

Curriculum Vitae
SIMON ASHER LEVIN
George M. Moffett Professor of Biology
Department of Ecology & Evolutionary Biology, Princeton University, Princeton, NJ 08544-1003

Telephone 609.258.6880 **Email** slevin@princeton.edu
Fax 609.258.6819 **Website** <http://www.eeb.princeton.edu/~slevin/>

EDUCATION

B.A. The Johns Hopkins University, Baltimore, MD Mathematics 1961
Ph.D. The University of Maryland Mathematics 1964

PROFESSIONAL EXPERIENCE

Princeton University

2001- Director, The Center for Biocomplexity
1993-98 Director, Princeton Environmental Institute
1993- Associated Faculty, Princeton Environmental Institute
1992- George M. Moffett Professor of Biology
1992- Associated Faculty, Program in Applied and Computational Mathematics

Cornell University

1992- Adjunct Professor
1985-92 Charles A. Alexander Professor of Biological Sciences
1990-92 Director, Program on Theoretical and Computational Biology
1987-90 Director, Center for Environmental Research
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 POSITIONS

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

HONORS and AWARDS

Dr A.H. Heineken Prize for Environmental Sciences, Royal Netherlands Academy of Arts and Sciences (2004)
Honorary Doctor of Humane Letters Honoris Causa, Whittier College (2004)
Member, National Academy of Sciences (2000)
Member, American Philosophical Society (2003)
Distinguished Landscape Ecologist Award, U.S. Regional Association of the International Association for Landscape Ecology (2003)
World Innovation Foundation, Honorary Member (2003)
Fellow, American Academy of Arts and Sciences (1992)
Fellow, American Association for the Advancement of Science (AAAS) (1992)
MacArthur Award, Ecological Society of America (1988)

The First Okubo Lifetime Achievement Award, Society for Mathematical Biology and Japanese Society for Theoretical Biology (2001)
 Distinguished Service Citation of the Ecological Society of America (1998)
 Distinguished Statistical Ecologist Award, International Association for Ecology, (1994)
 Asian Mathematical Ecology Society (AMES), Honorary Member (1995)
 Eastern Europe Society of Mathematical Ecology (EESME), Honorary Member (1995)
 Lund (Sweden) Ecological Society, Honorary Member (1999)
 The Honor Society of Phi Kappa Phi Biology Colloquium Award (1991)
 Honorary Doctor of Sciences, Eastern Michigan University (1990)

Publication Awards

"Most cited paper in the field of Ecology and Environment for the 1990s,"
 Institute for Scientific Information (2002)
 Outstanding Paper in the Discipline of Landscape Ecology Award for 2001 (with J. Keymer, P.A. Marquet, J.X. Velasco-Hernandez), U.S. Chapter of the International Association for Landscape Ecology
 Best Publication in Landscape Ecology Award (with David Andow, Peter Kareiva, Akira Okubo), U.S. Chapter, International Association for Landscape Ecology (1990)

NAME LECTURES

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
 American Institute of Biological Sciences (AIBS)
 American Society of Naturalists
 British Ecological Society
 Ecological Society of America (ESA) (President-Elect, 1989-90; President, 1990-91)
 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)
 Society for the Study of Evolution
 U.S. Committee for the Israel Environment

PROFESSIONAL ACTIVITIES

Board of Directors

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

Council

IIASA, Laxenburg, Austria (2003-), Chair (2003-)

Science Board

Institute for Medical BioMathematics, Bene Ataroth, Israel (1999-)**Santa Fe Institute, New Mexico (1991-99; 2001-)**

PROFESSIONAL ACTIVITIES: EDITORIAL

Editor-in-Chief

Princeton Series in Theoretical and Computational Biology, Princeton Univ. Press (2000-)

Co-Managing Editor (with H.S. Horn)

Monographs in Population Biology, Princeton University Press (1992-)**Complexity Series, Princeton University Press (1992-)**

Honorary Editor

Bulletin of Mathematical Biology (1996-)

Editorial Board

Applied Mathematics Letters (1987-..)**Conservation Ecology (1995-)****Evolutionary Theory (1976-)****Issues in Ecology (1995-)****Journal of Biomathematics (China), (1999-)****Journal of Mathematical Biology (1995-; Managing Ed., 1979-95; Advisory Ed., 1973-76)****Mathematical Biosciences (1987-)****Mathematical and Computer Modelling (1979-)****Mathematical Population Dynamics (2001-)****Papers on Mathematical Ecology (1987-)****Public Library of Science (PLOS) Biology (2004-)****Santa Fe Institute (1998-)****SIAM Review (1997-2003)**

Advisory Board

Ecological Complexity (2004-)**Ecological Research (1996-)****Ecosystems (1996-)****Frontiers in Ecology and the Environment (2002-)****Journal of Environmental and Ecological Statistics (1992-)****Journal of Theoretical Biology (1977-)****Mathematical Biosciences and Engineering (2004-)****Natural Resource Modeling (1984-)**

CURRENT MAJOR OTHER PROFESSIONAL ACTIVITIES

Chair, Council, IIASA, Laxenburg, Austria (2003-)**Chair, U.S. National Committee for IIASA, The National Academies (2003-)****Recovery Science Review Panel, National Marine Fisheries Service (2000-)****Steering Committee, Ecological Economics Programme, ICTP. FEEM and the Beijer Institute (2003-)****Advisory Board, 21st Century Scientist Awards Competition—Studying Complex Systems, James S. McDonnell Foundation (1999-)**

RESEARCH INTERESTS

Modeling of ecological systems; dynamics of populations and communities; spatial heterogeneity and problem of scale; evolutionary, mathematical and theoretical ecology

SELECTED PUBLICATIONS

- Durrett, R. and S. A. Levin. 2004. Can stable social groups be maintained by homophilous imitation alone? *Journal of Economic Behavior and Organization*. In press.
- Klausmeier, C. A., E. Litchman, T. Daufresne, and S. A. Levin. 2004. Optimal nitrogen-tophosphorus stoichiometry of phytoplankton. *Nature* 429: 171–174.
- 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.
- Levin, S. A. 2003. Complex adaptive systems: Exploring the known, the unknown and the unknowable. *Bulletin of the American Mathematical Society* 40(1): 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.
- Kareiva, P. and S. A. Levin, eds. 2003. *The Importance of Species: Perspectives on Expendability and Triage*, Princeton University Press, Princeton, NJ. Pp. 427
- 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*. Elsevier Science B.V./North Holland.
- Levin, S.A. 2002. Exploring the complex adaptive nature of ecosystems. Pp. 209-13. In: (A. Fokas, J. Halliwell, T. Kibble and B. Zegarliniski, eds.) *Highlights of Mathematical Physics*, AMS, