, Centre D'Estudis Avançats de Blanes (CEAB), Spain Research Professor, Catalan Inst for Research and Advanced Studies (ICREA), Spain
2006-09	Schlüter, Maja	Associate Professor, Stockholm Resilience Centre, Stockholm U, Sweden
2005-10	Michael Raghib	Principle Engineer, Idoba-Perenti, Perth, Western Australia
2009-11	Fortuna, Miguel	Research Scientist, Spanish National Research Council (CSIC): Ronin Institute
2010-11	Guy Ziv	Professor, Socio-Environmental Systems, School of Geography, U of Leeds, UK
2010-11	Charles Yackulic*	Research Statistician, Grand Canyon Monitoring & Research Center, U.S. Geological Survey, Flagstaff, Arizona
2011-12	Emmanuel Schertzer	University Professor; Chair, Dynamical Systems in Biomathematics, U of Vienna, Austria
2012-13	Anne Maria Eikeset	Researcher, Norges Bank Investment Management, Norway
2010-13	Ricky Der	Investment, runs a quantitative fund (machine learning based), NY, NY
2011-13	Malin Pinsky	Associate Professor, U of California, Santa Cruz
2011-13	Erol Akçay	Associate Professor, Dept of Biology, U of Pennsylvania
2011-13	James Watson	Associate Professor, Oregon State U
2012-13	Colin Torney*	Professor, U of Glasgow, School of Mathematics & Statistics, Mathematical Ecology, Scotland
2012-13	Anne Maria Eikeset	Lead Researcher, Norges Bank Investment Management
2009-14	Juan Bonachela	Associate Professor, Ecology, Evolution & Natural Resources, Rutgers U
2012-14	James Waters	Associate Professor, Dept of Biology, Providence College, RI
2013-15	Thomas Van Boeckel*	Assistant Professor, ETH, Zürich, Switzerland
2012-14	Efrat Sheffer*	Associate Professor, Hebrew U, Jerusalem, Israel
2013-15	Neil Carter	Associate Professor, U of Michigan
2014-15	Pawel Romanczuk*	Professor, Humboldt U, Berlin, Germany
2014-16	Emily Klein	Officer, Acquatic Sciences Officer, Pew Charitable Trusts
2014-16	Frants Jensen*	Research Assistant Professor, Syracuse University
2012-16	Ben Morin*	Assistant Professor, Mathematics & Statistics Dept., Vassar U
2014-16	Matthieu Barbier	Researcher, Plant Health Institute, Montpellier, France
2013-16	Andrew Hein*	Assistant Professor, Cornell University
2014-16	Dane Klinger	Director of Biology, Forever Oceans Corporation
2014-17	George Hagstrom	Doctoral Lecturer, CUNY
2015-17	Karla Kvaternik*	Engineer, GE Global Research, Schenectady, NY
2016-17	Flavia Marquitti	Postdoctoral Research Associate, Universidade Estadual de Campinas (Unicamp), São Paulo, Brazil
2016-17	Juan Rocha Gordo	Researcher, Stockholm Resilience Centre, Sweden
2015-17	Anieke Van Leeuwen	Senior Scientist, Netherlands Institute for Sea Research
2016-19	Talia Young	Visiting Assistant Professor, Haverford College; Founder and Director, Fishadelphia, Philadelphia, PA
2016-19	Liliana Salvador	Assistant Professor, U of Arizona
2017-19	Theresa Ong	Assistant Professor, Dartmouth U
2017-19	Jude Kong*	Assistant Professor, York University, Toronto, Canada
2016-20	Chai Molina	Mathematical Modeler, Because, Animals
2016-20	Eden Tekwa*	Research Associate, McGill University
2017-21	Vítor Vasconcelos	Assistant Professor, U of Amsterdam
2019-21	Andrew Carlson*	Assistant Professor U of Florida, Gainesville
2018-21	Fernando Santos	Assistant Professor, U of Amsterdam
2019-21	Arnald Puy	Associate Professor, University of Birmingham, UK
2019-21	Elisabeth Krueger	Assistant Professor, U of Amsterdam
2020-23	Benjamin Schaffer	Self-employed

2020-23	Denis Patterson	Assistant Professor, U of Durham, UK
2021-24	Woi Sok Oh*	Postdoctoral Research Associate, Ohio State U
2021-24	Victoria Junquera*	Postdoctoral Research Associate, U of Bern, Switzerland

Current

2022-	Anne Stephenson	Postdoctoral Research Associate
2022-	Guillaume Falmagne	Postdoctoral Research Associate
2022-	Giuseppe Ferro	Postdoctoral Research Fellow
2023-	Emma Zajdela*	Postdoctoral Research Associate
2023-	Talia Borofsky*	Postdoctoral Research Associate
2023-	Nusrat Molla*	Postdoctoral Research Associate
2024	Emerson Arehart*	Postdoctoral Research Associate
2024	Abigail Croker	Postdoctoral Research Associate
2024	Harman Jaggi	Postddoctoral Research Associate
2024	Xander Huggins	Postdoctoral Research Associate
2024	Aanjaneye Kumar	Postdoctoral Research Associate

* Co-advisor

PUBLICATIONS

Google Scholar

https://scholar.google.com/citations?user=7PeekG0AAAAJ&hl=en

BOOKS & EDITED VOLUMES

2022 Solé, R., and **S.A. Levin**, eds. 2022. *Ecological Complexity and the Biosphere: The Next 30 Years: A Theme Issue Compiled and Edited by Ricard Solé and Simon A. Levin. Philosophical Transactions of the Royal Society B:* 377(1857).

2021 **Levin, S.A.,** and A.W. Lo, eds. 2021. *PNAS Special Feature on Evolutionary Models of Financial Markets. PNAS* 118(26).

Levin, S.A., Milner, H.V., and C. Perrings, eds. 2021. The dynamics of political polarization: *PNAS Special Feature on Polarization* 118(50.

2020 Dieckmann, O., Gavrilets, S., Gyllenberg, M., **Levin, S.**, and M. Lewis, eds. 2020. *Special Issue of the Journal of Mathematical Biology to honor Alan Hastings 65th Birthday*.

2019 Ellner, S.P., Gross, L.J., **Levin, S.A.**, and M. Lewis, eds. 2019. *Special Issue of Theoretical Ecology to Honor Alan Hastings 65th Birthday 12(2).*

2015 **Levin, S.A.** and I.D. Couzin, eds. 2015. *Journal of Statistical Physics: Special Issue: Collective Behavior 158(3).*

2013 **Levin, S.A.**, ed. 2013. *Encyclopedia of Biodiversity* (2nd Edition). Elsevier.

2010 **Levin, S.**A. and W.C. Clark, eds. 2010. *Toward a Science of Sustainability*: *Report from the NSF Toward a Science of Sustainability Conference, Warrenton, VA, November 29-December 9, 2009.* Princeton, NJ: Princeton University Printing and Mailing Services.

2009 **Levin, S.A.**, ed. 2009. *Games, Groups, and the Global Good*. Berlin; London: Springer.

Levin, S.A., ed. 2009. *The Princeton Guide to Ecology*. Princeton, NJ: Princeton University Press.

2008 Hastings A., **S.A. Levin** and L.M. Ricciardi, eds. 2008. *Special Issue, Papers from the BIOCOMP2007 Conference: Collective Dynamics: Topics on Competition and Cooperation in the Biosciences, held in Vietri sur Mare, Italy, 28 September 2007*. *Mathematical Biosciences* 214 (1-2).

2007 **Levin, S.A.**, Editor-in-Chief. 2007. *Encyclopedia of Biodiversity*, 2nd Edition. Online version.

Ricciardi, L.M., P. Lansky and **S.A. Levin**, eds. 2007. *Special Issue, Papers from the BIOCOMP2005 Conference: Diffusion Processes in Neurobiology and Subcellular Biology, held in Vietri sur Mare, Italy, 12-16 December 2005*. *Mathematical Biosciences* 207 (2).

2006 Feng, Z., U. Dieckmann and **S.A. Levin,** eds. 2006. *Disease Evolution: Models, Concepts, and Data Analyses.* DIMACS Series in Discrete Mathematics and Theoretical Computer Science 71. Providence, RI: American Mathematical Society. 237 pp.

2005 Williams, J., C.S. ReVelle and **S.A. Levin**, eds. 2005. *Special Issue,* Eco-Informatics: Modeling Biological Conservation Decisions. *Environmental Modeling and Assessment* 10 (3): 161-162.

2004 **S.A. Levin**, L. Ricciardi, O. Diekmann and A. Perelson, eds. 2004. *Topics in Biomathematics and Related Computational Problems, Vietri Sul Mare, Italy, June 2003. Mathematical Biosciences* 188: 1-233.

2003 Cain, M.L., R. Nathan and **S.A. Levin**, eds. 2003. Special Feature: Long-Distance Dispersal. *Ecology* 84 (8): 1943-2020.

Kareiva, P. and **S.A. Levin**, eds. 2003. *The Importance of Species: Perspectives on Expendability and Triage*. Princeton University Press, Princeton. 427 pp.

2002 Solé, R.V. and **S. Levin**, eds. 2002. Theme Issue: The Biosphere as a Complex Adaptive System. *Philosophical Transactions of the Royal Society,* Series B 357: 617725.

2001 **Levin, S.A.**, Editor-in-Chief. 2001. *Encyclopedia of Biodiversity*. Academic Press, San Diego.

Okubo, A. and **S.A. Levin**, eds. 2001. *Diffusion and Ecological Problems: Modern Perspectives*, 2nd Edition. Interdisciplinary Applied Mathematics, vol 14. Springer, New York. 467 pp.

Press M.C., N.J. Huntly, and **S. Levin**, eds. 2001. *Ecology: Achievement and Challenge.* Blackwell Science.

2000 Bravo de la Parra, R. and **S.A. Levin**, eds. 2000. Alcala First International Conference on Mathematical Ecology, Alcala de Henares, Spain, September 4-8, 1998. Special issue, *Mathematical Biosciences* 167: 1-86.

Levin, S.A. and Y. Iwasa, eds. 2000. A Special Issue in Honor of Dan Cohen, *Evolutionary Ecology Research* 2: 385-563.

1999 **Levin, S.A.** 1999. *Fragile Dominion: Complexity and the Commons*. Perseus Books Group, Reading, MA. 250 pp. (Japanese version, 2005; Chinese version, 2006).

1997 Abe, T., **S.A. Levin** and M. Higashi, eds. 1997. *Biodiversity: An Ecological Perspective*. Springer-Verlag, New York. 294 pp.

1994 **Levin, S.A.**, ed. 1994. *Frontiers in Mathematical Biology*. Lecture Notes in Biomathematics, 100. Springer-Verlag, Heidelberg. 633 pp.

1993 **Levin, S.A.**, T. Powell, and J.H. Steele, eds. 1993. *Patch Dynamics.* Lecture Notes in Biomathematics, 96. Springer-Verlag, Berlin. 307 pp.

1989 Castillo-Chavez, C., **S.A. Levin** and C. Shoemaker, eds. 1989. *Mathematical Approaches to Problems in Resource Management and Epidemiology*. Lecture Notes in Biomathematics, 81. Springer-Verlag, Heidelberg. 327 pp.

Levin, S.A., T.G. Hallam and L.J. Gross, eds. 1989. *Applied Mathematical Ecology*. Lecture Notes in Biomathematics, 18. Springer-Verlag, Heidelberg. 491 pp.

Levin, S.A., M.A. Harwell, J.R. Kelly and K.D. Kimball, eds. 1989. *Ecotoxicology: Problems and Approaches*. Springer Advanced Texts in Life Sciences. Springer-Verlag, New York. 547 pp.

Roughgarden, J., R.M. May and **S.A. Levin**, eds. 1989. *Perspectives in Ecological Theory*. Princeton University Press, Princeton. 394 pp.

1988 Hallam, T.G., L.J. Gross and **S.A. Levin**, eds. 1988. *Mathematical Ecology*. Proceedings of the Autumn Course Research Seminars, Trieste 1986. World Scientific Publishing Co., Singapore. 779 pp.

1986 Gillett, J.W., A.M. Stern, **S.A. Levin**, M.A. Harwell, D.A. Andow, M. Alexander, and the Staff of the Ecosystems Research Center. 1986. Potential Impacts of Environmental Release of Biotechnology Products: Assessment, Regulation, and Research Needs. (Expanded Version of Gillett *et al*. 1985). *Environmental Management* 10 (4): 433-563.

Hallam, T.G. and **S.A. Levin**, eds. 1986. *Mathematical Ecology: An Introduction.* Biomathematics 17. Springer-Verlag, Berlin. 457 pp.

1984 **Levin, S.A.**, ed. 1984. *Population Biology*. Proceedings of Symposia in Applied Mathematics, 30. American Mathematical Society, Providence, RI. 101 pp.

Levin, S.A. and T.G. Hallam, eds. 1984. *Mathematical Ecology*. Lecture Notes in Biomathematics, 54. Springer-Verlag, Berlin. 513 pps.

1982 **Levin, S.A.**, ed. 1982. *New Perspectives in Ecotoxicology*. Ecosystems Research Center Report ERC-014, Cornell University, Ithaca, NY.

1979 **Levin, S.A.**, ed. 1979. Lectures on Mathematics in the Life Sciences, 12: Some Mathematical Questions in Biology XI. American Mathematical Society, Providence, RI. 218 + ix pp.

1978 **Levin, S.A.**, ed. 1978. Lectures on Mathematics in the Life Sciences, 10: Some Mathematical Questions in Biology IX. American Mathematical Society, Providence, RI. 244 + ix pp.

Levin, S.A., ed. 1978. Lectures on Mathematics in the Life Sciences, 11: Some Mathematical Questions in Biology X. American Mathematical Society, Providence, RI. 179 + viii pp.

Levin, S.A., ed. 1978. Mathematical Association of America Study in Mathematical Biology I: Cellular Behavior and the Development of Pattern. Studies in Mathematics 15. Mathematical Association of America, Washington, DC. 315 + xiv pp.

Levin, S.A., ed. 1978. Mathematical Association of America Study in Mathematical Biology II: Populations and Communities. Studies in Mathematics 16. Mathematical Association of America, Washington, DC. 309 + xviii pp.

1977 **Levin, S.A.**, ed. 1977. Lectures on Mathematics in the Life Sciences, 9: Some Mathematical Questions in Biology VIII. American Mathematical Society, Providence, RI. 186 + vi pp.

1976 **Levin, S.A.**, ed. 1976. *Ecological Theory and Ecosystem Models*. Institute of Ecology, Madison, WI. 71 pp.

Levin, S.A., ed. 1976. Lectures on Mathematics in the Life Sciences, 8: Some Mathematical Questions in Biology VII. American Mathematical Society, Providence, RI. 182 + vi pp.

1975 **Levin, S.A.**, ed. 1975. *Ecosystem Analysis and Prediction.* Proceedings of a Conference on Ecosystems, Alta, Utah, July 1974. Society for Industrial and Applied Mathematics Institute for Mathematics and Society, Philadelphia, PA. 337 + xiv pp.

Whittaker, R.H. and **S.A. Levin**, eds. 1975. *Niche: Theory and Application. Benchmark Papers in Ecology 3.* Dowden, Hutchinson & Ross, Inc., Stroudsburg, PA. 448 + xv pp.

PEER REVIEWED & OTHER PUBLICATIONS

2024 Choquette-Levy, N., Wildemeersch, M., Santos, F.P., and **S.A. Levin**. 2024. Pro-social preferences improve climate risk management in subsistence farming communities. *Nature Sustainability* 7: 282-293. https://doi.org/10.1038/s41893-024-01272-3.

Crabtree, S.A., Wren, C.D., Dixit, A., and **S.A. Levin**. 2024. Influential individuals can promote prosocial practices in heterogeneous societies: A mathematical and agent-based model. *PNAS Nexus* 3(7): 224. https://doi.org/10.1093/pnasnexus/pgae224.

Deng, J., Taylor, W., **Levin, S.A.**, and S. Saavedra. 2024. On the limits to invasion prediction using coexistence outcomes. *Journal of Theoretical Biology* 577: 1116674. https://doi.org/10.1016/j.jtbi.2023.111674.

Freedman, A.S., Sheen, J.K., Tsai, S., Yao, J., Lifshitz, E., Adinaro, D., **Levin, S.A.**, Grenfell, B.T., and C.J.E. Metcalf. 2024. Inferring COVID-19 testing and vaccination behavior from New Jersey testing data. *PNAS* 121(17): e231435121. https://doi.org/10.1073/pnas.2314357121.

Gibbs, T., Gellner, G., **Levin, S.A.**, McCann, K.S., Hastings, A., and J. M. Levine. 2024. When can higher-order interactions resolve the species coexistence? *Ecology Letters* 27: e14458. https://doi.org/10.1111/ele.14458.

Hagstrom G., Stock, C.A., Luo, J.Y., and **S.A. Levin**. 2024. Impact of dynamic phytoplankton stoichiometry on global scale patterns of nutrient limitation, nitrogen fixation, and carbon export. *Global Biogeochemical Cycles* 38(5): e2023GB007991. https://doi.org/10.1029/2023GB007991.

Junquera, V., Schlüter, M., Rocha, J., Wundering, N. **Levin, S.A.**, Rubenstein, D.I., Castella, J.C., and P. Meyfroidt. 2024. Crop booms as regime shifts. *Royal Society Open Science* 11: 231571. https://doi.org/10.1098/rsos.231571.

Liao, W., Vasconcelos, V.V., **Levin, S.A.**, and M. Oppenheimer. 2024. Cooperative food bank: A collective insurance regime to govern food insecurity and nitrogen pollution under climate change. *Environmental Research Letters* 19(8): 084057. https://doi.org/10.1088/1748-9326/ad5f44.

Mitchell, J. Jason (Host). (2024, January 15). **Simon Levin**, Princeton University, Economic factors underlying biodiversity loss [Audio podcast episode]. In *A Sustainable Future Podcast Series.* Responsible Investment Research, Man Group plc, London, UK. https://www.man.com/maninstitute/a-sustainable-future-podcast.

Patterson, D., **Levin, S.**, Staver, A.C., and J. Touboul. 2024. Pattern formation in mesic savannas. *Bulletin of Mathematical Biology* 86(3). https://doi.org/10.1007/s11538-023-01231-7.

Perri, S., **Levin, S.A.**, Cerasoli, S., and A. Porporato. 2024. Socio-political dynamics in clean energy transition. *Environmental Research Letters* 19(7): 074017. https://iopscience.iop.org/article/10.1088/1748-9326/ad5031

Reeves, M., Bendennoun, D., Job, A., and **S.A. Levin**. (2024, June 5). To thrive in a turbulent world, corporations must learn to forget. *BGH Henderson Institute.* Available from: https://bcghendersoninstitute.com/to-thrive-in-a-turbulent-world-corporations-must-learn-to-forget/

Reeves, M., Singer, D., **Levin, S.**, Levin, J., and A. Job. (2024, April 22). Noise: An unlikely ally for business leaders. *BCG Henderson Institute.* Available from: https://bcghendersoninstitute.com/noise-an-unlikely-ally-for-business-leaders/.

Saad-Roy, C.M., Morris, S.E., Boots, M., Baker, R.E., Lewis, B.L., Farrar, J., Marathe, M.V., Graham, A.L., **Levin, S.A.**, Wagner, C.E., Metcalf, C.J.E., and B.T. Grenfell. 2024. Impact of waning immunity against SARS-CoV-2 severity exacerbated by vaccine hesitancy. *PLOS Computational Biology* 20(8): e1012211. https://doi.org/10.1371/journal.pcbi.1012211.

Oh, W.S., Muneepeerakul, R., Rubenstein, D., and **S. Levin.** 2024. Emergent network patterns of internal displacement in Somalia driven by natural disasters and conflicts. *Global Environmental Change* 84: 102793. https://doi.org/10.1016/j.gloenvcha.2023.102793.

2023 Anderies, J.M., and **S.A. Levin.** 2023. "Conservation of fragility and the collapse of social orders." In *How Worlds Collapse: What History, Systems, and Complexity Can Teach Us about Our Modern World and Fragile Future*, eds. M. Centeno, P. Callahan, P. Larcey, and T. Patterson, 262-295. Routledge.

Levin, S.A., and A. Dixit 2023. *Kenneth Joseph Arrow: A Biographical Memoir.* Washington, D.C.: National Academy of Sciences Press. https://www.nasonline.org/publications/biographical-memoirs/memoir-pdfs/arrow-kenneth.pdf

Cooney, D.B., **Levin, S.A.**, Mori, Y., and J.B. Plotkin. 2023. Evolutionary dynamics within and among competing groups. *PNAS* 120(20): e2216186120.

Dasgupta, P., and **S. Levin**. 2023. Economic factors underlying biodiversity loss. *Philosophical Transactions of the Royal Society B* 378(1881): 20220197.

Dasgupta, P., **Levin, S.**, and G. Kell. (2023, May 25). "Economic Factors Underlying Biodiversity Loss." Interview by Martin Reeves. *BCG Henderson Institute*. Available from: https://bcghendersoninstitute.com/economic-factors-underlying-biodiversity-loss-with-partha-dasgupta-simon-levin-and-georg-kell/.

Deng, J., Taylor, W., **Levin, S.A.**, and S. Saavedra. 2023. On the limits to invasion prediction using coexistence outcomes. *Journal of Theoretical Biology.* https://doi.org/10.1016/j.jtbi.2023.111674. *Forthcoming.*

Espinoza, B., Adiga, A., Venkatramanan, S., Warren, A.S., Chen, J., Lewis, B.L., Vullikanti, A., Swarup, S., Moon, S., Barrett, C.L., Athreya, S., Sundaresan, R., Chandru, V., Laxminarayan, R., Schaffer, B., Poor, H.V., **Levin, S.A.**, and M.V. Marathe. 2023. Coupled models of genomic surveillance and evolving pandemics with applications for timely public health responses. *PNAS* 120(48): e2305227120.

Forrest, S., Kinzig, A., Feldman, S., Graham, A.L., **Levin, S.**, Rexford, J., and E. Schrom. (2023, January 11). Mother Nature's 7 lessons for a safer world. *Nautilus.* Available from: https://nautil.us/mother-natures-7-lessons-for-a-safer-world-257526/.

Hagstrom, G.I., and **S.A. Levin**. "Phase transitions and the theory of early warning indicators for critical transitions." In *How Worlds Collapse: What History, Systems, and Complexity Can Teach Us about Our Modern World and Fragile Future*, eds. M. Centeno, P. Callahan, P. Larcey, and T. Patterson, 358-374. Routledge.

Jaeger, W.K., Irwin, E.G., Fenichel, E.P., **Levin, S.**, and A. Hertziger, A. 2023. Meeting the challenges to economists of pursuing interdisciplinary research on human-natural systems. *Review of Environmental Economics and Policy* 17(1). https://doi.org/10.1086/723835.

Levin, S.A., and A. Dixit. 2023. *Kenneth Joseph Arrow: A Biographical Memoir.* Washington, D.C.: National Academy of Sciences Press. https://www.nasonline.org/publications/biographical-memoirs/memoir-pdfs/arrow-kenneth.pdf

Levin, S.A., and N. Silitch. (2023, January 3). "Can We Tackle Vaccine Hesitancy and Global Warming with a Similar Playbook: Researchers Think So." In *Princeton Pulse* [podcast]. Center for Health and Wellbeing, Princeton University. CHW Link.

Levin, S.A., and E.U. Weber. 2023. Polarization and the psychology of collectives. *Perspectives on Psychological Science*. https://doi.org/10.1177/17456916231186614.

Nielsen, B.F., Saad-Roy, C.M., Li, Y., Sneppen, K., Simonsen, L., Viboud, C., **Levin, S.A.**, and B.T. Grenfell. 2023. Host heterogeneity and epistasis explain punctuated evolution of SARS-CoV-2. *PLoS Computational Biology.* https://doi.org/10.1371/journal.pcbi.1010896.

Nguyen, M., Freedman, A., Ozbay, S.A., and **S.A. Levin**. 2023. Fundamental bound on epidemic overshoot in the SIR model. *Journal of the Royal Society Interface* 20(209): 20230322. http://doi.org/10.1098/rsif.2023.0322.

Patterson, D., Staver, A.C., **Levin, S.A.**, and J.D. Touboul. 2023. Spatial dynamics with heterogeneity. *SIAM Journal of Applied Mathematics.* https://doi.org/10.1137/22M1509850.

Perri, S., **Levin, S.**, Hedin, L.O., Wunderling, N., and A.M. Poporato. 2023. Socio-political feedback on the path to net zero. *One Earth* 6: 1-13.

Reeves, M., **Levin, S.A.**, Karita, S., Singer, D., and A. Job. (2023, November 27). Toward a flourishingaging society. *BCG Henderson Institute, 2023 Meeting of Minds.* https://bcghendersoninstitute.com/toward-a-flourishing-aging-society

Reeves, Martin, **Levin, S.**, Van der Veeken, R., Nimer, J., and A. Job. (2023, August 24). Biodiversity: The next arena in sustainable business. *BCG Henderson Institute. Available from:* https://bcghendersoninstitute.com/biodiversity-the-next-arena-in-sustainable-business/.

Saad-Roy, C.M., **Levin, S.A.**, Grenfell, B.T., and M. Boots. 2023. Epidemiological impacts of post infection mortality. *Proceedings of the Royal Society B* 290: 2020343.

Saad-Roy, C.M., Morris, S.E., Baker, R.E., Farrar, J., Graham, A.L., **Levin, S.A.**, Wagner, C.E., Metcalf, C.J.E., and B.T. Grenfell. 2023. Medium-term scenarios of COVID-19 as a function of immune uncertainties and chronic disease. *Journal of the Royal Society Interface* 20(205): https://doi.org/10.1098/rsif.2023.0247.

Schrom, E., Kinzig, A., Forrest, S., Graham, A.L., **Levin, S.A.**, Bergstrom, C.T., Castillo-Chavez, C., Collins, J.P., de Boer, R.J., Doupé, A., Ensafi. R., Feldman, S., Grenfell, B.T., Halderman, J.A., Huijben, S., Maley, C., Moses, M., Perelson, A.S., Perrings, C., Plotkin, J., and M. Tiwari. 2023. Challenges in cybersecurity: Lessons from biological defense systems. *Mathematical Biosciences* 362: 109024.

Sood, M., Sridhar, A., Eletreby, R., Wu, C.W., **Levin, S.A.**, Yağan, O., and H.V. Poor. 2023. Spreading processes with mutations over multilayer networks. *PNAS* 120(24): e2302245120.

Tian, Y., Sridhar, A., Wu, C.W., **Levin, S.A.**, Carley, K.M., Poor, H.V., and O. Yağan. 2023. Role of masks in mitigating viral spread on networks. *Physical Review E* 108(1): 014306.

Traulsen, A., **Levin, S.A.**, and C. Saad-Roy. 2023. Individual costs and societal benefits of interventions during the COVID-19 pandemic. *PNAS* 120(24): e2303546120.

Walker, B., Crépin, A.-S., Nyström, M., Anderies, J.M., Andersson, E., Elmqvist, T., Queiroz, C., Barrett, S., Bennett, E., Cardenas, J.C., Carpenter, S.R., Chapin III, F.S., de Zeeuw, A., Fischer, J., Folke, C., **Levin, S.**, Nyborg, K., Polasky, S., Segerson, K., Seto, K., Scheffer, M., Shogren, J.F., Tavoni, A., van den Bergh, J., Weber, E.U., and J.R. Vincent. Response diversity as a sustainable strategy. *Nature Sustainability* 6: 621-629.

Xu, L., Wang, J., Patterson, D., and **S.A. Levin**. 2023. Early-warning signals for critical transitions in ecological systems. *PNAS* 120(5): e2218663120.

2022

Adiga, A., Lewis, B., **Levin, S.**, Maratha, M.V., Poor, H.V., Ravi, S.S., Rosenkrantz, D.J., Stearns, R.E., Venkatramanan, S., Vullikanti, A., and L. Wang. "AI techniques for forecasting epidemic dynamics: Theory and practice." In *Artificial Intelligence in Covid-19*, eds. N. Lidströmer, and Y. Eldar, 193-228. Springer.

Carlson, A.K., Boonstra, W.J., Joosse, S., Rubenstein, D.I., and **S.A. Levin.** 2022. More than ponds amid skyscrapers: Urban fisheries as multiscalar human-natural systems. *Aquatic Ecosystem Health and Management* 25: 1-10.

Carlson, A.K., Taylor, W.W., DeVries, D.R., Ferreri, C.P., Fogarty, M.J, Hartman, K.J., Infante, D.M., Kinnison, M.T., **Levin, S.A.**, Melstrom, R.T., Newman, R.M., Pinsky, M.L., Rubenstein, D.I., Sullivan, S.M.P., Venturelli, P.A., Weber, M.J., Wuellner, M.R., and G.B. Zydlewski. 2022. Stepping up: A U.S. perspective on the ten steps to responsible inland fisheries. *Fisheries* 47(2): 68-77

Chapin III, F.S., Weber, E.U., Bennett, E.M., Biggs, R., van den Bergh, J., Adger, W.N., Crépin. A.-S., Polasky, S., Folke, C., Scheffer, M., Segerson, K., Anderies, J.M., Barrett, S., Cardenas, J.-C., Carpenter, S.R., Fischer, J., Kautsky, N., **Levin, S.A.**, Shogren, J.F., Walker, B., Wilen, J., and A. de Zeeuw. 2022. Earth stewardship: Shaping a sustainable future through interacting policy and norm shifts. *Ambio* 51: 1907-1920.

"Complexity and the commons with **Simon Levin**." (2022, February 28). In *In Common* (No. 087) [podcast]. https://www.incommonpodcast.org/podcast/087-complexity-and-the-commons-with-simon-levin/.

Cooney, D., Morris, D.H., **Levin, S.A.**, Rubenstein, D.I., and P. Romanczuk. 2022. Social dilemmas of sociality due to beneficial and costly contagion. *PLoS Computational Biology.* https://doi.org/10.1371/journal.pcbi.1010670.

Cooney, D.B., Rossine, F.W., Morris, D.H., and **S.A. Levin**. 2022. A PDE model for protocell evolution and the origin of chromosomes via multilevel selection. *Bulletin of Mathematical Biology* 84: 109.

Fahimipour, A.K., Zeng, F., Homer, M., Traulsen, A., **Levin, S.A**., and T. Gross. 2022. Sharp thresholds limit the benefit of defector avoidance in cooperation on networks. *PNAS* 119(33): e2120120119.

Fischer, I., **Levin, S.A.**, Rubenstein, D.I., Avrashi, S., Givon, L., and T. Oz. 2022. Interacting with others while reacting to the environment. *Behavioral and Brain Sciences* 45: E106.

Fischer, I., Rubenstein, D.I., and **S.A. Levin**. 2022. Vaccination-hesitancy and global warming: Distinct social challenges with similar behavioural solutions. *Royal Society Open Science* 9: 211515.

Galaz, V., Crépin, A.-S., Crona, B., Dauriach, A., Golland, A., Jouffray, J.-B., Norström, A., **Levin, S.**, Rocha, J., and P. Sanchez. 2022. "Chapter 2: Finance and our living planet." In *Economy and Finance for a Just Future on a Thriving Planet: Report for Stockholm+50,* eds. V. Galaz, and D. Collste, pp. 12-19. Beijer Institute of Ecological Economics (Royal Swedish Academy of Sciences) and the Stockholm Resilience Centre (Stockholm University).

Galaz, V. Daily, G., Folke, C., **Levin, S.**, Ruckelshaus, M., Steffen, W., and P.S. Jørgensen. 2022. "Chapter 1: A new planetary reality." In *Economy and Finance for a Just Future on a Thriving Planet: Report for Stockholm+50*, eds. V. Galaz, and D. Collste, pp. 6-11. Beijer Institute of Ecological Economics (Royal Swedish Academy of Sciences) and the Stockholm Resilience Centre (Stockholm University).

Gibbs, T., **Levin, S.A.**, and J.M. Levine. 2022. Coexistence in diverse communities with higher interactions. *PNAS* 119(43): e2205063119.

Job, A., Verb, L., Reeves, M., and **S.A. Levin**. 2022. Aging gracefully: Avoiding corporate decline by embracing lessons from human biology. *BCG Henderson Institute.* Available from: https://bcghendersoninstitute.com/aging-gracefully-7d8ea11168c4

Krueger, E.H., Constantino, S.M., Centeno, M.A., Elmqvist, T., Weber, E.U., and **S.A. Levin.** 2022. Governing sustainable transformations of urban social-ecological-technological systems. *npj Urban Sustainability*: 2(10): 1-12.

Krueger, E.H., McPhearson, T., and **S.A. Levin**. 2022. Integrated assessment of urban water supply security and resilience – Towards a streamlined approach. *Environmental Research Letters* 17(7): 075006.

Leonard, N., and **S.A. Levin**. 2022. Collective intelligence as a public good. *Collective Intelligence* 1(1). https://doi.org/10.1177/26339137221083293

Levin, S.A. 2022. In *National Academies of Sciences, Engineering, and Medicine 2021. 2021 Nobel Prize Summit: Our Planet, Our Future: Proceedings of a Summit*, 12 (contribution to "Dynamic dialogues: Economics of inequality"), 55 (listing on agenda), 75 (signature on "An urgent call to action"). Washington, D.C.: The National Academies Press.

Martiny, A.C., Hagstrom, G.I., DeVries, T., Letscher, R.T., Britten, G.L., Garcia, C.A., Galbraith, E., Karl, D., **Levin, S.A.**, Lomas, M.W., Moreno, A.R., Talmy, D., Wang, W, and K. Matsumoto. 2022. Marine phytoplankton resilience may moderate oligotrophic ecosystem responses and biogeochemical feedbacks to climate change. *Limnology and Oceanography* 9999: 1-2.

Mediavilla, D. (2022, June 27). "No tenemos otra opción que creer que podemos hacer lo necesario para que la humanidad sobreviva." (Interview with **Simon A. Levin**). *El País (Ecologia)*. Available from: https://elpais.com/ciencia/2022-06-28/no-tenemos-otra-opcion-que-creer-que-podemos-hacer-lo-necesario-para-que-la-humanidad-sobreviva.html

Puy, A., Beneventano, P., **Levin, S.A.**, Lo Piano, S., Portaluri. T., and A. Saltelli. 2022. Models with higher effective dimensions tend to produce more uncertain estimates. *Science Advances* 8(42). https://doi.org/10.1126/sciadv.abn9450

Puy, A., Lo Piano, S., Salteli, A., and **S.A. Levin.** 2022. sensobol: an R package to compute variance-based sensitivity indices. *Journal of Statistical Software* 102(5): 1-37.

Qiu, Z., Espinoza, B., Vasconcelos, V.V., Chen, C., Constantino, S.M., Crabtree, S.A., Yang, L., Vullikanti, A., Chen, J., Weibull, J., Basu, K., Dixit, A., **Levin, S.A.**, and M.V. Marathe. 2022. Understanding the coevolution of mask wearing and epidemics: A network perspective. *PNAS* 119(26): e2123355119.

Reeves, M., **Levin, S.**, and A. O'Dea. (2022, January 20). What did we learn from the COVID crisis? *BCG Henderson Institute.* Available from: https://bcghendersoninstitute.com/what-did-we-learn-from-the-covid-crisis-9b078e7aad1e.

Levin, S.A., and A. Rinaldo. 2022. Ignacio Rodíguez-Iturbe (1942-2022): A pathbreaking academic career. *PNAS* 119(49): e2217606119.

Rosenkrantz, D.J., Vullikanti, A., Ravi, S.S., Stearns, R.E., **Levin, S.**, Poor, H.V., and M.V. Marathe. 2022. Fundamental limitations on efficiently forecasting certain epidemic measures in networked models. *PNAS* 119(4): e2109228119.

Shmul, Y., Reeves, M., and **S. Levin**. (2022, January 11). Building a mutually reinforcing system of organizational and personal resilience. *BCG Henderson Institute*. Available from: https://bcghendersoninstitute.com/building-a-mutually-reinforcing-system-of-organizational-and-personal-resilience-d2e4bd69417e.

Solé R., and **S.A. Levin**. 2022. Introduction: Ecological complexity and the biosphere: *The next 30 years. Philosophical Transactions of the Royal Society B:* 377(1857): 20210376.

Vasconcelos, V.V., Dannenberg, A., and **S.A. Levin**. 2022. Punishment institutions selected and sustained through voting and learning. *Nature Sustainability* 5: 578-585.

Wang, G., Phan, T.V., Li, S., Wang, J., Peng, Y., Chen, G., Qu, J., Goldman, D.I., **Levin, S.A.**, Pienta, K. Amend, S., Austin, R.H., and L. Liua. 2022. Robots as models of evolving systems. *PNAS* 119(12): e2120019119.

Yang, L., Constantino, S.M., Grenfell, B.T., Weber, E.U., **Levin, S.A.**, and V.V. Vasconcelos. 2022. Sociocultural determinants of global mask-wearing behavior. *PNAS* 119(41): e2213525119.

2021 Benth, F.E., Eikeset, A., **Levin, S.A.**, and W. Ren. 2021. Analysis of the risk premium in the forward market for salmon. *Journal of Commodity Markets* 21: 100122.

Berry, S. et al. (including **S.A. Levin**). (2021, February 11). Letter regarding use of forests for bioenergy to President-Elect Biden, President von der Leyen, President Michel, Prime Minister Suga, and President Moon. Available from: https://environmentalpaper.org/biomass-library/letter-regarding-use-of-forests-for-bioenergy/.

Carlson, A.K., Rubenstein, D.I., and **S.A. Levin**. 2021. Modeling Atlantic herring fisheries as multiscalar human-natural systems. *Fisheries Research* 236: 105855.

Carlson, A.K., Young, T., Centeno, M.A., **Levin, S.A.**, and D.I. Rubenstein. 2021. Boat to bowl: Resilience through network rewiring of a community-supported fishery amid the COVID-19 pandemic. *Environmental Research Letters* 16: 034054.

Choquette-Levy, N., Wildemeersch, M., Oppenheimer, M., and **S.A. Levin**. 2021. Risk transfer policies and climate-induced immobility among smallholder farmers. *Nature Climate Change* 11: 1046-1054.

Cooney, D.B., **Levin, S.A.**, Mori, Y., and J.B. Plotkin. (2021, October 15). Modeling natural selection at multiple levels of organization. *SIAM News Blog.* Available from: https://sinews.siam.org/Details-Page/modeling-natural-selection-at-multiple-levels-of-organization.

Cudischevitch, C. (2021, February 27). Interview: Nature teaches us to act collectively: Princeton University Professor Simon Levin mixes mathematics, biology and sociology to understand human behavior. *Ciência Fundamental*, *Folha de S. Paulo* [Blog post]. Available from: https://cienciafundamental.blogfolha.uol.com.br/2021/02/27/a-natureza-nos-ensina-a-agir-coletivamente.

Folke, C., Polasky, S., Rockström, J., Galaz, V., Westley, F., Lamont, M., Scheffer, M., Österblom, H., Carpenter, S.R., Chapin III, F.S., Seto, K.S., Weber, E.U., Crona, B.I., Daily, G.C., Dasgupta, P., Gaffney, O., Gordon, L.J., Hoff, H., **Levin, S.A.**, Lubchenco, J., Steffen, W., and B.H. Walker. 2021. Our future in the Anthropocene biosphere: Resilient societies and global sustainability. *Ambio* 50: 834-869.

Gross, L.J., Hallam, T.G., and **S.A. Levin**. 2021. Foreword. *Infectious Diseases and Our Planet. Special Issue of Mathematics of Planet Earth,* ed. M. Teboh-Ewungkem and G. Ngwa, 7-8. Springer.

Haghpanah, F., Lin, G., **Levin, S.A.**, and E. Klein. 2021. Analysis of the potential efficacy and timing of COVID-19 vaccine on morbidity and mortality. *EClinicalMedicine* 35: 100863.

Kalett, A., **Levin, S.**, Pringle, R., Rubenstein, D., and C. Tarnita. 2021. Foreword. In *Social Butterflies*, by H.S. Horn, vii-viii. *Monographs in Population Biology 65.* Princeton, NJ: Princeton University Press.

Karatayev, V.A., Vasconcelos, V.V., Lafuite A.-S., **Levin, S.A.**, Bauch, C.T., and M. Anand. 2021. A well-timed switch from local to global agreements accelerates climate change mitigation. *Nature Communications* 12(1): 1-7.

Kawakatsu, M., Lelkes, Y., **Levin, S.A.**, and C.E. Tarnita. 2021. Interindividual cooperation mediated by partisanship complicates Madison's cure for 'mischiefs of faction.' *PNAS Special Feature on Polarization* 118(50): e2116950118.

Kempes, C.P., Follows, M.J., Smith, H., Graham, H., House, C.H., and **S.A. Levin**. 2021. Generalized stoichiometry and biogeochemistry for astrobiological applications. *Special Issue of Bulletin of Mathematical Biology in honor of James Murray* 83: 73.

Laxminarayan, R., Fitzpatrick, S., and **S. Levin**. (2020, December 9). How to build trust in Covid-19 vaccines. *The Nautilus 093.* Available from: http://nautil.us/issue/93/forerunners/how-to-build-trust-in-covid_19-vaccines. **Reprinted as:** "Building trust in COVID-19 vaccines." **In**: 2021. *The Complex Alternative: Complexity Scientists on the COVID-19 Pandemic*, eds. D. Krakauer and G. West, 473-479. Santa Fe, NM: Santa Fe Institute Press.

Laxminarayan, R., Fitzpatrick, S., and **S. Levin**. 2021. "Reflection: The non-COVID vaccinated: Reaching the reluctant." In *The Complex Alternative: Complexity Scientists on the COVID-19 Pandemic*, eds. D.C. Krakauer and G. West, 480-483." Santa Fe, NM: Santa Fe Institute Press.

Levin, S.A. 2021. Mathematical ecology, evolution and the social sciences. *Ecology, Economy and Society: The INSEE Journal (Indian Society for Ecological Economics)* 4(1); 5-12. Available from: www.ecoinsee.org/journal/ ojs/index.php/ees.

Levin, S.A. "Will climate change foster increasing pathogen spillovers, possibly triggering further pandemics?" 2021. In *Current Issues in Climate Research: With Five Messages to COP26* (Report for the Current Issues in Climate Research Conference, Rome, Italy, September 9-10, 2021)*,* 16-17. Rome, Italy: Accademia Nazionale dei Lincei.

Levin, S.A., Anderies, J.M., Adger, N., Barrett, S. Bennett, E.M., Cardenas, J.C., Carpenter, S.R., Crépin, A.-S., Ehrlich, P., Fischer, J., Folke, C., Kautsky, N., Kling, C., Nyborg, K., Polasky, S., Scheffer, M., Segerson, K., Shogren, J., van den Bergh, J., Walker, B., Weber, E.U., and J. Wilen. 2021. Governance in the face of extreme events: Lessons from evolutionary processes for structuring interventions, and the need to go beyond. *Ecosystems* 25: 687-711.

Levin, S.A., and A.W. Lo. 2021. Introduction to *PNAS Special Feature on Evolutionary Models of Financial Markets PNAS* 118(26): e2104800118.

Levin, S.A., Milner, H.V., and C. Perrings. 2021. Introduction: The dynamics of political polarization. *PNAS Special Issue on Polarization* 118(50): e2116950118.

Levin, S.A. and T. Xepapadeas. 2021. On the coevolution of economic and ecological systems. *Annual Review of Resource Economics* 13: 355-377.

Morris, D.H., Rossine, F.W., Plotkin, J.B., and **S.A. Levin**. 2021. Optimal, near-optimal, and robust epidemic control. *Communication Physics* 4(1): 1-8.

Puy, A., Borgonovo, E., Lo Piano, S., **Levin, S.A.**, and Andrea Saltelli. 2021. Irrigated areas drive irrigation water withdrawals. *Nature Communications* 12, 4525.

Quinlan, L., Reeves, M., Purser, D., **Levin, S.**, and V.V. Vasconcelos. (2021, November 19). Strategies of change. *The BCG Henderson Institute.* Available from: https://bcghendersoninstitute.com/strategies-of-change-27fe879caac3.

Reeves, M., and **S.A. Levin**. 2021. "Think biologically: Messy management for a complex world." In *Mastering the Science of Organizational Change, 1 (Inspiring the Next Game: Strategy Ideas for Forward Looking Leaders),* 13-25. De Gruyter.

Reeves M., **Levin, S.**, Fuller, J., and F. Hassan. 2021. "Your change needs strategy." In *Mastering the Science of Organizational Change, 1 (Inspiring the Next Game: Strategy Ideas for Forward Looking Leaders),* 63-76. De Gruyter.

Romano, R., and **S.A. Levin**. 2021. Sunsetting as an adaptive strategy. *The FinReg Blog* (Global Markets Financial Center, Duke University School of Law) [Blog post]. Available from: https://sites.law.duke.edu/thefinregblog/2021/03/16/sunsetting-as-an-adaptative-strategy/.

Romano, R. and **S. Levin**. 2021. Sunsetting as an adaptive strategy. *PNAS Special Feature on Evolutionary Models of Financial Markets. PNAS* 118(26): e2015258118.

Saad-Roy, C.M., Grenfell, B.T., **Levin, S.A.**, Pellis, L., Stage, H.B., van den Driessche, P., and N.S. Wingreen. 2021. Superinfection and the evolution of an initial asymptomatic stage. *Royal Society Open Science* 8: 202212.

Saad-Roy, C.M., Grenfell, B.T., **Levin, S.A.**, van den Driessche, P., and N.S. Wingreen. 2021. Evolution of an asymptomatic first stage of infection in a heterogeneous population. *Journal of the Royal Society Interface,* 18(179), 20210175.

Saad-Roy, C.M., **Levin, S.A.**, Metcalf, C.J.E., and B.T. Grenfell. 2021. Trajectory of individual immunity and vaccination required for SARS-CoV-2 community immunity: A conceptual investigation. *Journal of the Royal Society Interface* 18: 20200683.

Saad-Roy, C.M., Morris, S.E., Metcalf, J.E., Mina, M.J., Baker, R.E., Farrar, J., Holmes, E.C., Pybus, O.G., Rambaut, A., Graham, A.L., **Levin, S.A.**, Grenfell, B.T., and C.E. Wagner. 2021. Epidemiological and evolutionary considerations of SARS-CoV-2 vaccine dosing regimes. *Science* 372(6540): 363-370.

Saad-Roy, C.M., Morris, S.E., Metcalf, C.J.E., Mina, M.J., Baker, R.E., Farrar, J., Holmes, E.C., Pybus, O.G., Graham, A.L., **Levin, S.A.**, Grenfell, B.T., and C.E. Wagner. 2021. Partial immunity and SARS-CoV-2 mutations—Response. *Science* 372(6540): 354-355.

Sabin-Aspen Vaccine Science and Policy Group (including **Levin, S.A.**). 2021. *The Sabin-Aspen Vaccine Science and Policy Group Report: Powering Vaccine R&D: Opportunities for Transformation.* Available from: https://www.sabinaspengroup.org/.

Santos, F.P. Lelkes, Y, and **S.A. Levin**. 2021. Link recommendation algorithms and dynamics of polarization in online social networks. *PNAS Special Feature on Polarization* 118(50): e2116950118.

Santos, F.P., **Levin, S.A.**, and V.V. Vasconcelos. 2021. Biased perceptions explain collective action deadlocks and suggest new mechanisms to prompt cooperation. *iSc*ience 24(4): 102375.

Santos, F.P., Pacheco, J.M., Santos, F.C., and **S. Levin**. 2021. Dynamics of informal risk-sharing in collective index insurance. *Nature Sustainability* 4: 426-432.

Santos, F.P., Santos, F.C., Pacheco, J.M., and **S. Levin**. 2021. Social network interventions to prevent reciprocity-driven polarization. *Proceedings of the 20th International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2021):* 1643-1645.

Sridhar, A., Osman, Y., Eletreby, R., **Levin, S.A.**, Plotkin, J.B., and H.V. Poor. 2021. Leveraging a multiple-strain model with mutations in analyzing the spread of COVID-19. *Proceedings of the ICASSP 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*: 8163-8167. Available from: https://ieeexplore.ieee.org/document/9414595.

Vasconcelos, V.V., Constantino, S.M., Dannenberg, A., Lumkowsky, M., Weber, E., and **S. Levin**. 2021. Segregation and clustering of preferences erode socially beneficial coordination. *PNAS Special Feature on Polarization* 118(50): e2102153118.

Wagner, C.E., Prentice, J.A., Saad-Roy, C.M., Yang, L, Grenfell, B.T., **Levin, S.A.**, and Laxminarayan, R. 2020. Economic and behavioral influencers of vaccination and antimicrobial use. *Frontiers in Public Health.* doi.org/10.3389/fpubh.2020.614113. **Reprinted in:** 2021. *Covid Ecology and Evolution: Systemic Biosocial Dynamics*, eds. M. Convertino and S.F. Pileggi, 170-267. Lausanne: Frontiers Media SA.

Wagner, C.E., Saad-Roy, C.M., Morris, S.E., Baker, R.E., Mina, M.J., Farrar, J., Holmes, E.C., Pybus, O.G., Graham, A.L., Emanuel, E.J., **Levin, S.A.**, Metcalf, C.J.E., and B.T. Grenfell. 2021. Vaccine nationalism and the dynamics and control of SARS-CoV-2. *Science* 373(6562). doi.org/10.1126/science.abj7364.

Wang, G., Phan, T.V., Shengkai, L., Wombacher, M., Qu, J., Peng, Y., Chen, G., Goldman, D.I., **Levin, S.A.**, Austin, R.H., and L. Liu. 2021. Emergent field-driven robot swarm phase transitions. *Physical Review Letters* 126: 108002.

Xu, L., Patterson, D., Staver, A.C., **Levin, S.A.**, and J. Wang. 2021. Unifying deterministic and stochastic ecological dynamics via a landscape-flux approach. *PNAS* 118(24): e2103779118.

Yagan, O., Sridhar, A., Eletreby, R., **Levin, S.A.**, Plotkin, J.B., and H.V. Poor. 2021. Modeling and analysis of the spread of COVID-19 under a multiple-strain model with mutations. *Harvard Data Science Review, Special Issue 1.* doi.10.1162/99608f92.a11bf693.

2020 Adger, W.N., Crepin, A.-S., Folke, C., Ospina, D., Chapin III, S., Segerson, K., Seto, K.C., Anderies, J.M., Barrett, S., Bennett, E.M., Daily, G., Elmqvist, T., Fischer, J., Kautsky, N., **Levin, S.A.**, Shogren, J.F., van den Bergh, J., Walker, B., and J. Wilen. 2020. Urbanization, migration and adaptation to climate change. *One Earth* 3(4): 396-399.

Andersson, T., Basu, K., Dixit, A., Holstrom, B., **Levin, S.**, Roine, J., Spagnolo, G., Söderberg-Nauclér, C., Wahlgren, M., and J. Weibull. 2020. DN Debatt: Anders Tegnells argument mot munskydd håller inte (DN Debate: Anders Tegnell's argument against mouthguards does not hold up). *Dagens Nyheter* (2020, November 19). Available from: https://www.dn.se/debatt/anders-tegnells-argument-mot-munskydd-haller-inte/.

Barfuss, W., Donges, J., Vasconcelos, V., Kurths, J., and **S.A. Levin**. 2020. Caring for the future can turn tragedy into comedy for long-term collective action under risk of collapse. *PNAS* 117(23): 12915-12922.

Barrett S., Dasgupta A., Dasgupta P., Adger, W.N., Anderies, J., van den Bergh, J., Bledsoe, C., Bongaarts, J., Carpenter, S., Chapin III, F.S., A.-S. Crépin, Daily, G., Ehrlich, P., Folke, C., Kautsky, N., Lambin, E.F., **Levin, S.A.**, Mäler, K.-G., Naylor, R., Nyborg, K., Polasky, S., Scheffer, M., Shogren, J., Jørgensen, P.S., Walker, B., and J. Wilen. 2020. Social dimensions of fertility behavior and consumption patterns in the Anthropocene. *PNAS* 117(12): 6300-6307.

Basu, K., Dixit, A., Dufwenberg, M., Holmström, B., **Levin, S.**, Roine, J., Spagnolo, G., Söderberg-Nauclér, C., Wahlgren, M., and J. Weibull. (2020, December 21). Debatt: Den skyddande effekten av munskydd är stor. *Dagens Medicin.* Available from: https://www.dagensmedicin.se/opinion/debatt/den-skyddande-effekten-av-munskydd-ar-stor/.

Benth, F., Eikeset, A., **Levin, S.A.**, and W. Ren. 2020. Analysis of the risk premium in the forward market for salmon. *Journal of Commodity Markets:* doi.org/10.1016/j.jcomm.2019.100122.

Bolton, P., **Levin, S**., and F. Samama. 2020. "Navigating the ESG world." In *Sustainable Investing: A Path to a New Horizon,* eds. H. Bril, G. Kell, and A. Rasche, 131-150. London: Routledge.

Burgess, M.G., Carrella, E., Drexler, M., Axtell, R.L., Bailey, R.M., Watson, J.R., Cabral, R.B., Clemence, M., Costello, C., Dorsett, C., Gaines, S.D., Klein, E.S., Koralus, P., Leonard, G., Levin, S.A., Little, L.R., Lynham, J., Madsen, J.K, Merkl, A., Owashi, B., Saul, S.E., van Putten, I.E., and S. Wilcox. 2020. Opportunities for agent-based modeling in human dimensions of fisheries. 2020. *Fish and Fisheries* 3(21): 570-587.

Carlson, A.K., **Levin, S.A.**, and D.I. Rubenstein. (2020, June 3). The garden state to the rescue: Helping build more sustainable food systems. *The Conversation. Available from:* https://theconversation.com/new-jerseys-small-networked-dairy-farms-are-a-model-for-a-more-resilient-food-system-137881.

Carlson, A.K., Taylor, W.W., Rubenstein, D.I., **Levin, S.A.**, and J. Liu. 2020. Global marine fishing across space and time. *Sustainability* 12(11): 4714.

Carrara, F., Brumley, D.R., Hein, A.M., Yawata, Y., Salek, M.M., Lee, K.S., Sliwerska, E., **Levin, S.A.**, and R. Stocker. 2020. Generating controlled, dynamic chemical landscapes to study microbial behavior. *The Journal of Visualized Experiments (JoVE)* 155: e60589.

Chen, J., Eubank, S. **Levin, S.** Mortveit, H., Venkataramanan, S., Vullikanti, A., and M. Marathe. (2020, June). Networked epidemiology for COVID-19. *SIAM News. In print and available from:* https://sinews.siam.org/Details-Page/networked-epidemiology-for-covid-19.

Diekmann, O., Gavrilets, S., Gyllenberg, M., **Levin, S.**, and M. Lewis, eds. 2020. Preface. *Special Issue of the Journal of Mathematical Biology to honor Alan Hastings 65th Birthday* 80: 1-2 (2020).

Dobson, A.P., Godfray, C.J., **Levin, S.A.**, Pacala, S.W., Rubenstein, D.I., and J. Seger. 2020. Resolution of respect for Robert May (1936-2000). *Bulletin of the Ecological Society of America,* e01769. doi.org/10.1002/bes2.1769.

Folke, C., Österblom, H., Jouffray, J.-B., Lambin, E.F., Adger, W.N., Scheffer, M., Crona, B.I., Nyström, M., **Levin, S.A.**, Carpenter, S.R., Anderies, J.M., Chapin III, S., Crépin, A.-S. Dauriach, A., Galaz, V., Gordon, L.J., Kautsky, N., Walker, B.H., Watson, J.R., Wilen, J., and A. de Zeeuw. 2020. An invitation for more research on transnational corporations and the biosphere. *Nature Ecology & Evolution* 4, 494.

Folke, C., with contributions from: Polasky, S., Rockström, J., Galaz, V., Westley, F., Lamont, M., Scheffer, M., Österblom, H., Carpenter, S., Chapin III, F.S., Crona, B., Daily, G., Dasgupta, P., Gaffney, O., Gordon, L., Hoff, H., **Levin, S.**, Lubchenco, J., Steffen, W., and B. Walker. Our future in the anthropocene biosphere: Global sustainability and resilient societies. 2020. *Beijer Discussion Papers Series* 272. Available from: http://beijer.kva.se/publications/. *Note: Discussion Paper for the First Nobel Prize Summit - Our Planet, Our Future 2021.*

Galvani, A., Hastings, A., **Levin, S.A.**, and B.H. Singer. 2020. Robert May, 1936-2020, a man for all disciplines. *PNAS* 117(38): 23199-23201.

Garcia, C.A., Hagstrom, G.I., Larkin, A., Ustick, L., Levin, S.A., Lomas, M.W., and A.C. Martiny. 2020. Linking regional shifts in microbial genome adaptation with surface ocean biogeochemistry. *Philosophical Transactions B* 375: 20190254.

Goel, N., Guttal, V., **Levin, S.A.**, and A.C. Staver. 2020. Dispersal increases the resilience of tropical and savanna and forest distributions. *The American Naturalist* 195(5): 833-850.

Laxminarayan, R., Fitzpatrick, S., and **S. Levin**. (2020, December 9). How to build trust in Covid-19 vaccines. *The Nautilus 093. Available from: http://nautil.us/issue/93/forerunners/how-to-build-trust-in-covid_19-vaccines.*

Levin, S.A. 1993. Approaches to forecasting biomass yields in large marine ecosystems. In *Large Marine Ecosystems: Stress, Mitigation, and Sustainability,* eds. K. Sherman, L.M. Alexander, and B.D. Gold, 36-39. Washington, D.C.: American Association for the Advancement of Science (AAAS) Press. **Reprinted in** 2020. *Ocean Sustainability: Assessing and Managing the World's Large Marine Ecosystems: LME Theory to Practice Volume,* eds. K. Sherman and B. Peterson, 18-22. SCOPE 73.

Levin, S.A. 2020. "Collective cooperation: From ecological communities to global governance and back." In *Unsolved Problems in Ecology*, eds. A. Dobson, D. Tilman, and R. Holt, 311-317. Princeton, NJ: Princeton University Press.

Levin, S.A. (2020, December 15). "Emergent and vanishing biodiversity, and evolutionary suicide." In *Policy Projects: Reversing Biodiversity Loss. Philosophical Transactions of the Royal Society B.* Available from: https://royalsociety.org/topics-policy/projects/biodiversity/emergent-and-vanishing-biodiversity-and-evolutionary-suicide/.

Levin, S.A. (2020). Evolving an ecological perspective. *Winter Issue of The Bridge on Complex Unifiable Systems,* 50(4), 58-60.

Levin, S., Reeves, M., and A. Levina. 2020. "Business and sustainability: From the firm to the biosphere." In *Sustainable Investing: A Path to a New Horizon,* ed. H. Bril, G. Kell, and A. Rasche, 17-43. London, UK: Routledge.

Li, A., Zhou, L., Su, Q., Cornelius, S.P., Liu, Y.-Y., Wang, L., and **S.A. Levin**. 2020. Evolution of cooperation on temporal networks. *Nature Communications* 11: 2259.

Liao, C., Rubenstein, D.I., **Levin, S.A.**, Clark, P.E., and A. Agrawal, A. 2020. Landscape sustainability science in the drylands: Mobility, rangelands and livelihoods. *Landscape Ecology* 35: 433-2447.

McManus, L.C., Vasconcelos, V.V., **Levin, S.A.**, Thompson, D.M., Kleypas, J.A., Castruccio, S., Curchitser, E.N., and J.R. Watson. 2020. Extreme temperature events will drive coral decline in the Coral Triangle. *Global Change Biology* 26(4): 2120-2133.

Molina, C., Akçay E., Dieckmann U., **Levin S.A.**, and E. Rovenskaya. 2020. Combating climate change with matching-commitment agreements. *Nature Scientific Reports* 10(1): 10251.

Morris, D.H., Petrova, V.N., Rossine, F.W., Parker, E., Grenfell, B.T., Neher, R.A., **Levin, S.A.**, and C.A. Russell. 2020. Asynchrony between virus diversity and immune selection limits influenza virus evolution. *eLife* 9: e62105.

Patterson, D.D., **Levin, S.A.**, Staver, A.C., and J.D. Touboul. 2020. Probabilistic foundations of the spatial mean-field models in ecology and applications. *SIAM Journal on Applied Dynamical Systems* 19(4): 2682-2719.

Pinsky, M.L., Fenichel, E., Fogarty, M., **Levin, S.**, McCay, B., St. Martin, K., Selden, R.L, and T. Young. 2020. Fish and fisheries in hot water: What is happening and how do we adapt? *Population Ecology*: doi: 10.1002/1438-390X.12050.

Polasky, P., Crépin, A.-S, Biggs, R. (O.), Carpenter, S.R., Folke, C., Peterson, G., Scheffer, M., Barrett, S., Daily, G., Ehrlich, P., Howarth, R.B., Hughes, T., **Levin, S.A.**, Shogren, J.F., Troell, M., Walker, B., and A. Xepapadeas. 2020. Corridors of clarity: Four principles to overcome uncertainty paralysis in the Anthropocene. *BioScience*, biaa115. doi.org/10.1093/biosci/biaa115.

Reeves, M., **Levin, S.**, Desai, S., and K. Whitaker. (2020, December 18). Resilience vs. efficiency: Calibrating the tradeoff. *BCG: Henderson Institute*. Available from: https://bcghendersoninstitute.com/resilience-vs-efficiency-calibrating-the-tradeoff-25b50538335b.

Reeves, M., **Levin S.**, Fink, T., and A. Levina. (2020, January-February). Taming complexity. *Harvard Business Review*. Available from: https://hbr.org/2020/01/taming-complexity. Translated into Italian and available from: https://www.hbritalia.it/.

Reeves, M., **Levin, S.**, Kell, G., Whitaker, K., and S. Nanda. (2020, April 12). How can companies be better prepared for future shocks: 10 strategic lessons emerging from COVID-19. *Boston Consulting Group, Henderson Institute*. Available from: https://bcghendersoninstitute.com/emerging-strategy-lessons-from-covid-19-c1e5f9a7ba83.

Saad-Roy, C.M., Arinaminpathy, N., Wingreen, N.S., **Levin, S.A.** Akey, J.M., and B.T. Grenfell. 2020. Implications of localized charge for human influenza A H1N1 hemagglutinin evolution: Insights from deep mutational scans. *PLOS Computational Biology* 16(6): e1007892.

Saad-Roy, C.M., Wagner, C.E., Baker, R.E., Morris, S.E., Farrar, J., Graham, A.L., **Levin, S.A.**, Mina, M., Metcalf, C.E., and B.T. Grenfell. 2020. Immune life history, vaccination, and the dynamics of SARS-COV-2 over the next 5 years. *Science* 10: 1126.

Saad-Roy, C.M., Wingreen, N.S., Levin, S.A., and B.T. Grenfell. 2020. Dynamics in a simple evolutionary-epidemiological model for the evolution of an initial asymptomatic infection stage. *PNAS* 117(21): 11541-11550.

Sabin Aspen Vaccine Science and Policy Group (including **Levin, S.A.**). 2020. *The Sabin Aspen Vaccine Science and Policy Group Report: Meeting the Challenges of Vaccine Hesitancy.* Available from: https://www.sabin.org/programs/vaccine-acceptance/meeting-challenge-vaccination-hesitancy.

Schrom, E.C., **Levin, S.A.**, and A.L. Graham. 2020. Quorum sensing via dynamic cytokine signaling comprehensively explains divergent patterns of effector choice among helper T cells. *PLOS Computational Biology* 16(7): e1008051.

Vasconcelos, V.V., Hannam. P., **Levin, S.A.**, and J. Pacheco. 2020. Coalition-structured governance improves cooperation to provide public goods. *Nature Scientific Reports* 10: 9194.

Wagner, C.E., Prentice, J.A., Saad-Roy, C.M., Yang, L, Grenfell, B.T., **Levin, S.A.**, and R. Laxminarayan, 2020. Economic and behavioral influencers of vaccination and antimicrobial use. *Frontiers in Public Health:* doi.org/10.3389/fpubh.2020.614113.

Wang, S., Seung, S., and S. Tilghman (signed by **S.A. Levin** et al.). (2020, March 25). Unchecked, COVID-19 could kill more than 50K in N.J., group of scientists say, 'The lockdown will save lives.' *NJ.com*. Available from: https://www.nj.com/opinion/2020/03/the-lockdown-will-save-lives-group-of-scientists-says-unchecked-covid-19-could-kill-more-than-50k-in-nj.html.

2019 Brumley, D.R., Carrara, F., Hein, A.M., Yawata, Y., **Levin, S.A.**, and R. Stocker. 2019. Bacteria push the limits of chemotactic precision to navigate dynamic chemical agents. *PNAS* 116(22): 10792-10797.

Carattini, S., **Levin, S.**, and A. Tavoni. 2019. Cooperation in the climate commons. *Review of Environmental Economics and Policy* 13(2): 227-247.

Carattini, S., **Levin, S.A.**, and A. Tavoni. (2019, October 23). How tangible environmental commitments spur cooperative behavior in local and global commons. *VOX CEPR Policy Portal: Research-Based Policy Analysis and Commentary from Leading Economists.* Available from: https://voxeu.org/article/how-

tangible-environmental-commitments-spur-cooperative-behaviour-local-and-global-dilemmas?utm_source=dlvr.it&utm_medium=twitter.

Carter, N.H., **Levin, S.A.**, and V. Grimm. 2019. Effects of human-induced prey depletion on large carnivores in protected areas: Lessons from modelling tiger populations in stylized spatial scenarios. *Ecology and Evolution* 9(19): 11298-11313.

Chang, C.H., Williams, S.J., Zhang, M., **Levin, S.A.**, Wilcove, D.S., and R.-C. Quan. 2019. Perceived entertainment and recreational value motivate illegal hunting in Southwest China. *Biological Conservation* 234: 100-106.

Drohan, S.E., **Levin, S.A.**, Grenfell, B.T., and R. Laxminarayan. 2019. Incentivizing hospital infection control. *PNAS* 116(13): 6221-6225.

Ellner, S.P., Gross, L.J., **Levin, S.A.**, and M. Lewis, eds. 2019. Foreword. *Special Issue of Theoretical Ecology to Honor Alan Hastings 65th Birthday* 12(2): 129-130.

Elsler, L.G., Drohan, S.E., Schlüter, M., Watson, J.R., and **S.A. Levin**. 2019. Local, global, multi-level: Market structure and multi-species fishery dynamics. *Ecological Economics* 156: 185-195.

Folke, C., Österblom, H., Jouffray, J.B., Lambin, E.F., Adger, W.N., Scheffer, M., Crona, B.I., Nyström, M., **Levin, S.A.**, Carpenter, S.R., Anderies, J.M., Chapin, S. 3rd. Crépin, A.S., Dauriach, A., Galaz, V., Gordon, L.J., Kautsky, N., Walker, B.H., Watson, J.R., Wilen, J., and A. de Zeeuw. 2019. Transnational corporations and the challenge of biosphere stewardship. 2019. *Nature Ecology & Evolution* 3: 1396-1403.

Klein, E., Van Boeckel, T. Martinez, E., Pant, S., Gandra, S., **Levin, S.**, Goossens, H., and R. Laxminarayan. (2019, August). What if people use too much antibiotics? *Biomedical Science Journal for Teens*. Available from: www.sciencejournalforkids.org/uploads/5/4/2/8/54289603/antibiotics_article.pdf.

Levin, S.A. 2019. The architecture of robustness. In *Handbook on Global Challenges, Governance, and Complexity*, ed. V. Galaz, 16-23. Cheltenham, UK; Northampton, MA: Edward Elgar Publishing.

Levin, S.A. Preface. 2020. *Mathematical Models in Epidemiology*, ed. F. Brauer, C. Castillo-Chavez, Z. Feng. *Texts in Applied Mathematics*. Springer.

Li, Q., Staver, A.C., Weinan, E., and **S.A. Levin**. 2019. Spatial feedbacks and the dynamics of savanna and forest. *Theoretical Ecology* 12(2): 237-262.

McManus, L.C., Watson, J.R., Vasconcelos, V.V., and **S.A. Levin**. 2019. Stability and recovery of coral-algae systems: The importance of recruitment seasonality and grazing influence. *Theoretical Ecology* 12(1): 61-72.

Polasky, S., Kling C.L., **Levin, S.A.**, Carpenter, S.R., Daily, G.C., Ehrlich, P.R., Heal, G.M., and J. Lubchenco. 2019. Role of economics in analyzing the environment and sustainable development. *PNAS* 126(2): 5233-5238.

Rodríguez-Iturbe, I., Chen, Z., Staver, A.C., and **S.A. Levin**. 2019. Tree clusters in savannas result from islands of soil moisture. *PNAS* 116(14): 6679-6683.

Sabin Aspen Vaccine Science and Policy Group (including **Levin, S.A.**). 2019. *The Sabin Aspen Vaccine Science and Policy Group Report: Accelerating the Development of a Universal Influenza Vaccine: A Report from the Sabin-Aspen Vaccine Science and Policy Group*. Available from: https://www.sabin.org/updates/resources/accelerating-development-universal-influenza-vaccine-report-sabin-aspen-vaccine.

Staver, A.C., Asner, G.P., Rodríguez-Iturbe, I., **Levin, S.A.**, and I.P.J. Smit. 2019. Spatial patterning among savanna trees in high-resolution, spatially extensive data. *PNAS* 116(22): 10681-10685.

Tekwa, E., Fenichel, E.P., **Levin, S.A.**, and M. Pinsky. 2019. Path-dependent institutions drive alternative stable states in conservation. *PNAS* 116(2): 689-694.

Vasconcelos, V.V., **Levin, S.A.**, and F.L. Pinheiro. 2019. Consensus and polarization in competing complex contagion processes. *Journal of the Royal Society Interface* 16: 20190196.

2018 Eikeset, A.M., Mazzarella, A.B., Davíðsdóttir, B., Klinger, D.H., **Levin, S.A.**, Rovenskaya, E., and N.C. Stenseth. 2018. What is blue growth? The semantics of "sustainable development" of marine environments. *Marine Policy* 87: 177-179.

Hein, A.M., Gil, M.A., Twomey, C.R., Couzin, I.D., and **S.A. Levin**. 2018. Conserved behavioral circuits govern high-speed decision-making in wild fish shoals. *PNAS* 115(48): 12224-12228.

Klein, E.Y., **Levin, S.A.**, and R. Laxminarayan. 2018. Reply to Abat et al.: Improved policies necessary to ensure an effective future for antibiotics. *PNAS* 15(35): E8111-E8112.

Klein, E.Y., Tseng, K.K., **Levin, S.A.**, Goossens, H., and R. Laxminarayan. 2018. Reply to Charra et al.: Global longitudinal assessment of 2019 changes in defined daily doses. *PNAS* 115(49): E11433-E11435.

Klein, E.Y., Van Boeckel, T.P., Martinez, E.M., Pant, S., Gandra, S., **Levin, S.A.**, Goossens, H., and R. Laxminarayan. 2018. Global increase and geographic convergence in antibiotic consumption between 2000 and 2015. *PNAS* 115(15): E3463-E3470. *Most-Cited 2018 PNAS Paper.*

Levin, S.A. 2018. Foreword: From seascapes to landscapes and back again. In *Seascape Ecology*, ed. S.J. Pittman, xvii-xix. Hoboken, NJ: John Wiley & Sons.

Levin, S. 2018. Resilience and robustness in ecological systems. IRGC, the International Risk Governance Council (www.irgc.org) and Center at EPFL (https://irgc.epfl.ch), 2nd Volume, *Resource Guide on Resilience.* Geneva, Switzerland: IRGC, the International Risk Governance Council and the EPFL International Risk Governance Center.

Levin, S.A. and A. Lo. (2018, April 5). What can Mother Nature teach us about managing financial systems. *Santa Fe Institute*. Available from: https://medium.com/@sfiscience/what-can-mother-nature-teach-us-about-managing-financial-systems-39c5f1a6ca35.

Monk, C.T., Barbier, M., Romanczuk, P. Watson, J.R., Shinnosuke Nakahama, A., Rubenstein, D.I., **Levin, S.A.**, and R. Arlinghaus. 2018. How ecology shapes exploitation: The behavioral response of natural resource users to an exploration-exploitation tradeoff. *Ecology Letters* 21(6): 779-793.

Moreno, A.R., Hagstrom, G.I., Primeau, F.W., **Levin, S.A.**, and A.C. Martiny. 2018. Marine phytoplankton stoichiometry mediates nonlinear interactions between nutrient supply, temperature, and atmospheric CO2. *Biogeosciences* 15: 2761-2018.

Nordbotten, J.M., **Levin, S.**, Szathmáry, E., and N.C. Stenseth. 2018. The ecological and evolutionary dynamics of interconnectedness and modularity. *PNAS* 115(4): 751-755.

Perrings, C., **Levin, S.**, and P. Daszak. 2018. The economics of infectious disease, trade, and pandemic. *EcoHealth* 15: 241-243.

Power, M.E., Estes, J.A., Kareiva, P., **Levin, S.**, Lubchenco, J., and S. Palumbi. 2018. *Robert T. Paine: 1933-2016: Biographical Memoirs*. Washington, D.C.: National Academy of Sciences.

Rocha, J.C., Peterson, G., Bodin, O., and **S.A. Levin**. 2018. Cascading effects of regime shifts in social-ecological systems. *Science* 362(6421): 1379-1383.

Reeves, M., **Levin, S.**, and K. Whitaker. 2018. Leaping before the platform burns: The increasing necessity of preemptive innovation. *BCH Henderson Institute Publication.* Available from: https://bcghendersoninstitute.com/leaping-before-the-platform-burns-the-increasing-necessity-of-preemptive-innovation-7e476253c387.

Scheffer, M., Bolhuis, J.E., Borsboom, D., Buchman, T.G., Gijzel, S.M.W., Goulson, D., Kammenga, J.E., Kemp. B., van de Leemput, I.A., **Levin, S.**, Martin, C.M., Melis, R.J.F., van Ness, E.H., Romero, L.M., Rikkert, M.G.M.O. 2018. Quantifying resilience of humans and other animals. *PNAS* 115(47): 1883-11890.

Tilman, A.R., Dixit, A., and **S.A. Levin**. 2018. Localized prosocial preferences, public goods, and common-pool resources. *PNAS* 116(12): 5305-5310. Correction: *PNAS* 115(48): E11425.

Tilman, A.R., **Levin, S.A.**, and J.R. Watson. 2018. Revenue-sharing clubs provide economic insurance and incentives for sustainability in common-pool resource systems. *Journal of Theoretical Biology* 454: 205-214.

Torney, C. Hopcraft, G., Morrison, T., Couzin, I., and **Levin, S.A.** 2018. From single steps to mass migration: The problem of scale in the movement ecology of the Serengeti wildebeest. *Philosophical Transactions of the Royal Society B: Biological Sciences* 373: 20170012.

Touboul, J.D., Staver, A.C., and **S.A. Levin**. 2018. On the complex dynamics of savanna landscapes. *PNAS*115(7): E1336-E1345. Correction: *PNAS* 115(31): E7457.

2017 Beddington J., Berry, S., Caldeira, K., Cramer, W., Creutzig, F., Kammen, D., Lambin, E., **Levin, S.A.**, Lucht, W., Mace, G., Moomaw, W., Raven, P., Searchinger, T., Stenseth, N.C., and Van Ypersele, J.P. 2017. EU must not burn the world's forests for 'renewable' energy. *The Guardian (December 14, 2017).*

Chang, C.H., Barnes, M.L., Frye, M., Zhang, M., Quan, R.-C., Reisman, L.M.G., **Levin, S.A.**, and D.S. Wilcove. 2017. The pleasure of pursuit: Recreational hunters in rural Southwest China exhibit low exit rates in response to declining catch. *Ecology and Society* 22(1): 43.

Dixit, A. and **S.A. Levin**. 2017. Social creation of pro-social preferences for collective action. In *The Theory of Externalities and Public Goods: Essays in Memory of Richard C. Cornes*, ed. W. Buchholz and D. Rubbelke, 127-143. Springer.

Fuller, E., Samhouri, J.F., Stoll, J.S., **Levin, S.A.**, and J.R. Watson. 2017. Characterizing fisheries connectivity in marine and social ecological systems. *ICES Journal of Marine Science* 74(8): 2087-2096.

Hagstrom, G.I. and **S.A. Levin**. 2017. Marine ecosystems as complex adaptive systems: Emergent patterns, critical transitions and public goods. *Ecosystems* 20(3): 458-476.

Hannam, P.M., Vasconcelos, V.V., **Levin, S.A.**, and J.M. Pacheco. 2017. Incomplete cooperation and co-benefits: Deepening climate cooperation with a proliferation of small agreements. *Climatic Change* 144(1): 65-69.

Joshi, J., Couzin, I.D., **Levin, S.A.**, and V. Guttal. 2017. Mobility can promote the evolution of cooperation via emergent self-assortment dynamics. *PLoS Computational Biology* 13(9): e1005732.

Klinger, D., **Levin, S.A.**, and J.R. Watson. 2017. The growth of finfish in global open-ocean aquaculture under climate change. *Proceedings of the Royal Society B* 284(1864): 20170834.

Levin, S. and A. Xepapadeas. 2017. Transboundary capital and pollution flows and the emergence of regional inequalities. *Discrete and Continuous Dynamical Systems: Series B* 22(3): 913-922.

Menge, D.N.L. and **S.A. Levin**. 2017. Spatial heterogeneity can resolve the nitrogen paradox of tropical forests. *Ecology* 94(4): 1049-1061.

Morin, B.R., Kinzig, A.P., **Levin, S.A.**, and C.A. Perrings. 2017. Economic incentives in the socially optimal management of infectious disease: When R_o is not enough. *EcoHealth:* DOI 10.1007/s10393-017-1270-9.

Paine, R., Buhle, E., **Levin, S.**, and P. Kareiva. 2017. Short-range dispersal maintains a volatile marine metapopulation: The brown algae *Postelsia palmaeformis*. *Ecology* 98(6): 1560-1573.

Palumbi, S.R., Estes, J.A., Kareiva, P., **Levin, S.A.**, Lubchenco, J., and M.E. Power. 2017. Robert Treat Paine III (1933-2016). *PNAS* 114(27): 6881-6882.

Reeves, M.K. and **S.A. Levin**. 2017. Building resilient business inspired by biology. *Scientific American, Guest Blog* (March 17, 2017).

Reeves, M., **Levin, S.**, Harnoss, J.D., and D. Ueda. 2017. The five steps all leaders must take in the age of uncertainty. *The MIT Sloan Management Review* (July 11, 2017).

Reeves, M., **Levin, S.**, and D. Ueda. (2017, July 19). Think biologically: Messy management for a complex world. *The Boston Consulting Group Website.*

Ripple, W.J. et al. (including **S.A. Levin**). 2017. World scientists warning to humanity: A Second Notice. *BioScience* 67(12): 1026-1028.

Thutupalli, S., Uppaluri, S., Constable, G.W.A., **Levin, S.A.**, Stone, H.A., Tarnita, C.E., and C.P. Brangwynne. 2017. Farming and public goods production in *C. elegans* populations. *PNAS* 114(9): 2289-2294.

Tilman, A.R., Watson, J., and **S. Levin**. 2017. Maintaining cooperation in social-ecological systems: Effective bottom-up management often requires sub-optimal resource use. *Theoretical Ecology* 10(2): 155-165.

Van Boeckel, T.P. Glennan, E.E., Chen, D., Gilbert, M., Robinson, T.P., Grenfell, B.T., **Levin, S.A.**, Bonhoeffer, S., and R. Laxminarayan. 2017. Reducing antimicrobial use in food animals. *Science (Insights)*357(6358): 1350-1352.

2016 Bain, J. and **S.A. Levin**. 2016. Resolution of Respect: Lee N. Miller 1930-2016. *Bulletin of the Ecological Society of America* 97(4): 357-358.

Berdahl, A., Van Leeuwen, A., **Levin, S.A.**, and C.J. Torney. 2016. Collective behavior as a driver of critical transitions in migratory populations. Movement Ecology 4 (18): DOI 10.1186/s40462-016-0083-8.

Brush. E.R., Leonard, N.E., and **S.A. Levin**. 2016. The content and availability of information affects the evolution of social-information gathering strategies. *Theoretical Ecology* 9(4): 455-476. Erratum: *Theoretical Ecology* (2017) 10(1): 145.

Estes, J.A., Dayton, P.K., Kareiva, P., **Levin, S.A.**, Lubchenco, J., Menge, B.A., Palumbi, S.R., Power, M.E., and John Terborgh. 2016. A keystone ecologist: Robert Treat Paine 1933-2016. *Ecology* 97(11): 2905-2909.

Fenichel, E., **Levin, S.**, McCay, B., St. Martin, K., Abbott, J., and M. Pinsky. 2016. Wealth reallocation and sustainability under climate change. *Nature Climate Change* 6: 237-244.

Galvani, A.P., Bauch, C.T., Anand, M., Singer, B.H., and **S.A. Levin**. 2016. Human-environment interactions in population and ecosystem health. *PNAS 113*(51): 14502-14506.

Harnett, A.T., Schertzer, E., **Levin, S.A.**, and I.D. Couzin. 2016. Role of heterogeneous preference and local nonlinearity in consensus decision-making. *Physical Review Letters* 116: 038701.

Hein, A.M., Carrara, F., Brumley, D.R., Stocker, R., and **S.A. Levin**. 2016. Natural search algorithms as a bridge between organisms, evolution, and ecology. *PNAS* 113(34): 9413-9420.

Hein, A.M., **Levin S.A.**, Brumley, D.R., Carrara, F., and R.F. Stocker. 2016. Physical limits on bacterial navigation in dynamic environments. *Journal of the Royal Society Interface* 13: 20150844.

Jorgensen, P.S, Wernli, D., Carroll, S.P, Dunn, R.R., Harbarth, S., **Levin, S.A.**, So, A.D., Schlüter, M., and R. Laxminarayan. 2016. Use antimicrobials wisely. *Nature* 537: 159-161.

Levin, S.A. 2016. *Dealing with Common Goods and Common Pool Resources*. MSEAS Symposium Online. International Council for the Exploration of the Sea (ICES), Copenhagen, Denmark. Available from: http://www.ices.dk/news-and-events/news-archive/news/Pages/MSEAS-2016-Simon-Levin-Dealing-with-public-goods-and-common-pool-resources.aspx.

Levin, S.A. and A. Lo. 2016. What can Mother Nature teach us about managing financial systems? *Christian Science Monitor (August 22, 2016).*

Lubchenco, J., Cerny-Chipman, E., Reimer, J.N., and **S.A. Levin**. 2016. The right incentives enable ocean sustainability successes and provide hope for the future. *PNAS* 113(51): 14507-14514.

Nyborg, K., Anderies, J.M., Dannenberg, A., Lindahl, T., Schill, C., Schlüter, M., Adger, W.N., Arrow, K.J., Barrett, S., Carpenter, S., Chapin III, F.S., Crépin, A.-S., Daily G., Ehrlich, P., Folke, C., Jager W., Kautsky, N., **Levin, S.A.**, Madsen O.J., Polasky, S., Scheffer, M., Walker, B., Weber, E.U., Wilen, J., Xepapadeas, A., and A. de Zeeuw. 2016. Social norms as solutions. *Science* 354(6308): 42-43.

Pacheco, J.M., Santos, F.C., and **S. Levin**. 2016. Evolutionary dynamics of collective index insurance. *Journal of Mathematical Biology* 72(4): 997-1010.

Reeves, M., **Levin, S.**, and D. Ueda. 2016. The biology of corporate survival. *Harvard Business Review (January-February):* 47-55.

Rikkert, M.G.M.O., Dakos, V., Buchman, T., De Boer, R., Glass, L., Cramer, A.O.J., **Levin, S.**, Van Nes, E., Sugihara, G., Ferrari, M.D., Tolner, E.A., Van de Leemput, I., Lagro, J., Melis, R., and M. Scheffer. 2016. Slowing down of recovery as generic risk marker for acute severity transitions in chronic diseases. *Critical Care Medicine* 44(3): 601-06.

Schlüter, M., Tavoni, A., and **S. Levin**. 2016. Robustness of norm-driven cooperation in the commons. *Proceedings of the Royal Society, Biological Sciences* 283(1822): 20152431.

2015 Berdahl A., Torney, C.J., Schertzer, E., and **S.A. Levin**. 2015. On the evolutionary interplay between dispersal and local adaptation in heterogeneous environments. *Evolution* 69(6): 1390-1405.

Bonachela, J.A., Klausmeier, C.A., Edwards, K.E., Litchman, E., and **S.A. Levin**. 2015. The role of phytoplankton diversity in the emergent oceanic stoichiometry. *Journal of Plankton Research* 38(4):1021-1035.

Bonachela, J.A., Pringle, R.M., Sheffer, E., Coverdale, T.C., Guyton, J.A., Caylor, K.K., **Levin, S.A.**, and C.E. Tarnita. 2015. Termite mounds can increase the robustness of dryland ecosystems to climatic change. *Science* 347 (6222): 651-655.

Carter, N.**, Levin, S**., Barlow, A. and V. Grimm. 2015. Modeling tiger population and territory dynamics using an agent-based approach. *Ecological Modelling* 312: 347-362.

Castillo-Chavez, C., Curtiss, R., Daszak, P., **Levin, S.A.**, Patterson-Lomba, O., Perrings, C., Poste, G., and S. Towers. 2015. Beyond Ebola: Lessons for mitigating pandemics. *The Lancet* 3 (July 2015): e-354-355.

Chisholm, R.A., Menge, D.N.L, Fung, T., Williams, N.S.G., and **S.A. Levin**. 2015. The potential for alternative stable states in nutrient-enriched invaded grasslands. *Theoretical Ecology:* DOI: 10.1007-s12080-015-0258-8.

Farrior, C.E., Rodríguez-Iturbe, I., Dybzinski, R., **S.A. Levin**, and S.W. Pacala. 2015. Decreased water limitation under elevated CO2 amplifies potential for forest carbon sinks. *PNAS* 112(23): 7213-7218.

Hannam, P.M., Vasconcelos, V.V., **Levin, S.A.**, and J.M. Pacheco. 2015. Incomplete cooperation and co-benefits: Deepening climate cooperation with a proliferation of small agreements. *Social Science Research Network (January 1, 2015).* Available at SSRN: http://ssrn.com/abstract=2575251.

Levin, S.A. 2015. Foreword: A personal perspective on landscape ecology in the United States. *History of Landscape Ecology in America,* ed. Barrett, G.W. and T.L. Barrett, v-viii. *New York: Springer.*

Levin, S.A. 2015. Foreword: What mathematics can do for sustainability. *Bulletin of Mathematical Biology: Special Issue on Sustainability* 77: 251-253.

Levin, S.A. and I.D. Couzin, eds. 2015. Preface. *Journal of Statistical Physics: Special Issue: Collective Behavior* 158(3).

Levin, S.A. and A.W. Lo. 2015. Opinion: A new approach to financial regulation. *PNAS* 112(41): 12543-12544.

Messier, C., Puettmann, K., Chazdon, R., Andersson, K.P., Angers, V.A., Brotons, L., Filotas, E. Tittler, R., Parrott, L., and **S.A. Levin**. 2015. From management to stewardship: Viewing forests as complex adaptive systems in an uncertain world. *Conservation Letters* 8(5): 368-377.

Morin, B.R., Perrings, C., Kinzig, A., and **S. Levin**. 2015. The social value of private infectious disease-risk mitigation in a rich/poor world. *Theoretical Ecology* 8(4): 467-479.

Schertzer, E., Staver, A.C., and **S.A. Levin**. 2015. Implications of the spatial dynamics of fire spread for the bistability of savanna and forest. *Journal of Mathematical Biology* 70: 329-341.

Sheffer, E., Batterman, S., **Levin, S.**, and L.O. Hedin. 2015. Biome-scale nitrogen fixation strategies selected by climatic constraints on nitrogen cycle. *Nature Plants:* DOI: 10.1038/NPLANTS.2015.182.

Tarnita, C.E., Washburne, A., Martinez-Garcia, R., Sgro, A.E., and **S.A. Levin**. 2015. Fitness tradeoffs between spores and nonaggregating cells can explain the coexistence of diverse genotypes in cellular slime molds. *PNAS* 112(9): 2776-2781.

Van Boeckel, T.P., Brower, C., Gilbert, M., Grenfell, B.T., **Levin, S.A.**, Robinson, T.P., Teillant, A., and R. Laxminarayan. 2015. Global trends in microbial use in food animals. *PNAS* 112(18): 5649-5654.

Villa Martin, P., Bonachela, J.A., **S.A. Levin**, and M.A. Muñoz. 2015. Eluding catastrophic shifts. *PNAS* 112(15): E1828-E1836.

2014 Arrow, K., Ehrlich, P., and **S.A. Levin**. 2014. Some perspectives on linked ecosystems and socio-economic systems. In *Environment and Development Economics: Essays in Honor of Sir Partha Dasgupta*, ed. S. Barrett et al., 95-116. Springer-Verlag.

Berdahl, A., Westley, P.A.H., **Levin, S.A.**, Couzin, I.D., and T.P. Quinn. 2014. A collective navigation hypothesis for homeward migration in anadromous salmonids. *Fish and Fisheries* 17(2): 525-542.

Bonachela, J.A. and **S.A. Levin**. 2014. Evolutionary comparison between viral lysis rate and latent period. *Journal of Theoretical Biology* 345(21): 32-42.

De Froment A.J., Rubeinstein, D.I., and **S.A. Levin**. 2014. An extra dimension to decision-making in animals: The three-way trade-off between speed, effort per-unit-time and accuracy. *PLoS Computational Biology* 10(12): e1003937.

Frank, A.B., Collins, M.G., **Levin, S.A.**, Lo, A.W., Ramo, J., Dieckmann, U., Kremenyuk, V., Kryazhimskiy, A., Linnerooth-Bayer, J., Ramalingam, B., Roy, J.S., Saari, D.G., Thurner, S., and D. Von Winterfeldt. 2014. Dealing with femtorisks in international relations. *PNAS* 111(49): 17356-17362.

Herlands, W., Der, R., Greenberg, Y., and **S. Levin**. 2014. A machine learning approach to musically meaningful homogenous style classification. *Proceedings of the Advancement of Artificial Intelligence Conference, July 27-31, 2014, Québec City, Québec, Canada:* 276-282.

Klein, E.Y., Graham, A.L., Llinás, M., and **S. Levin**. 2014. Cross-reactive immune responses as primary drivers of malaria chronicity. *Infection and Immunity* 82(1): 140.

Lei, J., **Levin, S.A.**, and Nie, Q. 2014. Mathematical model of adult stem cell regeneration with cross-talk between genetic and epigenetic regulations. *PNAS* 111(10): E880-E887.

Levin, S.A. 2014. Ecological protection and economic growth. *The Scientific Ravi* 23: 167.

Levin, S.A. 2014. Public goods in relation to competition, cooperation, and spite. *PNAS* 111 (suppl. 3): 10838-10845.

Levin, S.A. 2014. Some mathematical challenges in the theory of infectious diseases. In *Challenges of Mathematical Education: An American and Iranian Discussion: Conference Proceedings from the Mathematics Education Program (University of California, Irvine, January 27-29, 2014)*, ed. D. Saari, 71-72. Washington D.C.: The Mathematical Association of America.

Lomas, M.W., Bonachela, J.A., **Levin, S.A.**, and A.C. Martiny. 2014. Impact of ocean phytoplankton diversity on phosphate uptake. *PNAS* 111(49): 17540-17545.

Morin, B.R., Perrings, C., **Levin, S.**, and A. Kinzig. 2014. Disease risk mitigation: The equivalence of two selective mixing strategies on aggregate contact patterns and resulting epidemic spread. *Journal of Theoretical Biology* 363: 262-270.

Perrings, C., Castillo-Chavez, C., Chowell, G., Daszak, P., Fenichel, E.P., Finnoff, D., Horan, R.D., Kilpatrick, A.M., Kinzig, A.P., Kuminoff, N.V., **Levin, S.**, Morin, B., Smith, K.F., and M. Springborn. 2014. Merging economics and epidemiology to improve the prediction and management of infectious disease. *Journal of EcoHealth* 11(4): 464-75.

Salvador, L.C.M., Bartumeus, F., **Levin, S.A.**, and W.S. Ryu. 2014. Mechanistic analysis of the search behavior of *Caenorhabditis elegans*. *Journal of the Royal Society Interface* 11(92): 20131092.

Tanner, C.J., Adler, F.R., Grimm, N.B., Groffman, P.M., **Levin, S.A.**, Munshi-South, J., Pataki, D.E., Pavao-Zuckerman, M., and W.G. Wilson. 2014. Urban ecology: Advancing science and society. *Frontiers in Ecology and the Environment* 12(10): 574-581.

Tavoni, A. and **S.A. Levin**. 2014. Managing the climate commons at the nexus of ecology, behavior and economics. *Nature Climate Change* 4: 1057-1063.

Thompson, S.E., **Levin, S.**, and I. Rodríguez-Iturbe. 2014. Rainfall and temperatures changes have confounding impacts on *Phytophthora cinnamomi* occurrence risk in the southwestern USA under climate change scenarios. *Global Change Biology* 20: 1299-1312.

Torney, C.J., Lorenzi, T., Couzin, I.D., and **S.A. Levin**. 2014. Social information use and the evolution of unresponsiveness in collective systems. *Journal of the Royal Society Interface* 12(103): 2014093.

Troell, M., Naylor, R.L., Metian, M., Beveridge, M., Tyedmers, P.H., Folke, C., Arrow, K.J., Barrett, S., Crépin, A.-S., Ehrlich, P.R., Gren, Å., Kautsky, N., **Levin, S.A.**, Nyborg, K., Österblom, H., Polansky, S., Scheffer, M., Walker, B.J., Xepapadeas, T., and A. De Zeeuw. 2014. Does agriculture add resilience to the global food system? *PNAS* 111(37): 13257-13263.

Van Boeckel, T.P, Gandra, S., Ashok, A., Caudron, Q., Grenfell, B.T., **Levin, S.A**., and R. Laxminarayan. 2014. Global antibiotic consumption 2000-2010: An analysis of national pharmaceutical sales data. *Lancet Infectious Diseases:* 14(8): 742-750.

Vasconcelos, V.V., Santos, F.C., Pacheco, J.M., and **S.A. Levin**. 2014. Climate policies under wealth equality. *PNAS* 111 (6): 2212-2216.

Walker, J.G., Klein, E.Y., and **S.A. Levin**. 2014. Disease at the wildlife-livestock interface: Acaricide use on domestic cattle does not prevent transmission of a tick-borne pathogen with multiple hosts. *Veterinary Parasitology* 199(3-4): 206-214.

2013 Badiou, P. et al. (including **S.A. Levin)**. 2013. *International Boreal Conservation Science Panel: Conserving the World's Last Great Forest Is Possible: Here's How.* (Science/Policy Briefing, International Boreal Conservation Science Panel and Associates, November 2011).

Bonachela, S.A., Allison S.D., Martiny, A.C., and **S.A. Levin**. 2013. A model for variable phytoplankton stoichiometry based on cell protein regulation. *BioGeoSciences* 10: 3241-3279.

Case, M.F., Halpern, C.B., and **S.A. Levin**. 2013. Contributions of gopher mound and casting disturbances to plant community structure in a Cascade Range meadow complex. *Botany* 91: 555-561.

Farrior, C.E., et al. (including **S.A. Levin**). 2013. Competition for water and light in closed-canopy forests: A tractable model carbon allocation with implications for carbon sinks. *American Naturalist* 181(3): 314-330.

Farrior, C.E. et al. (including **S.A. Levin**). 2013. Resource limitation in a competitive context determines complex plant responses to experimental resource additions. *Ecology* 94(11): 2505-2517.

Fischer, I. et al. (including **S.A. Levin**). 2013. Fusing enacted and expected mimicry generates a winning strategy that promotes the evolution of cooperation. *PNAS* 110(25): 10229-10233.

Giuggioli, L. et al. (including **S.A. Levin**). 2013. Stigmergy, collective actions, and animal social spacing. *PNAS* 110(42): 16904-16909.

Kinzig, A.P. et al (including **S.A. Levin**). 2013. Social norms and global environmental challenges: The complex interaction of behaviors, values, and policy. *BioScience* 63(3): 164-175.

Lade, S.J., Tavoni, A., **Levin, S.A.**, and M. Schlüter. 2013. Regime shifts in a social-ecological system. *Theoretical Ecology (Special Issue on Regime Shifts and Tipping Points)* 6: 359-372.

Levin, S.A. 2013. Comment on "Voluntary Pledges and Green Growth in the Post-Copenhagen Economy" by Thomas Sterner and "World Economic Crises: Commodity Prices and Environmental Scarcity as Missing Links" by Ramón López. In *Report of the World Commission on Environment and Development*. 2010 ABDCE Stockholm.

Levin, S.A. 2013. Cooperation and sustainability. In *Practicing Sustainability*, ed. G. Madhavan et al., 39-43. New York: Springer.

Levin, S.A. 2013. Dedication and foreword. *Mathematical Biosciences (Special Issue in honor of Professor Luigi M. Ricciardi)*. BIOCOMP 2012: Mathematical Modeling and Computational Topics in Biosciences, Vietri sul Mare (Italy), June 4-9, 2012.

Levin, S.A. 2013. Ecological resilience and robustness. *Encyclopedia Britannica*. *Available from: http://www.britannica.com/EBchecked/topic/191092ecological-resilience.*

Levin, S.A. 2013. Foreword. *Dispersal, Individual Movement and Spatial Ecology: A Mathematical Perspective*, ed. M.A. Lewis et al., v-vii. *Lecture Notes in Mathematics 2071*. Berlin; Heidelberg: Springer-Verlag.

Levin, S.A. 2013. Mathematics of sustainability. *AMS Notices* 60(4): 392-393.

Levin, S.A. 2013. Preface to the *Encyclopedia of Biodiversity*. 2013 (2nd Edition).

Levin, S.A. 2013. Preface to Special Issue in Honor of Carlos Castillo-Chavez. *Mathematical Biosciences and Engineering* 10(5-6): xxv-xxvii.

Levin, S.A. 2013. Resolution of Respect: Dick Root 1936-2013. *Bulletin of the ESA* (July): 210-215.

Levin, S.A. et al. 2013. Social-ecological systems as complex adaptive systems: Modeling and policy implications. *Environment and Development Economics* 18(2): 111-132.

Martiny et al. (including **S.A. Levin**). 2013. Strong latitudinal patterns in marine plankton elemental composition. *Nature Geoscience* 6: 279-283.

Nadell, C.D. et al. (including **S.A. Levin**). 2013. Cutting through the complexity of cell collectives. *Proceedings of the Royal Society* B 280(1755): 20122770.

Pinsky, M.L. et al. (including **S.A. Levin**). 2013. Marine taxa track local climate velocities. *Science* 341 (6151): 1239-1243.

Strandburg-Peshkin, A. et al (including **S.A. Levin**). 2013. Visual sensory networks and effective information transfer in animal groups. *Current Biology* 23(17): R709-R711.

Thompson, S., **S. Levin**, and I. Rodríguez-Iturbe. 2013. Linking plant disease risk and precipitation drivers: A dynamical systems framework. *The American Naturalist* 181(1): 1-38.

Torney, C.J., **S.A. Levin**, and I.D. Couzin. 2013. Decision accuracy and the role of spatial interaction in opinion dynamics. *Journal of Statistical Physics* 151(1-2): 203-217.

2012 Akçay, E. et al. (including **S.A. Levin**). 2012. Evolution of cooperation and skew under imperfect information. *PNAS* 109(37): 14936-14941.

Bonachela, J.A., M.A. Muñoz, and **S.A. Levin.** 2012. Patchiness and demographic noise in three ecological examples. *Journal of Statistical Physics* 148: 723-739.

Chisholm, R.A. and **S.A. Levin.** 2012. Linking dispersal and immigration in multidimensional environments. *Bulletin of Mathematical Biology* 74(8): 1754-1763.

Dixit, A.K., **S.A. Levin**, and D.I. Rubenstein. 2012. Reciprocal insurance among Kenyan pastoralists. *Theoretical Ecology* 6: 173-187.

Frank, A. et al. (including **S.A. Levin**). 2012. Security in the age of systemic risk: Strategies, tactics, and options for dealing with femtorisks and beyond. IIASA Interim Report (IR-12-010). IIASA.

Jiang, X. et al. (including **S.A. Levin**). 2012. Functional biogeography of ocean microbes revealed through non-negative matrix factorization. *PLoS One* 7(9): e43866.

Klein, E., et al. (including **S.A. Levin**). 2012. Relationship between treatment-seeking behavior and artemisinin drug quality in Ghana. *Malaria* 11:110: DOI: 10.1186/1475-2975-11-110.

Klein, E. et al. (including **S.A. Levin**). 2012. Superinfection and the evolution of resistance to antimalarial drugs. *Proceedings of the Royal Society B: Biological Sciences*: DOI: 10.1098/rspb.2012.1064.

Leonard, NE et al. (including **S.A. Levin**). 2012. Decision versus compromise for animal groups in motion. *PNAS* 109(1): 227-232.

Levin, S.A. 2012. Epilogue: The challenge of sustainability: Lessons from an evolutionary perspective. In *Sustainability Science: The Emerging Paradigm and the Urban Environment*, ed. M. Weinstein and R.E. Taylor, 168-174. New York: Springer.

Levin. S.A. 2012. Preface: Towards a marriage of theory and data. *Interface Focus* 2(1): DOI: 10.1098rsfs.2012.0006.

Levin, S.A. 2012. The trouble of discounting tomorrow. *Solutions 3(4)* (August 2012). Available at: http://www.thesolutionsjournal.com/node/1144.

Levin, S.A., K.J. Arrow, and R.O. Keohane. 2012. An uncommon woman for the Commons (Elinor Ostrom retrospective). *PNAS* 109(33): 13135-13136.

Levin, S.A., J.A. Bonachela, and C.D. Nadell. 2012. Mathematical and computational challenges in the study of complex adaptive microbial systems. In *The Social Biology of Microbial Communities*: *Workshop Summary*, Institute of Medicine (IOM), 361-385. Washington, DC: The National Academies Press.

Levine, H., P. Schaefer, and **S. Levin**. 2012. Tribute to Lawrence E. Payne. *Notices of the AMS* 59(5): 653-54.

Reeves, M., K. Haanaes, C. Love, and **S.A. Levin**. 2012. Sustainability as adaptability. *Journal of Corporate Finance* 24(2): 14-22.

Scheffer, M. et al. (including **S.A. Levin**). 2012. Anticipating critical transitions. Science 338: 334-348.

Shaw, A.K. and **S.A. Levin**. 2012. The evolution of intermittent breeding. *Journal of Mathematical Biology* 66(4-5): 685-703.

Staver, A.C. and **S.A. Levin**. 2012. Integrating theoretical climate and fire effects on savanna and forest systems. *The American Naturalist* 180(2): 211-224.

Tavoni, A., M. Schlueter, and **S.A. Levin.** 2012. The survival of the conformist: social pressure and renewable resource management. *Journal of Theoretical Biology* 299: 152-161.

Ziv, G. et al. (including **S.A. Levin**). 2012. Trading-off fish diversity, food security, and hydropower in the Mekong River Basin. *PNAS* 109(15): 5609-5614.

2011 Archibald, S., Staver, A.C., and **S.A. Levin**. 2011. The evolution of human-driven fire regimes in Africa. *PNAS* 109(3): 847-852.

Ballantyne, F. IV, O.M.E. Schofield, and **S.A. Levin**. 2011. The emergence of regularity and variability in marine ecosystems: the combined role of physics, chemistry and biology. *Scientia Marina* 75(4): 719-731.

Bonachela, J.A., M. Raghib, and **S.A. Levin**. 2011. Dynamic model of flexible phytoplankton nutrient uptake. *PNAS* 108(51): 20,633-20,638.

Bonachela, J.A. et al. (including **S.A. Levin**). 2011. Universality in bacterial colonies. *Journal of Statistical Physics* 144(2): 303-315.

Couzin, I.D. et al. (including **S.A. Levin**). 2011. Uninformed individuals promote democratic consensus in animal groups. *Science* 334(6062): 1578-1580.

Espenshade, T.J., A.S. Olgiati, and **S.A. Levin.** 2011. On nonstable and stable population momentum. *Demography* 48(4): 1581-1599.

Fortuna, M.A., J.A. Bonachela, and **S.A. Levin**. 2011. Evolution of a modular software network. *PNAS*: DOI/10/1073/pnas.1115960108.

Levin, S.A. 2011. Building bridges between ecology and economics. In *Bringing Ecologists and Economists Together: The Askö Meetings and Papers*, ed. T. Söderqvist, A. Sundbaum, C. Folk, and K-G. Mäler, 31-34. Dordrecht, Heidelberg, London, New York: Springer.

Levin, S.A. 2011. Evolution at the ecosystem level: On the evolution of ecosystem patterns **(**Margalef Prize in Ecology Lecture 2010). *Contributions to Science* 7(1): 11-16.

Mari, L. et al. (including S**.A. Levin**). 2011. Hydrologic controls and anthropogenic drivers of the zebra mussel invasion of the Mississippi-Missouri river basin. *Water Resources Research* 47: W03523.

Muneepeerakul, R. et al. (including **S.A. Levin**). 2011. Evolution of dispersal in explicitly spatial metacommunities. *Journal of Theoretical Biology* 269: 256-265.

Shaw, A.K. and **S.A. Levin**. 2011. To breed or not to breed: A model of partial migration. *Oikos* 120: 1871-1879.

Staver, A.C., S. Archibald, and **S. Levin**. 2011. The global extent and determinants of savanna and forest as alternative biome states. *Science* 334: 230-232.

Staver, A.C., S. Archibald, and **S. Levin**. 2011. Tree cover in sub-Saharan Africa: Rainfall and fire constrain forest and savanna as alternative stable states. *Ecology* 92(5): 1063-1072.

Stock, C.A. et al. (including **S.A. Levin**). 2011. On the use of IPCC-class models to access the impact of climate on living marine resources. *Progress in Oceanography* 88: 1-27.

2010 Anderies, J.M. et al. (including **S.A. Levin**). 2010. Working group II: Human-environment systems (HES) as complex adaptive systems. In *Toward a Science of Sustainability*: *Report from the NSF Toward a Science of Sustainability Conference, Warrenton, VA, November 29-December 9, 2009,* ed. S.A. Levin and W.C. Clark, 19-28. Princeton, NJ: Princeton University Printing and Mailing Services.

Bartumeus, F.L. Giuggiolli, M. Louzao, V. Bretagnolle, D. Oro, and **S.A. Levin**. 2010. Fishery activities distort seabird foraging. *Current Biology* 20:1-6.

Gleick, P.H. et al (including **S.A. Levin**). 2010. Climate change and the integrity of science. *Science* 328: 689-670.

Komarova, N.L. and **S.A. Levin**. 2010. Eavesdropping and language dynamics. *Journal of Theoretical Biology* 264(1): 104-118.

Levin, S.A. 2010. Complex adaptive systems and the challenge of sustainability. In *Toward a Science of Sustainability*: *Report from the NSF Toward a Science of Sustainability Conference, Warrenton, VA, November 29-December 9, 2009,* ed. S.A. Levin and W.C. Clark, 83-86. Princeton, NJ: Princeton University Printing and Mailing Services.

Levin, S.A. 2010. Crossing scales, crossing disciplines: Collective motion and collective action in the Global Commons. A special issue of *Philosophical Transactions of the Royal Society B* (Royal Society's 350th Anniversary) 365(1537): 13-17.

Levin, S.A. 2010. The evolution of ecology. *The Chronicle of Higher Education*. (August 13): B9-11.

Levin, S.A. 2010. Prologue. In *Modeling Paradigms and Analysis of Disease Transmission Models*, ed. A.B. Gumel and S. Lenhard, xiii-xiv. *DIMACS Series in Discreet Mathematics and Theoretical Computer Science* 75. Providence, RI: American Mathematical Society.

Levin, S.A. and W.C. Clark. 2010. Executive summary: Toward a science of sustainability. In *Toward a Science of Sustainability*: *Report from the NSF Toward a Science of Sustainability Conference, Warrenton, VA, November 29-December 9, 2009,* ed. S.A. Levin and W.C. Clark, 7-10. Princeton, NJ: Princeton University Printing and Mailing Services.

Nara, P.L. et al. (including **S.A. Levin**). 2010. How can vaccines against influenza and other viral diseases be made more effective? *PLoS Biology* 8(12): e1000571.

Raghib, M., **Levin, S.A.**, and I.G. Kevrekidis. 2010. Multiscale analysis of collective motion and decision-making in swarms: An advection-diffusion equation with memory approach. *Journal of Theoretical Biology:* 264(3): 893-213.

Sagarin, R.D. et al. (including **S.A. Levin**). 2010. Decentralize, adapt and cooperate. *Nature* 465(20): 293.

Torney, C.J., **S.A. Levin**, and I.D. Couzin. 2010. Specialization and evolutionary branching within migratory populations. *PNAS* 107(47): 20394-9.

2009 Arrow, K and **S.A. Levin**. 2009. Intergenerational resource transfers with random offspring. *PNAS* 106(33): 13702-13706.

Gross, T., L. Rudolf, **S.A. Levin**, and U. Dieckmann. 2009. Generalized models reveal stabilizing factors in food webs. *Science* 325(5941): 747-750.

Johnson, D. and **S. Levin**. 2009. The tragedy of cognition: Psychological biases and environmental inaction. *Current Science* 97(11). Available from: http://www.ias.ac.in/currsci/.

Leslie H., M. Schlueter, R. Cudney-Bueno, and **S.A. Levin**. 2009. Modeling responses of coupled social-ecological systems of the Gulf of California to anthropogenic and natural perturbations. *Ecological Research* 24: 505-519.

Levin, S.A. 2009. Games, groups, norms, and societies. In *Games, Groups, and the Global Good*, ed. S.A. Levin, 143-153. Berlin; London: Springer.

Levin, S.A. 2009. Preface. *Games, Groups, and the Global Good*, ed. S.A. Levin, v-vi. Berlin; London: Springer.

Levin, S.A. 2009. Preface. *Princeton Guide to Ecology*, ed. S.A. Levin, vii-viii. Princeton, NJ: Princeton University Press.

Menge, Duncan N.L., **S.A. Levin**, and L.O. Hedin. 2009. Facultative versus obligate nitrogen fixation strategies and their ecosystem consequences. *The American Naturalist* 4(174): 466-477.

Miki, T., L. Giuggioli, Y. Kobayashi, T. Nagata, and **S.A. Levin**. 2009. Vertically-structured prokaryotic community can control the efficiency of the biological pump in the oceans. *Theoretical Ecology* 2:199-216.

Moore, S.A., T.J. Wallington, R.J. Hobbs, P.R. Ehrlich, C.S. Holling, **S. Levin**, D. Lindenmayer, C. Pahl-Wostl, H. Possingham, M.G. Turner, and M. Westoby. 2009. Diversity in current ecological thinking: implications for environmental management. *Environmental Management* 43:17-27.

Muneepeerakul, R., E. Bertuzzo, **S.A. Levin**, A. Rinaldo, and I. Rodríguez-Iturbe. 2009. River networks as ecological corridors: a complex system perspective for integrating hydrologic geomorphic and ecological dynamics. *Water Resources Research* 45: W01413.

Nabet, B., N. Leonard, I.D. Couzin, and **S.A. Levin**. 2009. Dynamics of decision making in animal group motion. *Journal of Nonlinear Science* 19(4): 399-345.

Ndifon, W., N.S. Wingreen, and **S.A. Levin**. 2009. Differential neutralization efficiency of hemagglutinin epitopes, antibody interference, and the design of influenza vaccines. *PNAS* 106(21): 8701-8706.

Ndifon, W., J. Dushoff, and **S.A. Levin**. 2009. On the use of hemagglutination-inhibition for influenza surveillance: surveillance data are predictive of influenza vaccine effectiveness. *Vaccine* 27(2009): 2447-2452.

Schlueter, M., H. Leslie, and **S.A. Levin**. 2009. Managing water use tradeoffs in a semi-arid river delta – a modeling approach. *Ecological Research* 24: 491-503.

Walker, B., **S.A. Levin** et al. 2009. Looming global-scale failures and missing institutions. *Science* 235: 1345-1346.

2008 Bartumeus, F. and **S.A. Levin**. 2008. Fractal reorientation clocks: linking animal behavior to statistical properties of search. *PNAS 105(49): 19072-19077*

Bartumeus, F., P. Fernandez, M.G.E. daLuz, J. Catalan, R.V. Sole and **S.A. Levin**. 2008. Superdiffusion and encounter rates in diluted, low dimensional worlds. *European Physical Journal, Special Topics* 157: 157-166.

Buchman, T.G., J. Dushoff, M.B. Effron, P.R. Ehrlich, S. Fitzpatrick, R. Laxminarayan, B. Levin, **S.A. Levin**, M. Lipsitch, A. Malani, C. Nemeroff, S.P. Otto, V.L. Patel, and J.S. Solomkin (McDonnell Norms Group). 2008. Antibiotic overuse: the influence of social norms. *Journal of the American College of Surgeons* 207(2): 265-275.

Hastings A., **S.A. Levin** and L.M. Ricciardi, eds. 2008. Foreword to *Special Issue, Papers from the*

BIOCOMP2007 Conference: Collective Dynamics: Topics on Competition and Cooperation in the Biosciences, held in Vietri sur Mare, Italy, 28 September 2007. *Mathematical Biosciences* 214 (1-2): 1-2.

Klausmeier, C.A., E. Litchman, T. Daufresne, and **S.A. Levin**. 2008. Phytoplankton stoichiometry. *Ecological Research* 23: 479-485.

Levin, S.A. 2008. Foreword to *Complexity Theory for a Sustainable Future*, ed. by Jon Norberg and Graeme S. Cummings. Columbia University Press, New York.

Levin, S.A. and J. Lubchenco. 2008. Resilience, robustness and marine ecosystem-based management. *BioScience* 58 (1): 27-32.

Lu, J., J. Liu, I.D. Couzin, and **S.A. Levin**. Emerging Collective Behaviors of Animal Groups. 2008. *Proceedings of the 7th World Congress on Intelligent Control and Automation, June 25-27, 2008, Chongqing, China.*

May, R.M., **S.A. Levin**, and G. Sugihara. 2008. Ecology for bankers. *Nature* 451: 893-895.

Menge, D.N.L., **S.A. Levin**, and L.O. Hedin. 2008. Evolutionary tradeoffs can select against nitrogen fixation and thereby maintain nitrogen limitation. *PNAS* 105 (5): 1573-1578.

Nadell, C.D., J. Xavier, **S.A. Levin**, and K.R. Foster. 2008. The evolution of quorum sensing in bacterial biofilms. *PLoS Biology* 6 (1): 171-179.

Nadell, C.D., B.L. Bassler, and **S.A. Levin**. 2008. Minireview: Observing bacteria through the lens of social evolution. *Journal of Biology* 7: 27.1-27.4.

Perring, M.P., L. Hedin, **S.A. Levin**, M. McGroddy, and C. de Mazancourt. 2008. Increased plant growth from nitrogen addition should conserve phosphorus in terrestrial ecosystems. *PNAS* 105 (6): 1971-1976.

Satake, A., Y. Iwasa, and **S.A. Levin**. 2008. Comparison between perfect information and passive-adaptive social learning models of forest harvesting. *Theoretical Ecology* 1: 189-197.

Stock, C.A., T.M. Powell, and **S.A. Levin**. 2008. Bottom-up and top-down forcing in a simple size-structured plankton dynamics model. *Journal of Marine Systems* 74 (1-2): 134-152.

Wiegand, K., D. Saltz, D. Ward, and **S.A. Levin**. 2008. The role of size inequality in self-thinning: a pattern-oriented simulation model for arid savannas. *Ecological Modelling* 210: 431-445.

2007 Baskett, M., F. Micheli, and **S.A. Levin**. 2007. Designing marine reserves for interacting species: insights from theory. *Biological Conservation* 137 (2): 163-179.

Baskett, M., J. Weitz, and **S.A. Levin**. 2007. The evolution of dispersal in reserve networks. *American Naturalist* 170 (1): 59-78

Cullen, J.J., W.F. Doolittle, **S.A. Levin**, and W.K.W. Li. 2007. Patterns and predictions in microbial oceanography. *Oceanography* 20 (2): 32-44.

Klausmeier, C.A., E. Litchman, and **S.A. Levin**. 2007. A model of flexible uptake of two essential resources. *Journal of Theoretical Biology* 246 (2): 278-289.

Kryazhimskiy, S., U. Dieckmann, **S.A. Levin**, and J. Dushoff. 2007. On state-space reduction in multi-strain pathogen models, with an application to antigenic drift in influenza A. *PloS Computational Biology* 3(8): e158, doi: 10.1371/journal.pcbi.0030159.

Levin, S.A. 2007. Introduction: Infectious diseases. *Environment and Development Economics* 12: 1-2.

Levin, S.A. 2007. Book review. Remodeled foundations. *Theoretical ecology: principles and applications,* 3rd Edition, by Bob May and Angela McClean, eds. *Science* 316: 1699-1700.

Levin, S.A. 2007. Book review. *Evolutionary Dynamics: Exploring the Equations of Life*, by M.A. Nowak. *Quarterly Review of Biology* 82 (3): 273.

Lichstein, J.W., J. Dushoff, **S.A. Levin**, and S.W. Pacala. 2007. Intraspecific variation and species coexistence. *American Naturalist* 170: 807-818.

Ma, J., L. Worden, and **S.A. Levin**. 2007. Evolutionary branching of single traits. (K. McCann, D. Noakes, N. Rooney, eds.). *In*: *From Energetics to Ecosystems: The Dynamics and Structure of Ecological Systems*, Chapter 10, p. 191-212. *The Peter Yodzis Fundamental Ecology Series* 1. Springer, The Netherlands.

Moon, S.J., B. Nabet, N. E. Leonard, **S.A. Levin**, and I.G. Kevrekidis. 2007. Heterogeneous animal group models and their group-level alignment dynamics; an equation-free approach. *Journal of Theoretical Biology* 246: 100-112.

Muneepeerakul, R., J. S. Weitz, **S.A. Levin**, A. Rinaldo, and I. Rodríguez-Iturbe. 2007. A neutral metapopulation model of biodiversity in river networks. *Journal of Theoretical Biology* 245 (2): 351-363.

Muneepeerakul, R., **S.A. Levin**, A. Rinaldo, and I. Rodríguez-Iturbe. 2007. On biodiversity in river networks: a trade-off metapopulation model and comparative analysis. *Water Resources Research* 43 (7): W07426, doi:10.1029/2006WR005857.

Pulliam, J.R.C., J. Dushoff, S.A. Levin, and A.P. Dobson. 2007. Epidemic enhancement in partially immune populations. *PLoS ONE* 2 (1): e165.

Satake, A., M.A. Janssen, **S.A. Levin,** and Y. Iwasa. 2007. Synchronized deforestation induced by social learning under uncertainty of forest-use value. *Ecological Economics* 63 (2-3): 452-462.

Satake, A., H.M. Leslie, Y. Iwasa, and **S.A. Levin**. 2007. Coupled ecological-social dynamics in a forested landscape: spatial interactions and information flow. *Journal of Theoretical Biology* 246 (4): 695-707.

Scanlon, T., K. Caylor, **S.A. Levin**, and I. Rodríguez-Iturbe. 2007. Positive feedbacks promote power-law clustering of Kalahari vegetation. *Nature* 449: 209-212.

Worden, L., and **S.A. Levin**. 2007. Evolutionary escape from the prisoner's dilemma. *Journal of Theoretical Biology* 245: 411-422.

2006 Bazykin, G.A., J. Dushoff, **S.A. Levin**, and A.S. Kondrashov. 2006. Bursts of non-synonymous substitutions in HIV-1 evolution reveal instances of positive selection at conservative protein sites. *Proceedings of the National Academy of Sciences, USA* 103 (51): 19396-19401.

Buchman, T.G., V.L. Patel, J. Dushoff, P.R. Ehrlich, M. Feldman, M. Feldman, B. Levin, D.T. Miller, P. Rozin, **S.A. Levin,** and S. Fitzpatrick. 2006. Enhancing the use of clinical guidelines: A social norms perspective. *Journal of the American College of Surgeons* 202 (5): 826-836.

Buchman, T.G., J. Dushoff, P.R. Ehrlich, M. Feldman, M. Feldman, S. Fitzpatrick, B. Levin, **S.A. Levin**, D.T. Miller, V.L. Patel, and P. Rozin. 2006. Battling bad behavior: how do you convince people to do what's in their best interest? *The Scientist* 20 (2): 51-57.

Casagrandi, R., L. Bolzoni and **S.A. Levin**. 2006. The SIRC model for the ecology and evolution of drifting influenza A in seasonal environments. *Mathematical Biosciences* 200 (2): 152-169.

Chapin, F.S., Hoel, Michael, Carpenter, Steven R., Lubchenco, Jane, Walker, Brian, Callaghan, Terry V., Folke, Carl, **Levin, Simon A.**, Mäler, Karl-Göran, Nilsson, Christer, Barrett, Scott, Berkes, Fikret, Crépin, Anne-Sophie, Danell, Kjell, Rosswall, Thomas, Starrett, David, Xepapadeas, Anastasios, Zimov, Sergey A. 2006. Building Resilience and Adaptation to Manage Arctic Change. *AMBIO: A Journal of the Human Environment* 35(4): 198–202.

De Leenheer, P., **S.A. Levin**, E.D. Sontag and C.A. Klausmeier. 2006. Global stability in a chemostat with multiple nutrients. *J. Mathematical Biology* 52 (4): 419-438.

Earn, D.J.D. and **S.A. Levin**. 2006. Global asymptotic coherence in discrete dynamical systems. *Proceedings of the National Academy of Sciences, USA* 103 (11): 3968-3971. Erratum December 19, 2006, 103 (51) 19605; originally published December 8, 2006.

Levin, S.A. 2006. On Karl Hadeler becoming 70. *Journal of Mathematical Biology* 53 (4): 496-498.

Levin, S.A. 2006. Kyoto International Culture Forum. Unity from division: In search of a collective Kokoro. *In quest of Kokoro/Human Minds for this planet.* October 2006.

Levin, S.A. 2006. Learning to live in a global commons: Socioeconomic challenges for a sustainable environment. *Ecological Research, Special Feature* 21 (3): 328-333

Levin, S.A. 2006. Fundamental questions in biology. *PLoS Biology* 4(9), 1471-1472.

Levin, S.A. 2006. Prologue. In: *Mathematical Studies on human disease dynamics emerging paradigms and challenges*. Abba Gumel et al., editors.

Ma, J. and **S.A. Levin**. 2006. The evolution of resource adaptation: How generalist and specialist consumers evolve. *Bulletin of Mathematical Biology* 68: 1111-1123.

Nabet, B., Leonard, N.E., Couzin, I. and **S.A. Levin**. 2006. Leadership in animal group motion: A bifurcation analysis. *Proceedings of the 17th International Symposium on Mathematical Theory of Networks and Systems* (MTNS, 2006), Kyoto, Japan, July 24-28, 2006.

Pascual, M., J.A. Dunne and **S.A. Levin**, 2006. Challenges for the future: Integrating ecological structure and dynamics. *Ecological Networks: Linking Structure to Dynamics in Food Webs.* Pp. 351-371. Eds. M. Pascual and J.A. Dunne. Oxford University Press, New York.

Ruan, S., W. Wang, and **S.A. Levin**. The effect of global travel on the spread of SARS. *Mathematical Biosciences and Engineering* 3(1): 205-218.

Sterner, T., M. Troell, J. Vincent, S. Aniyar, S. Barrett, W. Brock, S. Carpenter, K. Chopra, P. Ehrlich, M. Hoel, **S. Levin**, K, Goran Maler, J. Norberg, L. Pihl, T. Soderquist, J. Wilen and A. Xepapadeas. 2006. Quick Fixes for environment: part of the solution, or part of the problem? *Environment* 48 (10): 20-27.

Weitz, J. and **S.A. Levin**. 2006. Size and scaling of predator-prey dynamics. *Ecology Letters* 9: 548-557.

Wingreen, N.S. and **S.A. Levin**. 2006. Cooperation among Microorganisms. *PLoS Biology* 4(9), 1486-1488.

Zea-Cabrera, E., Y. Iwasa, **S. Levin** and I. Rodríguez-Iturbe. 2006. Tragedy of the commons in plant water use. *Water Resources Research* 42, W06D02, doi:10.1029/2005WR004514. (figure correction)

2005 Baskett, M. L., **S.A. Levin**, S.D. Gaines and J. Dushoff. 2005. Marine reserve design and the evolution of size at maturation in harvested fish. *Ecological Applications* 15(3): 882-901.

Chan, K.M.A. and **S.A. Levin**. 2005. Leaky prezygotic isolation and porous genomes: Rapid introgression of maternally inherited DNA. *Evolution* 59(4): 720-729.

Couzin, I.D., J. Krause, N.R. Franks, and **S.A. Levin**. 2005. Effective leadership and decision-making in animal groups on the move. *Nature* 433: 513-516.

Durrett, R. and **S.A. Levin**. 2005. Can stable social groups be maintained by homophilous imitation alone? *Journal of Economic Behavior and Organization* 57(3): 267-286.

Ehrlich, P.R. and **S.A. Levin**. 2005. The evolution of norms. *PloS Biology* 3(6): 943-948.

Hlodan, O. Simon A. Levin's passion for ecology (Interview). 2005. *BioScience* 55(10)*:* 828-831.

Jolles, A.E., D.V. Cooper and **S.A. Levin**. 2005. Hidden effects of chronic Tuberculosis in African buffalo. *Ecology* 86(9): 2358-2354.

Katul, G. G., A. Porporato, R. Nathan, M. Siqueira, M. B. Soons, D. Poggi, H. S. Horn and **S.A. Levin**. September 2005. Mechanistic analytical models for long-distance seed dispersal by wind. *American Naturalist* 166(3): 368-381.

Laxminarayan, R., D.L. Smith, L. A. Real, **S.A. Levin**. 2005. On the importance of incentives in hospital infection control spending. *Discovery Medicine* 5(27): 303-308.

Levin, S.A. 2005. Building on strengths and finding one's purpose (commemorative lecture, Kyoto Prize 2005). *Kyoto Prize e-Museum: Laureates*. Available from: www.inamori-f.o.r.jp/laureates/k21_b_simon/img/lct_e.pdf

Levin, S.A. 2005. The ecology of complexity and the complexity of ecology. *In:* (Royal Netherlands Academy of Arts and Sciences, ed). *Dr A H Heineken Prize 2004 Lecture for Environmental Sciences*. Royal Netherlands Academy of Arts and Sciences, Amsterdam, The Netherlands. Pp. 31. http://www.knaw.nl/heinekenprizes/prizes_env.html

Levin, S.A. 2005. Prologue. *Mathematical Studies on Human Disease Dynamics: Emerging Paradigms and Challenges.* AMS-IMS-SIAM Joint Summer Research Conference on Modeling the Dynamics of Human Diseases: Emerging Paradigms and Challenges, July 17-21, 2005, Snowbird, Utah. *Contemporary Mathematics* 410: ix-x. Providence, RI: American Mathematical Society.

Levin, S.A. 2005. Self-organization and the emergence of complexity in ecological systems. *BioScience* 55(12): 1075-1079.

Livnat, A., S.W. Pacala and **S.A. Levin** 2005. The evolution of intergenerational discounting in offspring quality. *American Naturalist* 165 (3): 311-321.

Nathan, R., N. Sapir, A. Trakhtenbrot, G.G. Katul, G. Bohrer, M. Otte, R. Avissar, M.B. Soons, H.S. Horn, M. Wikelski and **S.A. Levin**. 2005. Long-distance biological transport processes through the air: can nature's complexity be unfolded *in silico*? *Diversity and Distributions* 11: 131-137.

Peters, H.A., N.R. Chiariello, H.A. Mooney, **S.A. Levin** and A.E. Hartley. 2005. Native harvester ants threatened with widespread displacement exert localized effects on serpentine grassland plant community composition. *Oikos* 109: 351-359.

Scanlon, T.M., K.K. Caylor, S. Manfreda, **S.A. Levin** and I. Rodríguez-Iturbe. 2005. Dynamic response of grass cover to rainfall variability: Implications for the function and persistence of savanna ecosystems. *Advances in Water Resources* 28: 291-302.

Sherman, K., M. Sissenwine, V. Christensen, A. Duda, G. Hempel, C. Ibe, **S. Levin**, D. Lluch-Belda, G. Matishov, J. McGlade, M. O'Toole, S. Seitzinger, R. Serra, H.-R. Skjoldal, Q. Tang, J. Thulin, V. Vandeweerd, K. Zwanenburg. 2005. A global movement toward an ecosystem approach to management of marine resources. *Marine Ecology Progress Series* 300: 241-296.

Smith, D.L., **S.A. Levin** and R. Laxminarayan. 2005. Strategic interactions in multi-institutional epidemics of antibiotic resistance. *Proceedings of the National Academy of Sciences, USA* 102(8): 3153-58.

van der Meulen, A.J., P. Peláez-Campomanes and **S.A. Levin**. 2005. Age structure, residents, and transients of Miocene rodent communities. *The American Naturalist* 165(4): E108-E125.

Webb, C.T. and **S.A. Levin**. 2005. Cross-system perspectives on the ecology and evolution of resilience. Pp. 151-172. *In:* (E. Jen, ed.), *Robust Design: A Repertoire of Biological, Ecological, and Engineering Case Studies, SFI Lecture Note Series.* Oxford University Press, New York.

Weitz, J.S., H. Hartman and **S.A. Levin**. 2005. Co-evolutionary arms races between bacteria and bacteriophage. *Proceedings of the National Academy of Sciences, USA* 102(27): 9535-9540.

Williams, J., C.S. ReVelle and **S.A. Levin**. 2005. Spatial attributes and reserve design models: A Review. *Environmental Modeling and Assessment* (Special Issue) 10(3): 161-162.

2004 Arrow, K., P. Dasgupta, L. Goulder, G. Daily, P. Ehrlich, G. Heal, **S. Levin**, K.-G. Mäler, S. Schneider, D. Starrett, B. Walker. 2004. Are we consuming too much? *J. Economic Perspectives* 18(3): 147-172.

Cisternas, J., C. W. Gear, **S. Levin** and I.G. Kevrekidis. 2004. Equation-free modeling of evolving diseases: Coarse-grained computations with individual-based models. *Proceedings of the Royal Society: Mathematical, Physical and Engineering Science* 460: 2761-2779.

Dushoff, J., J.B. Plotkin, **S.A. Levin** and D.D.J. Earn. 2004. Dynamical resonance can account for seasonality of influenza epidemics. *Proceedings of the National Academy of Sciences, USA* 101: 16915-16.

Feng, Z, D.L. Smith, E. McKenzie and **S. Levin**. 2004. Coupling ecology and evolution: malaria and the *S*-gene across time scales. *Mathematical Biosciences* 189(1): 1-19.

Guichard, F., **S. Levin**, A. Hastings and D. Siegel. 2004. Toward a metacommunity approach to marine reserve theory. *Bioscience* 54 (11): 1003-1011.

Heal, G., B. Walker, **S. Levin**, K. Arrow, P. Dasgupta, G. Daily, P. Ehrlich, K.-G. Maler, N. Kautsky, J. Lubchenco, S. Schneider, D. Starrett. 2004. Genetic diversity and interdependent crop choices in agriculture. *Resource and Energy Economics* 26(2): 175-84.

Klausmeier, C.A., E. Litchman, and **S.A. Levin**. 2004. Phytoplankton growth and stoichiometry under multiple nutrient limitation. *Limnology and Oceanography* 49: 1463–1470.

Klausmeier, C.A., E. Litchman, T. Daufresne, and **S.A. Levin**. 2004. Optimal nitrogen-to-phosphorus stoichiometry of phytoplankton. *Nature* 429: 171–174.

Levin, S.A. 2004. I love a puzzle. Pp. 150-152. *In: One Hundred Reasons to be a Scientist*, Special 40th Anniversary Publication, The Abdus Salam International Center for Theoretical Physics (ICTP). ICTP Publications, Trieste Italy.

Levin, S.A., J. Dushoff and J.B. Plotkin. 2004. Evolution and persistence of influenza A and other diseases. Special Issue of *Mathematical Biosciences* 188: 17-28.

Myers, R.A., **S.A. Levin**, R. Lande, F. C. James, W.W. Murdoch, R.T. Paine. 2004. Hatcheries and endangered salmon. *Science* 303: 1980.

Nakamaru, M. and **S.A. Levin**. 2004. Spread of two linked social norms on complex interaction networks. *J. Theoretical Biology* 230: 57-64.

Roy, M., M. Pascual, **S.A. Levin**. 2004. Competitive coexistence in a dynamic landscape. *Theoretical Population Biology* 66(4): 341-353.

Smith, D.L., J. Dushoff, E.N. Perencevich, A.D. Harris and **S.A. Levin**. 2004. Persistent colonization and the spread of antibiotic resistance in nosocomial pathogens: Resistance is a regional problem. *Proceedings of the National Academy of Sciences, USA* 101(10): 3709-14.

Tien, J.H., **S.A. Levin** and D.I. Rubenstein. 2004. Dynamics of fish shoals: identifying key decision rules. *Evolutionary Ecology Research* 6: 555-565.

Williams, J., C.S. ReVelle and **S.A. Levin**. 2004. Using mathematical optimization models to design nature reserves. *Frontiers in Ecology and the Environment* 2(2): 98-105.

2003 Cain, M.L., R. Nathan and **S.A. Levin**, eds. 2003. Special Feature: Long-distance dispersal. *Ecology* 84(8): 1943-2020.

Chave, J. and **S. A. Levin**. 2003. Scale and scaling in ecological and economic systems. (P. Dasgupta and K.-G. Mäler, eds.) *The Economics of Non-Convex Ecosystems, Special Issue of Environmental & Resource Economics* 26: 527-57.

Kinzig, A., D. Starrett, K. Arrow, S. Aniyar, B. Bolin, P. Dasgupta, P. Ehrlich, C. Folke, M. Hanemann, G. Heal, M. Hoel, A. Jansson, B.-O. Jansson, N. Kautsky, **S. Levin**, J. Lubchenco, K.-G. Mäler, S.W. Pacala, S.H. Schneider, D. Siniscalco, B. Walker. 2003. Coping with uncertainty: A call for a new science-policy forum. *Ambio* 32(5): 330-35.

Levin, S.A. 2003. Complex adaptive systems: Exploring the known, the unknown and the unknowable. *Bulletin of the American Mathematical Society* 40: 3-19.

Levin, S.A., H.C. Muller-Landau, R. Nathan, J. Chave. 2003. The ecology and evolution of seed dispersal: A theoretical perspective. *Annual Review of Ecology, Evolution, and Systematics* 34: 575-604.

Levin, S.A. and S.W. Pacala. 2003. Ecosystem dynamics. Pp: 61-95. *In:* (K.-G. Mäler and J.R. Vincent, eds) *Handbook of Environmental Economics, Volume 1.* Elsevier Science B.V., North Holland, Amsterdam.

Lin, J., V. Andreasen, R. Casagrandi and **S.A. Levin**. 2003. Traveling wave solutions in a model of influenza A drift. *J. Theoretical Biology* 222: 437-45.

Muller-Landau, H.C., **S.A. Levin** and J.E. Keymer. 2003. Theoretical perspectives on evolution of long-distance dispersal and the example of specialized pests. *Ecology* 84(8): 1957-67.

Overton, J. McC. and **S.A. Levin**. 2003. Components of spatial patterning in a serpentine grassland. *Ecological Research* 18(4): 405-21.

Pacala, S.W., E. Bulte, J.A. List and **S.A. Levin**. 2003. False alarm over environmental false alarms. *Science* 301: 1187-88.

2002 Buttel, L. A., R. Durrett, and **S.A. Levin**. 2002. Competition and species packing in patchy environments. *Theoretical Population Biology* 61: 265-76.

Chave, J., K. Wiegand and **S. Levin**. 2002. Spatial and biological aspects of reserve design. *Environmental Modeling and Assessment* 7: 115-22.

Chave, J., H.C. Muller-Landau and **S.A. Levin**. 2002. Comparing classical community models: Theoretical consequences for patterns of diversity. *American Naturalist* 159: 1-23.

Dushoff, J., L. Worden, J. Keymer and **S.A. Levin**. 2002. Metapopulations, community assembly, and scale invariance in aspect space. *Theoretical Population Biology* 62: 329-38.

Dwyer, G., J. Dushoff, J.S. Elkinton, J.S. Burand, **S.A. Levin**. 2002. Variation in susceptibility: Lessons from an insect virus. Pp. 74-84. *In:* (U. Dieckmann, J.A. J. Metz, M.W. Sabelis and K. Sigmund, eds.), *Adaptive Dynamics of Infectious Diseases: In Pursuit of Virulence Management*. Cambridge University Press, Cambridge, UK.

Earn, D.J.D., J. Dushoff and **S.A. Levin**. 2002. Ecology and evolution of the flu. *Trends in Ecology and Evolution* 117(7): 334-40.

Levin, S.A. 2002. Commentary: The wealth of species. *Science and Society Series*. *Project Syndicate*. Online: http://www.project-syndicate.cz/commentaries/commentary_text.php4?id=1003&lang=1.

Levin, S.A. 2001. Exploring the complex adaptive nature of ecosystems. Pp. 209-13. *In*: (A. Fokas, J. Halliwell, T. Kibble and B. Zegarlinski, eds.), *Highlights of Mathematical Physics*. American Mathematical Society, Providence, RI.

Levin, S.A. 2002. New directions in the mathematics of infectious diseases. Pp. 1-5. *In:* (C. Castillo-Chavez, S. Blower, P. van den Driessche, D. Kirschner and A.-A. Yakubu, eds.), *Mathematical Approaches for Emerging and Reemerging Infectious Diseases: An Introduction. IMA Vol*ume in Mathematics and its Applications, Vol. 125, and *Mathematical Approaches for Emerging and Reemerging Infectious Diseases: Models, Methods and Theory IMA Vol*ume in Mathematics and its Applications, Vol. 126. Springer, New York.

McFarland, Wm. and **S.A. Levi**n. 2002. Modeling the effects of current on prey acquisition in planktivorous fisheries. *Marine and Freshwater Behaviour and Physiology* 35(1-2): 69-85.

Nathan, R., H.S. Horn, J. Chave, and **S.A. Levin**. 2002. Mechanistic models for tree seed dispersal by wind in dense forests and open landscapes. Pp. 69-82. *In:* (D. J. Levey, W. R. Silva and M. Galetti, eds.), *Seed Dispersal and Frugivory: Ecology, Evolution and Conservation*. CAB International, Oxfordshire, UK.

Nathan, R., G.G. Katul, H.S. Horn, S.M. Thomas, R. Oren, R. Avissar, S.W. Pacala and **S.A. Levin**. 2002. Mechanisms of long-distance dispersal of seeds by wind. *Nature* 418: 409-13.

Plotkin, J.B., J. Dushoff and **S. A. Levin**. 2002. Hemagglutinin sequence clusters and the antigenic evolution of influenza A virus. *Proceedings of the National Academy of Sciences, USA*. 99(9): 626368.

Solé, R. V. and **S. Levin**. 2002. Preface. Theme issue: The biosphere as a complex adaptive system. *Philosophical Transactions of the Royal Society, Series B* 357: 617-19.

2001 **Levin, S.A.** 2001. Preface. pp.xxvii-xxviii *Encyclopedia of Biodiversity*. Academic Press, San Diego.

Levin, S.A. 2001. Immune systems and ecosystems. *Conservation Ecology* 5(1): 17. [online] URL: http://www.consecol.org/vol5/iss1/art17

Levin, S.A. 2001. Robert H. Whittaker (1920-1980). Pp. 611-12. *In:* (T. Munn, ed.), *Encyclopedia of Global Environmental Change*, *Vol. 2*. John Wiley and Sons Ltd., London.

Levin, S.A., J. Dushoff, and J.E. Keymer. 2001. Community assembly and the emergence of ecosystem pattern. *Scientia Marina* 65 (Suppl. 2): 171-79.

Norberg, J., D.P. Swaney, J. Dushoff. J. Lin, R. Casagrandi and **S.A. Levin**. 2001. Phenotypic diversity and ecosystem functioning in changing environments: A theoretical framework. *Proceedings of the National Academy of Sciences, USA* 98(20): 11376-381.

Okubo, A. and **S.A. Levin**. 2001. The basic diffusion. Pp. 10-20. *In:* (A. Okubo and **S.A. Levin**, eds.), *Diffusion and Ecological Problems: Modern Perspectives*, 2nd Edition. Interdisciplinary Applied Mathematics, Vol 14. Springer, New York.

Pascual, M., P. Mazzega, and **S.A. Levin**. 2001. Oscillatory dynamics and spatial scale in ecological systems: the role of noise and unresolved pattern. *Ecology* 82(8): 2357-69.

Plotkin, J.B. and **S.A. Levin**. 2001. The spatial distribution and abundances of species: Lessons from tropical forests. *Comments on Theoretical Biology* 6: 251-78.

Post, E., **S.A. Levin**, Y. Iwasa and N. C. Stenseth. 2001. Reproductive asynchrony increases with environmental disturbance. *Evolution* 55: 830-34.

Rozdilsky, I., J. Chave, **S.A. Levin** and D. Tilman. 2001**.** Towards a theoretical basis for ecosystem conservations. *Ecological Research* 16: 983-95.

2000 Arrow, K., G. Daily, P. Dasgupta, **S. Levin**, K.-G. Mäler, E. Maskin, D. Starrett, T. Sterner and T. Tietenberg. 2000. Managing ecosystem resources. *Environmental Science & Technology* 34: 1401-06.

Bolker, B.M., S.W. Pacala and **S.A. Levin**. 2000. Moment methods for stochastic processes in continuous space and time. Pp. 388-411. *In:* (U. Dieckmann, R. Law and J.A.J. Metz, eds.)*, The Geometry of Ecological I Interactions: Simplifying Spatial Complexity*. Cambridge University Press, Cambridge.

Daily, G. C., Söderqvist, T., Aniyar, S., Arrow, K., Dasgupta, P., Ehrlich, P. R., Folke, C., Jansson, A., Jansson, B.-O., Kautsky, N., **Levin, S.**, Lubchenco, J., Mäler, K.-G., Simpson, D., Starrett, D., Tilman, D., and Walker, B. 2000. The value of nature and the nature of value. *Science* 289: 395-96.

Dasgupta, P. **S. Levin** and J. Lubchenco. 2000. Economic pathways to ecological sustainability. *Bioscience* 50(4): 339-45.

Durrett, R. and **S. Levin**. 2000. Lessons on pattern formation from planet WATOR. *J. Theoretical Biology* 205: 201-14.

Dwyer, G., J. Dushoff, J.S. Elkinton and **S.A. Levin**. 2000. Pathogen-driven outbreaks in forest defoliators revisited: Building models from experimental data. *American Naturalist* 156: 105-20.

Earn, D.J.D., **S.A. Levin** and P. Rohani. 2000. Coherence and conservation. *Science* 290: 1360-64.

Gandhi, A., **S. Levin,** and S. Orszag. 2000. Moment expansions in spatial ecological models and moment closure through Gaussian approximation. *Bulletin of Mathematical Biology* 62: 595-632.

Hartvigsen, G., L. Worden, and **S. Levin**. 2000. Global cooperation achieved through small behavioral changes among strangers. *Complexity* 5(3): 14-19.

Keymer, J.E., P.A. Marquet, J.X. Velasco-Hernandez, **S.A. Levin**. 2000. Extinction thresholds and metapopulation persistence in dynamic landscapes. *American Naturalist* 156(5): 478-94.

Levin, S.A. 2000. Multiple scales and the maintenance of biodiversity. *Ecosystems* 3: 498-506.

Levin, S.A. and H. Muller-Landau. 2000. The evolution of dispersal and seed size in plant communities. *Evolutionary Ecology Research* 2: 409-35.

Levin, S.A. and H. Muller-Landau. 2000. The emergence of biodiversity in plant communities. *Comptes rendus de l'Académie des sciences, Sciences de la vie / Life Sciences* 323: 129-39.

1999 Chao, D. and **S.A. Levin**. 1999. A simulation of herding behavior: The emergence of large-scale phenomena from local interactions. Pp. 81-95. *In:* (S. Ruan, G.S.K. Wolkowicz and J. Wu, eds.), *Differential Equations with Applications to Biology*, Fields Institute Communications, 21. American Mathematical Society, Providence, RI.

Deutschman, D.H., **S.A. Levin** and S.W. Pacala. 1999. Error propagation in a forest succession model: The role of fine-scale heterogeneity in light. *Ecology* 80: 1927-43.

Flierl, G., D. Grünbaum, **S.A. Levin** and D. Olson. 1999. From individuals to aggregations: the interplay between behavior and physics. *J. Theoretical Biology* 196: 397-454.

Gandhi, A., **S. Levin** and S. Orszag. 1999. Nucleation and relaxation from meta-stability in spatial ecological models. *J. Theoretical Biology* 200: 121-46.

Kinzig, A.P., **S.A. Levin**, J. Dushoff and S. Pacala. 1999. Limiting similarity, species packing, and system stability for hierarchical competition-colonization models. *The American Naturalist* 153: 371-83.

Levin, S.A. 1999. Towards a science of ecological management. *Conservation Ecology* 3(2): 6. [online] URL: http://www.consecol.org/vol3/iss2/art6

Levin, S.A. 1999. Wildebeest and the marine environment: Gnus from the front. (Tribute to Akira Okubo). *Oceanography* 12: 14-16.

Levin, S.A. and V. Andreasen. 1999. Commentary: Disease transmission dynamics and the evolution of antibiotic resistance in hospitals and communal settings *Proceedings of the National Academy of Science, USA 96: 800-01.*

Lin, J., V. Andreasen and **S.A. Levin**. 1999. Dynamics of influenza A drift: the linear three-strain model. *Mathematical Biosciences* 162: 33-51.

Molofsky, J., R. Durrett, J. Dushoff and D. Griffeath and **S. Levin**. 1999. Local frequency dependence and global coexistence. *Theoretical Population Biology* 55: 270-82.

Pascual, M. and **S.A. Levin**. 1999. From individuals to population densities: Searching for the intermediate scale of nontrivial determinism. *Ecology* 80: 2225-36.

Pascual, M. and **S.A. Levin**. 1999. Spatial scaling in a benthic population model with density-dependent disturbance. *Theoretical Population Biology* 56: 106-22.

1998 Bazzaz, F., G. Ceballos, M. Davis, R. Dirzo, P.R. Ehrlich, T. Eisner, **S. Levin**, J.H. Lawton, J. Lubchenco, P.A. Matson, H.A. Mooney, P.H. Raven, J.E. Roughgarden, J. Sarukhan, G.D. Tilman, P. Vitousek, B. Walker, D.H. Wall, E.O. Wilson, G.M. Woodwell. 1998. Letter: Ecological science and the human predicament. *Science* 282: 87.

Daily, G., P. Dasgupta, B. Bolin, P. Crosson, J. du Guerny, P. Ehrlich, C. Folke, A.M. Jansson, B.-O. Jansson, N. Kautsky, A. Kinzig, **S. Levin**, K.-G. Mäler, P. Pinstrup-Andersen, D. Siniscalco, and B. Walker. 1998. Food production, population growth, and the environment. *Science* 281: 1291-92.

Durrett, R. and **S.A. Levin**. 1998. Spatial aspects of interspecific competition. *Theoretical Population Biology* 53: 30-43. (Erratum: 1998, 53(3): 284).

Ehrlich, P. R. and **S.A. Levin**. 1998. Biodiversity: What it is and why we need it. Pp. 20-23. *In:* (L. Koebner, J.E.S. Sokolow, F.T. Grifo and S. Simpson, eds.), *Scientists on Biodiversity.* American Museum of Natural History, NY. **Reprinted in**: (M.J. Novacek, ed.), *The Biodiversity Crisis: Losing What Counts*. 2001. The New Press, New York, Pp. 46-9.

Gandhi, A., **S. Levin** and S. Orszag. 1998. "Critical slowing down" in time-to-extinction: An example of critical phenomena in ecology. *J. Theoretical Biology* 192:363-76.

Hurtt, G. C., P. R. Moorcroft, S. W. Pacala and **S.A. Levin**, 1998. Terrestrial models and global change: challenges for the future. *Global Change Biology* 4: 581-90.

Iwasa, Y., M. Nakamaru and **S.A. Levin**. 1998. Allelopathy of bacteria in a lattice population: Competition between colicin-sensitive and colicin-producing strains. *Evolutionary Ecology* 12:785-802.

Levin, S.A. 1998. Anticipating environmental disasters. *Environment and Development Economics* 3: 529-31.

Levin, S.A. 1998. The complex adaptive nature of ecosystems and economies. Beijer Annual Report 1997-1998. The Beijer Institute, Sweden, pp 2-3.

Levin, S.A. 1998. Ecosystems and the biosphere as complex adaptive systems. *Ecosystems*. 1: 431-36.

Levin, S.A. 1998. Extrapolation and scaling in ecotoxicology. Pp. 9-11. *In*: (J.J. Cech, Jr., B.W. Wilson and D.G. Crosby, eds.), *Multiple Stresses in Ecosystems*, Lewis Publishers, Boca Raton, FL.

Levin, S.A. 1998. Preface. Pp. ix-x. *In:* (L. Chen, S. Ruan and J. Zhu, eds.), *Advanced Topics in Biomathematics*, Proceedings of the International Conference on Mathematical Biology, World Scientific Publishing Co., Singapore.

Levin, S.A., S. Barrett, S. Aniyar, W. Baumol, C. Bliss, B. Bolin, P. Dasgupta, P. Ehrlich, C. Folke, I.-M. Gren, C.S. Holling, A. Jansson, B.-O. Jansson, D. Martin, K.-G. Maler, C. Perrings and E. Sheshinsky. 1998. Resilience in natural and socioeconomic systems. *Environment and Development Economics* 3: 225-36. **Reprinted in:** *Recent Developments in Ecological Economics* (Joan Martinez-Alier and Inge Ropke, eds.). 2008. Edward Elgar Publishing, Ltd.

1997 Abe, T., **S.A. Levin** and M. Higashi. 1997. Preface. Pp. v. *In:* (T. Abe, **S.A. Levin** and M. Higashi, eds.), *Biodiversity: An Ecological Perspective*. Springer-Verlag, New York.

Andreasen, V., J. Lin and **S.A. Levin**. 1997. The dynamics of cocirculating influenza strains conferring partial cross-immunity. *J. Mathematical Biology* 35: 825-42.

DeLeo, G. and **S.A. Levin**. 1997. The multifaceted aspects of ecosystem integrity. *Conservation Ecology* [online]. http://www.consecol.org/vol1/iss1/art3

Deutschman, D., **S.A. Levin**, C. Devine and L.A. Buttel. 1997. Scaling from trees to forests: Analysis of a complex simulation model. *Science* 227 [online]: http://www.sciencemag.org/feature/data/deutschman/index.htm.

Durand, D., K. Ardlie, L. Buttel, **S.A. Levin** and L. Silver. 1997. Impact of migration and fitness on the stability of lethal t-haplotype polymorphism in *Mus musculus*: A computer study. *Genetics* 145: 1093-108.

Durrett, R. and **S.A. Levin**. 1997. Allelopathy in spatially distributed populations. *J. Theoretical Biology* 185: 165-171.

Hartvigsen, G. and **S.A. Levin**. 1997. Evolution and spatial structure interact to influence plant-herbivore population and community dynamics. *Proceedings of the Royal Society of London, Series B* 264: 1677-85.

Jasanoff, S., R. Colwell, M.S. Dresselhaus, R. D. Goldman, M.R.C. Greenwood, A.S. Huang, W. Lester, **S.A. Levin**, M.C. Linn, J. Lubchenco, M.J. Novacek, A. C. Roosevelt, J. E. Taylor, N. Wexler. 1997. Conversations with the community: AAAS at the millennium. *Science* 278: 2066-67.

Levin, S.A. 1997. Biodiversity: Interfacing populations and ecosystems. Pp. 277-88. *In:* (T. Abe, S.A. Levin and M. Higashi, eds.), *Biodiversity: An Ecological Perspective*. Springer-Verlag, New York.

Levin, S.A. 1997. Conceptual and methodological issues in the modeling of biological aggregations. Pp. 247-256. *In*: (J. K. Parrish and W. M. Hamner, eds.), *Animal Groups in Three Dimensions*. Cambridge University Press, Cambridge, U.K.

Levin, S.A. 1997. Foreword. Pp. v-vi. *In:* (B. Hannon and M. Ruth, eds.), *Modeling Dynamic Biological Systems*. Springer-Verlag, New York.

Levin, S.A. 1997. Human perspectives on the environment. *Trends in Ecology and Evolution* 12: 91-2.

Levin, S.A. 1997. Management and the problem of scale. *Conservation Ecology* Online. http://www.consecol.org/vol1/iss1/art13.

Levin, S.A., B.T. Grenfell, A. Hastings and A.S. Perelson. 1997. Mathematical and computational challenges in population biology and ecosystem science. *Science* 275: 334-43.

Levin, S.A. and S.W. Pacala. 1997. Theories of simplification and scaling of spatially distributed processes. Pp. 271-296. *In:* (D. Tilman and P. Kareiva, eds.). *Spatial Ecology: The Role of Space in Population Dynamics and Interspecific Interactions*. Princeton University Press, Princeton, NJ.

Pacala, S.W. and **S.A. Levin**. 1997. Biologically generated spatial pattern and the coexistence of competing species. Pp. 204-32. *In:* (D. Tilman and P. Kareiva, eds.), *Spatial Ecology: The Role of Space in Population Dynamics and Interspecific Interactions*. Princeton University Press, Princeton, NJ.

Wu, J. and **S.A. Levin**. 1997. A patch-based spatial modeling approach: Conceptual framework and simulation scheme. *Ecological Modeling* 101: 325-46.

1996 Andreasen, V., **S.A. Levin** and J. Lin. 1996. A model of influenza A drift evolution. *Zeitschrift für Angewandte Mathematik und Mechanik* 76 Supp.~2:421-24.

Durrett, R. and **S.A. Levin**. 1996. Spatial models for species area curves. *J. Theoretical Biology* 179: 119-27.

Gueron, S., **S.A. Levin** and D.I. Rubenstein. 1996. The dynamics of mammalian herds: From individuals to aggregations. *J. Theoretical Biology* 182: 85-98.

Levin, S.A. 1996. Economic growth and environmental quality. *Ecological Applications* 6: 12.

Levin, S.A. 1996. New views on the red, white and blue. *Complexity* 1(6): 5.

Levin, S.A. 1996. Robert May receives Crafoord Prize. *Notices of the AMS* 43(9): 977-78.

Levin, S.A. and R. Durrett, 1996. From individuals to epidemics. *Philosophical Transactions of the Royal Society of London, Series B.* 351: 1615-21.

Moloney, K.A. and **S.A. Levin**. 1996. The effects of disturbance architecture on landscape-level population dynamics. *Ecology* 77(2): 375-94.

1995 Arrow, K., B. Bolin, R. Costanza, P. Dasgupta, C. Folke, C.S. Holling, B-O. Jansson, **S.A. Levin**, K.-G. Mäler, C. Perrings and D. Pimentel. 1995. Economic growth, carrying capacity, and the environment. *Science* 268:520-521. **Reprinted in:** 1996. *Ecological Applications* 6: 13-15.

Bolker, B.M., M. Altmann, M. Aubert, F. Ball, N.D. Barlow, R.G. Bowers, A.P. Dobson, J.S. Elkington, G. P. Garnett, C.A. Gilligan, M.P. Hassell, V. Isham, J.A. Jacquez, A. Kleczkowski, **S.A. Levin**, R.M. May, J.A.J. Metz, D. Mollison, M. Morris, L.A. Real, L. Sattenspiel, J. Swinton, P. White, and B.G. Williams. 1995. Spatial dynamics of infectious diseases in natural populations. Pp. 399-420. *In:* (B.T. Grenfell and A.P. Dobson, eds.), *Ecology of Infectious Diseases in Natural Populations*. Cambridge University Press, Cambridge.

Bolker, B.M., S.W. Pacala, C. Canham, F. Bazzaz and **S.A. Levin**. 1995. Species diversity and ecosystem response to carbon dioxide fertilization: conclusions from a temperate forest model. *Global Change Biology* 1: 373-81.

Dushoff, J. and **S.A. Levin**. 1995. The effects of population heterogeneity on disease spread. *Mathematical Biosciences* 128: 25-40.

Gueron, S. and **S.A. Levin**. 1995. The dynamics of group formation. *Mathematical Biosciences* 128: 243-64.

Iwasa, Y. and **S.A. Levin**. 1995. The timing of life history events. *J. Theoretical Biology* 172: 33-42.

Levin, S.A. 1995. Grouping in population models. Pp. 271-278. *In*: (D. Mollison, ed.), *Epidemic Models: Their Structure and Relation to Data*. Cambridge University Press, Cambridge, UK.

Levin, S.A. 1995. Scale and sustainability: A population and community perspective. Pp. 103-14. *In*: (M. Munasinghe and W. Shearer, eds.), *Defining and Measuring Sustainability: The Biogeophysical Foundations*. The United Nations University, New York; The World Bank, Washington, DC.

Mollison, D. and **S.A. Levin**. 1995. Spatial dynamics of parasitism. Pp. 384-98. *In*: (B.T. Grenfell and A.P. Dobson, eds.), *Ecology of Infectious Diseases in Natural Populations*. Cambridge University Press.

1994 Durrett, R. and **S.A. Levin**. 1994. The importance of being discrete (and spatial). *Theoretical Population Biology* 46: 363-94.

Durrett, R. and **S.A. Levin**. 1994. Stochastic spatial models: a user's guide to ecological applications. *Philosophical Transactions of the Royal Society of London, Series B* 343: 329-50.

Levin, S.A. 1994. Epilogue and prologue. Pp. ix-x *In*: (**S.A. Levin**, ed.) *Frontiers in Mathematical Biology*. Lecture Notes in Biomathematics, Vol. 100. Springer-Verlag, Heidelberg.

Levin, S.A. 1994. Frontiers in Ecosystems Science. pp 381-89 *In*: (**S.A. Levin**, ed.), *Frontiers in Mathematical Biology*. Lecture Notes in Biomathematics, Vol. 100. Springer-Verlag, Heidelberg.

Levin, S.A. 1994. Patchiness in marine and terrestrial systems: from individuals to populations. *Philosophical Transactions of the Royal Society of London, Series B* 343: 99-103.

Macken, C., **S.A. Levin**, and R. Waldstätter. 1994. The dynamics of bacteria-plasmid systems. *J. Mathematical Biology* 32: 123-45.

Wu, J. and **S.A. Levin**. 1994. A spatial patch dynamic modeling approach to pattern and process in an annual grassland. *Ecological Monographs* 64: 447-64.

1993 Andow, D.A., P.M. Kareiva, **S.A. Levin** and A. Okubo. 1993. Spread of invading organisms: patterns of spread. Pp. 219-241. *In*: (K.C. Kim and B.A. McPheron, eds.), *Evolution of Insect Pests: The Pattern of Variations*. John Wiley and Sons, New York.

Gueron, S. and **S.A. Levin**. 1993. Self-organization of front patterns in large wildebeest herds. *J. Theoretical Biology* 165(4): 541-52.

Levin, S.A. 1993. Approaches to forecasting biomass yields in large marine ecosystems. Pp. 36-9. *In:* (K. Sherman, L.M. Alexander and B.D. Gold, eds.), *Large Marine Ecosystems: Stress, Mitigation, and Sustainability.* American Association for the Advancement of Science Press, Washington, DC.

Levin, S.A. 1993. Concepts of scale at the local level. Pp. 7-19. *In*: (J.R. Ehleringer and C.B. Field, eds.), *Scaling Physiological Processes: Leaf to Globe*. Academic Press, San Diego, CA.

Levin, S.A. 1993. Ecological and evolutionary consequences: An overview. Pp. 210-12. *In*: (**S.A. Levin**, T. Powell and J.H. Steele, eds.), *Patch Dynamics.* Lecture Notes in Biomathematics 96. Springer-Verlag, Berlin.

Levin, S.A. 1993. Grazing theory and rangeland management. *Ecological Applications* 3(1): 1.

Levin, S.A. 1993. Predicting Spatial Effects in Ecological Systems: Introductory Remarks. *In*: (R.H. Gardner, ed.), *Some Mathematical Questions in Biology: Predicting Spatial Effects in Ecological Systems, Vol. 26*. American Mathematical Society, Providence, RI.

Levin, S.A. 1993. Preserving Biodiversity. *Ecological Applications* 3(2): 201.

Levin, S.A. 1993. Science and Sustainability. *Ecological Applications* 3(4): 545-46.

1992 **Levin, S.A.** 1992. Sustaining ecological research. *ESA Bulletin* 73(4).

Levin, S.A. 1992. Orchestrating environmental research and assessment. *Ecological Applications* 2: 103-6.

Levin, S.A. 1992. The problem of pattern and scale in ecology. *Ecology* 73(6): 1943-67. **Reprinted in:** 1995. (J. Steele and T. Powell, eds) *Ecological Time Series*. pp. 277-326. Chapman & Hall, New York.

Moloney, K.A., **S.A. Levin**, N.R. Chiariello, and L. Buttel. 1992. Pattern and scale in a serpentine grassland. *Theoretical Population Biology* 41(3): 257-76.

1991 Cohen, D. and **S. A. Levin**. 1991. Dispersal in patchy environments: the effects of temporal and spatial structure. *Theoretical Population Biology* 39(1): 63-99.

Huntley, B. J., E. Ezcurra, E. R. Fuentes, K. Fujii, P.J. Grubb, W. Haber, J.R.E. Harger, M.M. Holland, **S.A. Levin**. J. Lubchenco, H.A. Mooney, V. Neronov, I. Noble, H.R. Pulliam, P.S. Ramakrishnan, P.G. Risser, O. Sala, J. Sarukhan, and W.G. Sombroek. 1991. A sustainable biosphere: the global imperative. *Ecology International* 20: 6-14. **Translated into Spanish:** 1991. Iniciativa para una biosfera sustentable: Una agenda de investigación ecológica. *Revista Chilena de Historia Natural* 64: 175-226

Levin, S. A. 1991. An ecological perspective. Pp. 45-59. *In*: (B.C. Davis, ed.), *The Genetic Revolution: Scientific Prospects and Public Perceptions*. The Johns Hopkins University Press, Baltimore, MD.

Levin, S.A. 1991. The problem of relevant detail. Pp. 9-15. *In*: (S. Busenberg and M. Martelli, eds.), *Differential Equations: Models in Biology, Epidemiology and Ecology*. Lecture Notes in Biomathematics Vol. 92. Springer-Verlag, Berlin.

Levin, S.A. 1991. The mathematics of complex systems. Pp. 215-26 *In* (H.A. Mooney, E. Medina, D.W. Schindler, E.-D Schulze, and B.H. Walker) Ecosystem Experiments. SCOPE 45. John Wiley, Chichester, UK.

Lubchenco, J., A.M. Olson, L.B. Brubaker, S.R. Carpenter, M.M. Holland, S.P. Hubbell, **S.A. Levin**, J.A. MacMahon, P.A. Matson, J.M. Melillo, H.A. Mooney, C.H. Peterson, H.R. Pulliam, L.A. Real, P.J. Regal, and P.J. Risser. 1991. The sustainable biosphere initiative: an ecological research agenda. *Ecology* 72(2): 317-412.

Ludwig, D. and **S.A. Levin**. 1991. Evolutionary stability of plant communities and the maintenance of multiple dispersal types. *Theoretical Population Biology* 40(3): 285-307. (Erratum: 40(3), pp. 285-307).

Moloney, K.A., A. Morin, and **S.A. Levin**. 1991. Interpreting ecological patterns generated through simple stochastic processes. *Landscape Ecology* 5(3): 163-74.

Real, L.A. and **S.A. Levin**. 1991. Stalking the wild epsilon: the role of theory in the rise of modern ecology. Pp. 177-191. *In: Foundations of Ecology: Classic Papers with Commentaries*. The University of Chicago Press, Chicago, IL.

Risser, P.G., J. Lubchenco, and **S.A. Levin**. 1991. Roundtable: Biological research priorities—a sustainable biosphere. *BioScience* 41(9): 625-27.

1990 Andow, D.A., P.M. Kareiva, **S.A. Levin** and A. Okubo. 1990. Spread of invading organisms. *Landscape Ecology* 4(2/3): 177-88.

Dwyer, G., **S.A. Levin** and L. Buttel. 1990. A simulation model of the population dynamics and evolution of myxomatosis. *Ecological Monographs* 60: 423-47. (Erratum, 1993, 63(3): 326).

Levin, S.A. 1990. Ecological issues related to the release of genetically modified organisms in the environment. Pp. 151-59. *In*: (H.A. Mooney and G. Bernardi), *Introduction of Genetically Modified Organisms into the Environment*. SCOPE 44. Wiley, Chichester. UK.

Levin, S.A. 1990. Physical and biological scales and the modeling of predator-prey interactions in large marine ecosystems. Pp. 179-87. *In:* (K. Sherman, L.M. Alexander, and B.D. Gold, eds.) *Large Marine Ecosystems—Patterns, Processes, and Yield*s. AAAS Selected Symposium. Publ. No. 90-30S. American Association for the Advancement of Science, Washington, DC.

Levin, S.A. and C. Castillo-Chavez. 1990. Topics in evolutionary ecology. Pp. 327-58. *In*: (S. Lessard, ed.), *Mathematical and Statistical Developments of Evolutionary Theory*. NATO ASI Ser. C, vol. 299, Kluwer Academic Publishers, Dordrecht, The Netherlands.

Levin, S.A., L. A. Segel and F. Adler. 1990. Diffuse coevolution in plant-herbivore communities. *Theoretical Population Biology* 37: 171-91.

1989 Castillo-Chavez, C., K. Cooke, and **S.A. Levin**. 1989. On the modelling of epidemics. Pp. 389-402. *In*: (J.-L. Delhaye and E. Gelenbe, eds.), *High Performance Computing*. North-Holland, Amsterdam, The Netherlands.

Castillo-Chavez, C., K. Cooke, W. Huang, and **S.A. Levin**. 1989. On the role of long incubation periods in the dynamics of acquired immunodeficiency syndrome (AIDS). Part 1. Single population models. *J. Mathematical Biology* 27: 373-98.

Castillo-Chavez, C., K. Cooke, W. Huang, and **S.A. Levin**. 1989. On the role of long incubation periods in the dynamics of acquired immunodeficiency syndrome (AIDS). Part 2. Multiple group models. Pp. 200-17. *In*: (C. Castillo-Chavez, ed.), *Mathematical and Statistical Approaches to AIDS Epidemiology*. Lecture Notes in Biomathematics 83. Springer-Verlag, Heidelberg.

Castillo-Chavez, C., K. Cooke, W. Huang, and **S.A. Levin**. 1989. Results on the dynamics for models for the sexual transmission of the human immunodeficiency virus. *Applied Mathematical Letters* 2(4): 327-31.

Castillo-Chavez, C., K. Cooke, W. Huang, and **S.A. Levin**. 1989. The role of long periods of infectiousness in the dynamics of acquired immunodeficiency syndrome (AIDS). Pp. 177-89. *In*: (C. Castillo-Chavez, **S. A. Levin** and C. Shoemaker, eds.) *Mathematical Approaches to Problems in Resource Management and Epidemiology*. Lecture Notes in Biomathematics, Vol. 81. Springer-Verlag, Heidelberg.

Castillo-Chavez, C., H.W. Hethcote, V. Andreasen, **S.A. Levin**, and W-m. Liu. 1989. Epidemiological models with age structure, proportionate mixing, and cross-immunity. *J. Mathematical Biology* 27: 233-58.

Hethcote, H.W. and **S.A. Levin**. 1989. Periodicity in epidemiological models. Pp. 193-211. *In*: (**S.A. Levin**, T.G. Hallam and L.J. Gross, eds.), *Applied Mathematical Ecology*. Biomathematics 18. Springer-Verlag, Heidelberg.

Iwasa, Y., **S.A. Levin**, and V. Andreasen. 1989. Aggregation of model ecosystems. II. Approximate aggregation. *IMA J. Math. Applied in Medicine and Biology* 6: 1-23.

Levin, S.A. 1989. Analysis of risk for invasions and control programs. Pp. 425-35. *In*: (J. Drake, H.A. Mooney, F. diCastri, R.H. Groves, F.J. Kruger, M. Rejmánek and M. Williamson, eds.), *Biological Invasions: A Global Perspective*. SCOPE 37. John Wiley & Sons, Chichester, UK.

Levin, S.A. 1989. Challenges in the development of a theory of community and ecosystem structure and function. Pp. 242-55. *In:* (J. Roughgarden, R.M. May and **S.A. Levin**, eds.) *Perspectives in Ecological Theory*. Princeton University Press, Princeton, NJ.

Levin, S.A. 1989. Ecology in theory and application. Pp. 3-8. *In*: (**S.A. Levin**, T.G. Hallam and L.J. Gross, eds.), *Applied Mathematical Ecology*. Biomathematics 18. Springer-Verlag, Heidelberg.

Levin, S.A. 1989. Models in ecotoxicology: methodological aspects. Pp. 213-20. *In*: (**S.A. Levin**, M.A. Harwell, J.R. Kelly and K.D. Kimball, eds.), *Ecotoxicology: Problems and Approaches*. Springer-Verlag, New York.

Levin, S.A., M.A. Harwell, J.R. Kelly and K.D. Kimball. 1989. Ecotoxicology: problems and approaches. Pp. 3-7. *In*: (**S.A. Levin**, M.A. Harwell, J.R. Kelly and K.D. Kimball, eds.), *Ecotoxicology: Problems and Approaches*. Springer-Verlag, New York.

Levin, S.A., K. Moloney, L. Buttel, and C. Castillo-Chavez. 1989. Dynamical models of ecosystems and epidemics. *Future Generation Computer Systems* 5: 265-74.

Levin, S.A., H.A. Mooney, and C. Field. 1989. The dependence of plant root:shoot ratios on internal nitrogen concentration. *Annals of Botany* 64: 71-5.

Levin, S.A., A. Morin, and T.H. Powell. 1989. Patterns and processes in the distribution and dynamics of Antarctic krill. *In* Selected Scientific Papers Part 1 (SC-CAMLR-SSP/5), Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), Hobart, Australia, pp. 281-99.

Limburg, K.E., **S.A. Levin**, and R.E. Brandt. 1989. Perspectives on management of the Hudson River ecosystem. *In:* (D.P. Dodge, ed.), Proceedings of the International Large River Symposium. *Canadian Special Publication of Fisheries and Aquatic Sciences* 106: 265-91.

Liu, W-m. and **S.A. Levin**. 1989. Influenza and some related mathematical models. Pp. 235-52 *In*: (**S.A. Levin**, T.G. Hallam and L.J. Gross, eds.), *Applied Mathematical Ecology*. Biomathematics 18. Springer-Verlag, Heidelberg.

Milgroom, M.G., **S.A. Levin** and W.E. Fry. 1989. Population genetics theory and fungicide resistance. Pp. 340-67. *In*: (K.J. Leonard and W.E. Fry, eds.), *Plant Disease Epidemiology, Vol. II:. Genetics, Resistance, and Management.* McGraw-Hill, New York.

Okubo, A. and **S.A. Levin**. 1989. A theoretical framework for the analysis of data on the wind dispersal of seeds and pollen. *Ecology* 70(2): 329-38.

1988 Bedford, B.L. and **S.A. Levin**. 1988. Interfacing ecosystem science and environmental policy. Pp. 223-41. *In*: (B. Keenan, R. Rich, A. Merritt and V. Sorrells, eds.), *Science, Universities, and the Environment*. University of Illinois, Institute of Government and Public Affairs, Chicago and Urbana-Champaign, IL.

Castillo-Chavez, C., H.W. Hethcote, V. Andreasen, **S.A. Levin** and W-m. Liu. 1988. Cross-immunity in the dynamics of homogeneous and heterogeneous populations. Pp. 303-16. *In*: (T. Hallam, L. Gross and **S.A. Levin**, eds.), *Mathematical Ecology*. Proceedings of the Autumn Course Research Seminars, Trieste 1986. World Scientific Publishing Co., Singapore.

Levin, S.A. 1988. An ecological perspective on the introduction of genetically engineered organisms into the environment. *J. Chemical Technology Biotechnology* 43: 257-63. **Reprinted in** (A.D. Dayan, P.N. Campbell, and T.H. Jukes, eds.) *Hazards of Biotechnology: Real or Imaginary?* Elsevier Science Publishers Ltd., England, 1988, pp. 13-19).

Levin, S.A. General overview of risk assessment. 1988. Pp. 88-9. *In: Regulatory Considerations: Genetically-Engineered Plants*. Summary of a Workshop Held at Boyce Thompson Institute for Plant Research at Cornell University. Center for Science Information, San Francisco, CA.

Levin, S.A. 1988. Pattern, scale, and variability: an ecological perspective. Pp. 1-12 *In:* (A. Hastings, ed.), *Community Ecology*. Lecture Notes in Biomathematics 77. Springer-Verlag, Heidelberg.

Levin, S.A. 1988. Safety standards for the environmental release of genetically engineered organisms. Special combined issue of *Trends in Ecology and Evolution* 3(4) and *Trends in Biotechnology* 6(4): S47-S49.

Levin, S.A. 1988. Sea otters and nearshore benthic communities: A theoretical perspective. Pp. 202-09. *In*: (G. R. VanBlaricom and J. A. Estes, eds.), *The Community Ecology of Sea Otters*. Ecological Studies Series 65. Springer-Verlag, Heidelberg.

Castillo-Chavez, C., **S.A. Levin**, and F. Gould. 1988. Physiological and behavioral adaptation to varying environments: a mathematical model. *Evolution* 42(5): 986-994.

Lubina, J.A. and **S.A. Levin**. 1988. The spread of a reinvading species: range expansion in the California sea otter. *American Naturalist* 131(4): 526-43.

1987 Andow, D.A., **S.A. Levin** and M.A. Harwell. 1987. Evaluating environmental risks from biotechnology: Contributions of ecology. Pp. 125-42. *In*: (J.R. Fowle, III, ed.), *Application of Biotechnology, Environmental and Policy Issues*. AAAS Selected Symposium 106. Westview Press, Boulder, CO.

Castillo-Chavez, C., D. Grünbaum, and **S.A. Levin**. 1987. Designing computer models of the spread of HIV (Human Immunodeficiency Virus). *Forefronts* 3(5): 3-6. (Newsletter, Center for Theory and Simulation in Science and Engineering. Cornell University, Ithaca, NY).

Cohen, D. and **S.A. Levin**. 1987. The interaction between dispersal and dormancy strategies in varying and heterogeneous environments. Pp. 110-22. *In*: (E. Teramoto and M. Yamaguti, eds.), *Mathematical Topics in Population Biology, Morphogenesis and Neurosciences*. Lecture Notes in Biomathematics 71. Springer-Verlag, Heidelberg.

Kauffman, S. and **S. Levin**. 1987. Towards a general theory of adaptive walks on rugged landscapes. *J. Theoretical Biology* 128(1): 11-45.

Levin, S.A. 1987. Calculus for the biological sciences. Pp. 116-21. *In*: (L.A. Steen, ed.), *Calculus for a New Century–A Pump, Not a Filter*. MAA Notes 8. Mathematical Association of America, Washington, DC.

Levin, S.A. 1987. Ecological and evolutionary aspects of dispersal. Pp. 80-87. *In*: (E. Teramoto and M. Yamaguti, eds.), *Mathematical Topics in Population Biology, Morphogenesis and Neurosciences*. Lecture Notes in Biomathematics 71. Springer-Verlag, Heidelberg.

Levin, S.A. 1987. Environmental management in an uncertain world: the anticipation of surprise. *Arts and Sciences Newsletter* 8(2): 6, Cornell University, Ithaca, NY.

Levin, S.A. Mathematical ecology. 1987. Pp. 516-18. *In*: *McGraw-Hill Encyclopedia of Science and Technology*. McGraw-Hill, New York.

Levin, S.A. 1987. Recurrent themes in mathematical biology. Pp. 10-30. *In*: (E. Teramoto and M. Yamaguti, eds.), *Mathematical Topics in Population Biology, Morphogenesis and Neurosciences*. Lecture Notes in Biomathematics 71. Springer-Verlag, Heidelberg.

Levin, S.A. 1987. Scale and predictability in ecological modeling. Pp. 2-8. *In*: (T.L. Vincent, Y. Cohen, W. J. Grantham, G.P. Kirkwood and J.M. Skowronski, eds.), *Modeling and Management of Resources Under Uncertainty*. Lecture Notes in Biomathematics 72. Springer-Verlag, Heidelberg.

Iwasa, Y., V. Andreasen, and **S.A. Levin**. 1987. Aggregation in model ecosystems. I. Perfect aggregation. *Ecological Modelling* 37: 287-302

Liu, W.-M., H.W. Hethcote, and **S.A. Levin**. 1987. Dynamical behavior of epidemiological models with nonlinear incidence rates. *J. Mathematical Biology* 25(4): 359-80.

1986 Emlen, S.T., J.M. Emlen, and **S.A. Levin**. 1986. Sex ratio selection in species with helpers-at-the-nest. *American Naturalist* 127(1): 1-8. (Erratum, 128(2): 305).

Gillett, J.W., A.M. Stern, M.A. Harwell, and **S.A. Levin**. 1986. Executive summary. pp. 437-40 *In* (J.W. Gillett, et al.) Potential impacts of environmental release of biotechnology products: assessment, regulation, and research needs. *Environmental Management* 10(4).

Kelly, J.R. and **S.A. Levin**. 1986. A comparison of aquatic and terrestrial nutrient cycling and production processes in natural ecosystems, with reference to ecological concepts of relevance to some waste disposal issues. Pp. 165-203. *In*: (G. Kullenberg, ed.), *The Role of the Oceans as a Waste Disposal Option*. D. Reidel Publishing Co., Dordrecht, Holland.

Levin, S.A. Foreword. 1986. *In:* (K.E. Limburg, M.A. Moran and W.H. McDowell), *The Hudson River Ecosystem*. Springer-Verlag, New York.

Levin, S.A. 1986. Random walk models of movement and their implications. Pp. 149-54. *In:* (T.G. Hallam and **S.A. Levin**, eds.), *Mathematical Ecology*: *An Introduction*. Springer-Verlag, Berlin.

Levin, S.A. and V. Andreasen. 1986. Mathematical models of infectious diseases. *Forefronts* 2(8): 4-6, Newsletter, Center for Theory and Simulation in Science and Engineering, Cornell University, Ithaca, NY.

Levin, S.A. and M.A. Harwell. 1986. Environmental risks and genetically engineered organisms. Pp. 56-72. *In*: (S. Panem, ed.), *Biotechnology: Implications for Public Policy*. Brookings Institution, Washington, DC.

Levin, S.A., M.A. Harwell, and the Staff of the Ecosystems Research Center. 1986. Potential ecological consequences of genetically engineered organisms. Pp. 495-513 *In*: (J.W. Gillett *et al*.), Potential impacts of environmental release of biotechnology products: Assessment, regulation, and research needs. *Environmental Management* 10(4).

Limburg, K.E., **S.A. Levin**, and C.C. Harwell. 1986. Ecology and estuarine impact assessment: Lessons learned from the Hudson River (U.S.A.) and other estuarine experiences. *J. Environmental Management* 22: 255-80.

Liu, W.-M., **S.A. Levin** and Y. Iwasa. 1986. Influence of nonlinear incidence rates upon the behavior of SIRS epidemiological models. *J. Mathematical Biology* 23: 187-204.

1985 Kimball, K. and **S. Levin**. 1985. Limitations of laboratory bioassays: The need for ecosystem-level testing. *BioScience* 35(3): 165-171.

Levin, S.A. 1985. Viewpoint on regulation of genetically engineered organisms. Vantage Point column, Environmental Update, Center for Environmental Research, Cornell University, Ithaca, NY.

Levin, S.A. and M.A. Harwell. 1985. Environmental risks associated with the release of genetically engineered organisms. *geneWATCH* 2(1): 1, 14-16.

Levin, S.A. and M.A. Harwell. 1985. Letter to the Editor. *geneWATCH* 2(2): 4 and 2(3): 3.

Levin, S.A. and L.A. Segel. 1985. Pattern generation in space and aspect. *SIAM Review* 27(1): 45-67.

1984 **Levin, S.A.** 1984. Mathematical modelling and the evaluation of the effects of anthropogenic stresses. Pp. 162-166. *In*: (R. Lamberson, ed.), *Mathematical Models of Renewable Resources, Vol. II*. The Humboldt State Univ. Mathematical Modelling Group, Arcata, CA.

Levin, S.A. 1984. Mathematical population biology. Pp. 1-8. *In*: (**S.A. Levin**, ed.), *Population Biology*. Proceedings of Symposia in Applied Mathematics, Vol. 30. American Mathematical Society, Providence, RI.

Larkin, P.A., C.W. Clark, N. Daan, S. Dutt, V. Hongskul, **S.A. Levin**, G.G. Newman, D.M. Pauly, G. Radach and H.K. Rosenthal. 1984. Strategies for multi-species management. Pp. 287-301. *In*: (R.M. May, ed.), *Exploitation of Marine Communities*. Dahlem Konferenzen. Springer-Verlag, Berlin.

Levin, S.A., D. Cohen, and A. Hastings. 1984. Dispersal strategies in patchy environments. *Theoretical Population Biology* 26(2): 165-91.

Levin, S.A. and K. Kimball, eds. 1984. New perspectives in ecotoxicology. *Environmental Management* 8: 375-442. (Expanded version of Levin 1982).

1983 **Levin, S.A.** 1983. Coevolution. Pp. 328-34. *In:* (H. Freedman and C. Strobeck, eds.), *Population Biology*, Lecture Notes in Biomathematics 52. Springer-Verlag, Berlin.

Levin, S.A. 1983. Food webs, biotic control, and regulatory problems. Pp. 123-25. *In:* (D. DeAngelis, W. Post and G. Sugihara, eds.), *Current Trends in Food Web Theory*. Oak Ridge National Laboratory, Oak Ridge, TN. ORNL-5983.

Levin, S.A. 1983. Some approaches to the modelling of coevolutionary interactions. Pp. 21-65. *In*: (M. Nitecki, ed.), *Coevolution*. University of Chicago Press, Chicago, IL.

1982 Levin, B.R., A.C. Allison, H.J. Bremermann, L.L. Cavalli-Sforza, B.C. Clarke, R. Frentzel-Beyme, W.D. Hamilton, **S.A. Levin**, R.M. May and H.R. Thieme. 1982. Evolution in host parasite systems. Pp. 213-243 *In:* (R.M. Anderson and R.M. May, eds.), *Population Biology of Infectious Diseases*. Dahlem Konferenzen. Springer-Verlag, Berlin.

Levin, S.A. 1982. Profile in science: Viktor Brailovsky. *BioScience* 32(2): 157.

Levin, S.A. and L.A. Segel. 1982. Models of the influence of predation on aspect diversity in prey populations. *J. Mathematical Biology* 14: 253-84.

1981 Beddington, J., D. Botkin, and **S.A. Levin**. 1981. Mathematical models and resource management. Pp. 1-5 *In*: (T.L. Vincent and J.M. Skowronski, eds.), *Renewable Resource Management*. Lecture Notes in Biomathematics, Vol. 40, Springer-Verlag, Heidelberg.

Levin, S.A. 1981. Age-structure and stability in multiple-age spawning populations. Pp. 21-45 *In*: (T.L. Vincent and J.M. Skowronski, eds.), *Renewable Resource Management*. Lecture Notes in Biomathematics, Vol. 40, Springer-Verlag, Heidelberg.

Levin, S.A. 1981. Mechanisms for the generation and maintenance of diversity. Pp. 173-94 *In*: (R.W. Hiorns and D. Cooke, eds.), *The Mathematical Theory of the Dynamics of Biological Populations*. Academic Press.

Levin, S.A. 1981. Models of population dispersal. Pp. 1-18 *In:* (S. Busenberg and K. Cooke, eds.), *Differential Equations and Applications to Ecology, Epidemics and Population Problems*. Academic Press, San Diego.

Levin, S.A. 1981. Populations in heterogeneous environments. (Invited preview of "The role of theoretical ecology in the description and understanding of populations in heterogeneous environments.") *BioScience* 31(9): 678.

Levin, S.A. 1981. The role of mathematics in biology. Pp. 455-78. *In: Proceedings of Landsmoedet om Mathematikken I Danmark*. Danish Mathematical Society, Copenhagen, Denmark.

Levin, S.A. 1981. The role of theoretical ecology in the description and understanding of populations in heterogeneous environments. *American Zoologist* 21: 865-75.

Levin, S.A. and D. Pimentel. 1981. Selection of intermediate rates of increase in parasite-host systems. *American Naturalist* 117(3): 308-15.

Levin, S.A., L.A. Segel and S. Lerner. 1981. Appeal for Refuseniks. Letter to the Editor, *BioScience* 31(8): 557.

Paine, R.T. and **S.A. Levin**. 1981. Intertidal landscapes: disturbance and the dynamics of pattern. *Ecological Monographs* 51(2): 145-78.

1980 Orzack, S.H., J.J. Sohn, K.K. Kallman, **S.A. Levin** and R. Johnston. 1980. Maintenance of the three sex chromosome polymorphism in the platyfish, *Xiphophorus maculatus*. *Evolution* 34(4): 663-72.

Levin, S.A. 1980. Mathematics, ecology, and ornithology. *The Auk* 97(2): 422-25.

Levin, S.A. 1980. Some models for the evolution of adaptive traits. Pp. 56-72 *In:* (C. Barigozzi, ed.), *Vito Volterra Symposium on Mathematical Models in Biology*. Lecture Notes in Biomathematics, Vol. 39, Springer-Verlag, Heidelberg.

Levin, S.A. and C.P. Goodyear. 1980. Analysis of an age-structured fishery model. *J. Mathematical Biology* 9(3): 245-74. (Addendum: *J. Mathematical Biology* 12(2): 263.)

1979 **Levin, S.A.** 1979. Multiple equilibria in ecological models. Pp. 164-230. *In: Proceedings of International Symposium on Mathematical Modelling of Man-Environment Interaction*. Telavi, Georgia, USSR, September 1978. Computation Center of Academy of Sciences of USSR.

Levin, S.A. 1979. Non-uniform stable solutions to reaction-diffusion equations: applications to ecological pattern formation. Pp. 210-22. *In:* (H. Haken, ed.), *Pattern Formation by Dynamic Systems and Pattern Recognition*. Springer-Verlag, Heidelberg.

1978 **Levin, S.A.** 1978. On the evolution of ecological parameters. Pp. 3-26. *In*: (P.F. Brussard, ed.), *Ecological Genetics: The Interface*. Springer-Verlag, New York.

Levin, S.A. 1978. Pattern formation in ecological communities. Pp. 433-65. *In*: (J.H. Steele, ed.), *Spatial Pattern in Plankton Communities*. NATO Conference Series IV: Marine Sciences, Vol. 3, Plenum Press, NY.

Levin, S.A. 1978. Population models and community structure in heterogeneous environments. Pp. 439-75. *In*: (**S.A. Levin**, ed.), Mathematical Association of America Study in Mathematical Biology II: Populations and Communities. Studies in Mathematics 16. Mathematical Association of America, Washington, DC. **Reprinted in** Hallam and Levin, 1986**.**

Levin, S.A. and R.B. Root. 1978. Community. Pp. 127-29. *In*: *McGraw-Hill 1978 EST Yearbook of Science and Technology*. McGraw-Hill, New York.

Pimentel, D., **S.A. Levin**, and D. Olson. 1978. Coevolution and the stability of exploiter-victim systems. *American Naturalist* 112: 119-125.

1977 Gibson, R.E. and **S.A. Levin**. 1977. Distinctions between the two-state and sequential models for cooperative ligand binding. *Proceedings of the National Academy of Sciences, USA* 74(1): 139-43.

Levin, S.A. 1977. A more functional response to predator-prey stability. *American Naturalist* 111: 381-83.

Levin, S.A., J.E. Levin, and R.T. Paine. 1977. Snowy owl predation on short-eared owls. *The Condor* 79(3): 395.

Levin, S.A. and J.D. Udovic. 1977. A mathematical model of coevolving populations. *American Naturalist* 111(980): 657-75.

Whittaker, R.H. and **S.A. Levin**. 1977. The role of mosaic phenomena in natural communities. *Theoretical Population Biology* 12(2): 117-39.

1976 **Levin, S.A.** 1976. Population dynamic models in heterogeneous environments. *Annual Review of Ecology and Systematics* 7: 287-311.

Levin, S.A. 1976. Spatial patterning and the structure of ecological communities. Pp. 1-36 *In*: (**S.A. Levin**, ed.), Lectures on Mathematics in the Life Sciences, Vol. 8: Some Mathematical Questions in Biology VII. American Mathematical Society, Providence, RI.

Levin, S.A. 1976. Uniqueness theorems for the compressible flow equation. *J. Applicable Analysis* 5(3): 1-9.

Levin, S.A. and R.M. May. 1976. A note on difference-delay equations. *Theoretical Population Biology 9*(2): 178-87.

Levin, S.A. and R.A. Parker. 1976. Mathematical analysis of transients in ecosystems. Pp. 40-48. *In*: (R. Dugdale and O. Loucks, eds.), *The Study of Species Transients, Their Characteristics and Significance for Natural Resource Systems.* The Institute of Ecology, Indianapolis, IN.

Levin, S.A. and L.A. Segel. 1976. An hypothesis for the origin of planktonic patchiness. *Nature* 259: 659.

Paine, R.T. and **S.A. Levin**. 1976. Responses to perturbation in the intertidal zone. Pp. 23-27. *In*: (R. Dugdale and O. Loucks, eds.), *The Study of Species Transients, Their Characteristics and Significance for Natural Resource Systems.* The Institute of Ecology, Indianapolis, IN.

Segel, L.A. and **S.A. Levin**. 1976. Application of nonlinear stability theory to the study of the effect of diffusion on predator-prey interactions. Pp. 123-52. *In*: (R.A. Piccirelli, ed.), *Topics in Statistical Mechanics in Biophysics: A Memorial to Julius L. Jackson*. AIP Conference Proceedings 27.

1975 Chen, C.W., **S.A. Levin** and I.C.T. Nisbet. 1975. Simulated systems. Pp. 231-39, 349-51 *In*: *Principles for Evaluating Chemicals in the Environment.* National Academy of Sciences, Washington, DC.

Levin, S.A. 1975. On the care and use of mathematical models. *American Naturalist* 109(970): 785-86.

Levin, S.A. 1975. On the equivalence of quasilinear first-order equations and a class of functional equations. Pp. 314-16 *In*: (**S.A. Levin**, ed.), *Ecosystem Analysis and Prediction*. Proceedings of a Conference on Ecosystems, Alta, UT, July 1974. SIAM-SIMS, Philadelphia, PA.

Levin, S.A. and R.T. Paine. 1975. The role of disturbance in models of community structure. Pp. 56-67 *In:* (**S. A. Levin**, ed.), *Ecosystem Analysis and Prediction*. Proceedings of a Conference on Ecosystems, Alta, UT, July 1974. SIAM-SIMS, Philadelphia, PA.

Pimentel, D., **S.A. Levin**, and A.B. Soans. 1975. On the evolution of energy balance in some exploiter-victim systems. *Ecology* 56(2): 381-90.

Whittaker, R.H., **S.A. Levin**, and R.B. Root. 1975. On the reasons for distinguishing "niche, habitat, and ecotope." *American Naturalist* 109(968): 479-82. **Reprinted:** 2000, pages 115-18 in D. R. Keller and F. B. Golley, eds., *The Philosophy of Ecology: From Science to Synthesis*. University of Georgia Press, Athens.

1974 **Levin, S.A.** 1974. Dispersion and population interactions. *American Naturalist* 108(960): 207-28.

Levin, S.A. 1974. Stability matrices and the solvability of certain systems of linear inequalities. *Linear and Multilinear Algebra* 2: 253-55.

Levin, S.A. and R.T. Paine. 1974. Disturbance, patch formation, and community structure. *Proceedings of the National Academy of Sciences, USA* 71(7): 2744-47.

1973 **Levin, S.A.** 1973. Pollutants in ecosystems. *SIAM News* 6(4): 2. **Reprinted in:** *Ecosystem Analysis and Prediction*, 1975.

Whittaker, R.H., **S.A. Levin**, and R.B. Root. 1973. Niche, habitat, and ecotope. *American Naturalist* 107(955): 321-38. **Reprinted in:** *Niche: Theory and Application*. 1975.

1972 **Levin, S.A.** 1972. A mathematical analysis of the genetic feedback mechanism. *American Naturalist* 106(948): 145-64. (Erratum 1973, 107: 320).

Levin, S.A. 1972. On the reduction of a first-order overdetermined system of partial differential equations. *J. Mathematical Analysis and Applications* 38(2): 467-70.

1971 Brussard, P.F., **S.A. Levin**, L.N. Miller, and R.H. Whittaker. 1971. Redwoods: A population model debunked. *Science* 174(4007): 435-36.

1970 Block, H.D. and **S.A. Levin**. 1970. On the boundedness of an iterative procedure for solving a system of linear inequalities. *Proceedings of the American Mathematical Society* 26(2): 229-35.

Levin, S.A. 1970. Community equilibria and stability, and an extension of the competitive exclusion principle. *American Naturalist* 104(939): 413-23. **Reprinted in:** *Niche: Theory and Application,* 1975.

Levin, S.A. 1970. Principles of nonlinear superposition. *J. Mathematical Analysis and Applications* 30(1): 197-205.

1969 **Levin, S.A.** 1969. Nonlinear boundary problems for a quasilinear parabolic equation. *J. Differential Equations* 5(1): 32-37.

1968 **Levin, S.A.** 1968. On some nonlinear boundary problems for the equation of minimal surfaces. *J. Mathematics and Mechanics* 18(2): 125-30.

1967 **Levin, S.A.** 1967. Uniqueness under nonlinear boundary conditions for elliptic problems. *J. Mathematics and Mechanics* 17(6): 507-22.

Levin, S.A., G.B. Dantzig, and J. Bigelow. 1967. On steady-state intercompartmental flows. *J. Colloid and Interface Science* 23(4): 572-76.

1964 **Levin, S.A.** and M.H. Martin. 1964. Quasi-separable solutions of systems of partial differential equations. I. Elliptic case. Pp. 84-96 *In: Atti del Simposio Internazionale sulle Applicazioni dell' Analisi alla Fisica Matematica, Cagliari-Sassari*, 1964. Edizioni Cremonese, Rome.

TECHNICAL REPORTS

2003 Bloom, B. R., J. Lederberg, R. Atlas, R. Berkelan, G. Cassell, T. R. Cech, D Franz, C. Fraser, D. Galas, CDR. S. Jone, R. A. Lamb, **S. Levin**, J. Mekalanos, T. Monath, R. Murch, E. D. Penhoet, D. Relman, P. Rosen, L. Sequeira, J. Taubenberger, D. Wilkening, C. Woteki. 2002. *Countering Bioterrorism: The Role of Science and Technology*. The National Academies Press, Washington, DC. 93 pp. Pfirman, S., and the AC-ERE. 2003. *Complex Environmental Systems: Synthesis for Earth, Life and society in the 21st Century*, A report summarizing a 10-year outlook in environmental research and education for the National Science Foundation. 68 pp.

2002 Folke, C., S. Carpenter, T. Elmqvist, L. Gunderson, C.S. Holling, B. Walker, J. Bengtsson, F. Berkes, J. Colding, K. Danell, M. Falkenmark, L. Gordon, R. Kasperson, N. Kautsky, A. Kinzig, **S. Levin**, K.-G. Mäler, F. Moberg, L. Ohlsson, P. Olsson, E. Ostrom, W. Reid, J. Rockström, H. Savenije, and U. Svedin. 2002. Resilience for Sustainable Development: Building Adaptive Capacity in a World of Transformations. A Report for the Swedish Environmental Advisory Council 2002:1, Stockholm, Sweden, 74 pp. http://www.sou.gov.se/mvb/english/index.html. *Printed also by:* International Council for Science. 2002. ICSU Series on Science for Sustainable Development No. 3., 37 pp.

2002 The Royal Society Committee on Infectious Diseases in Livestock (Follet, B., Chair, and including S.A. Levin). 2002. *Infectious Diseases in Livestock: Summary and Main Recommendations.* (Policy Document 19/02, July 2002). Available at: http://royalsociety.org/policy/publications/2002/infectious-disease-livestock/.

1999 Policansky, D., H. Mooney, D.L. Alverson, H. Bingham, J. Clark, F. Grassle, E. Hofmann, E. Houde, **S. Levin**, J. Lubchenco, J. Magnuson, B. McCay, G. Munro, R. Paine, S. Palumbi, D. Pauly, E. Pikitch, T.

Powell, M. Sissenwine 1999. *Sustaining Marine Fisheries.* National Academic Press, Washington, DC. 164 pp.

1997 Helly, J., Case, T., Davis, F., **S. A. Levin** and W. Michener, eds. 1997. The state of computational ecology. San Diego Supercomputer Center and the National Center for Ecological Analysis. National Science Foundation Report [online]. http://www.sdsc.edu/compeco_workshop/report/helly_publication.html.

1995 Butman, C.A., J.T. Boehlert, S.H. Brawley, J.T. Carlton, E.F. Delong, J.F. Grassle, J.B.C. Jackson, **S.A. Levin**, A.R.M. Nowell, R.T. Paine, S.R. Palumbi, G.J. Vermeij and L. Watling. 1995. *Understanding Marine Biodiversity*. National Academy Press, Washington, DC. 114 pp.

1993 Corson, D.R., R.A. Anthes, J. Baker, E. Bingham, P.L. Busch, K.E. Hoagland, C.S. Holling, T.L. Hullar, A.V. Kneese, K.N. Lee, **S. Levin**, J. Lubchenco, R.S. Nicholson, G.H. Orians, K.N. Patel, A. Schriesheim. 1993. *Research to Protect, Restore, and Manage the Environment.* National Academy Press, Washington DC. 242pp.

1992 **Levin, S.A.**, ed. 1992 *Mathematics and Biology: The Interface*. Lawrence Berkeley Laboratory, University of California, Berkeley, CA. 96 pp. http://www.bio.vu.nl/nvtb/Interface.html.

1991 Oversight Review Board of the National Acid Precipitation Assessment Program (M. Russell, K. Arrow, J. Bailar, J. Gordon, G. Hilst, **S. Levin**, T. Malone, W. Nierenberg, C. Starr, and J. Tukey). 1991. The Experience and Legacy of NAPAP. Report to the Joint Chairs Council of the Interagency Task Force on Acidic Deposition. NAPAP, Washington, DC.

1987 **Levin, S.A.** 1987. Mathematical ecology and environmental management. Publ. ERC-135, Ecosystems Research Center, Cornell University, Ithaca, NY.

Levin, S A. 1987. Workshop perspective from a university scientist. Pp. 99-104 *In:* (J.W. Gillett, ed.), Prospects for Physical and Biological Containment of Genetically Engineered Organisms, Proceedings Shackelton Point Workshop on Biotechnology Impact Assessment. Ecosystems Research Center Report ERC-114, Cornell University, Ithaca, NY.

Levin, S.A. and L. Buttel. 1987. Measures of patchiness in ecological systems. Ecosystems Research Center Report No. ERC-130, Cornell University, Ithaca, NY.

Mooney, H.A., F.A. Bazzaz, J. Berry, J.H. Cushman, W.F. Harris, **S.A. Levin**, J.J. Magnuson, P.L. Parker, W.P. Porter, P. Risser. 1987. *Ecology: Review of the Office of Health and Environmental Research Program*. Office of Energy Research, U.S. Department of Energy, Washington, DC.

Mooney, H.A., F.A. Bazzaz, J. Berry, J.H. Cushman, W.F. Harris, **S.A. Levin**, J.J. Magnuson, P.L. Parker, W. P. Porter, P. Risser. 1987. *On understanding impacts of energy use and development on ecological systems.* Office of Energy Research, U.S. Department of Energy, Washington, DC.

National Academy of Sciences. 1987. Introduction of Recombinant DNA-Engineered Organisms into the Environment: Key Issues. (A. Kelman, W. Anderson, S. Falkow, N.V. Fedoroff, and **S.A. Levin**). National Academy Press, Washington, DC. 24 pp.

1986 **Levin, S.A**. 1986. Risk assessment, risk management and biotechnology. Ecosystems Research Center Report ERC-119, Cornell University, Ithaca, NY. **Also appears in modified form:** Pp. 231-44. *In:* (M.J. Russell, ed.), Proceedings 1986 Washington International Conference on Biotechnology. Center for Energy and Environmental Management, Fairfax, VA.

Levin, S.A. Research highlights. 1986. Pp. 8-9 *In:* Biennial Report 1984-85, Hudson River Foundation for Science and Environmental Research, New York.

1985 Gillett, J.W., A.M. Stern, **S.A. Levin**, M.A. Harwell, D.A. Andow, M. Alexander, and the Staff of the Ecosystems Research Center. 1985. Potential impacts of environmental release of biotechnology products: assessment, regulation. Publ. ERC-075, Ecosystems Research Center, Cornell University, Ithaca, NY.

Levin, S.A. 1985. Written testimony for Department of Environmental Conservation Lampricide hearings, Ithaca, NY. Reprinted: 1986.

1984 Limburg, K.E., C.C. Harwell and **S.A. Levin**, eds. 1984. Principles for estuarine impact assessment: lessons learned from the Hudson River experience. Ecosystems Research Center Report ERC-024, Cornell University, Ithaca, NY. **Published:** 1986. *J. Environmental Management* (UK) 22: 255-80.

1983 **Levin, S.A.** 1983. Ecological factors and the selection of indicator and test species for impact assessment. Ecosystems Research Center Report ERC-012, Cornell University, Ithaca, NY. 11 pp.

1979 **Levin, S.A.** 1979. The concept of compensatory mortality in relation to impacts of power plants on fish populations. Written testimony prepared for the U.S. Environmental Protection Agency.

1964 **Levin, S.A.** 1964. Uniqueness and nonlinearity. Ph.D. Thesis. U.S. Army Research Office (Durham), Technical Report AD-602-033.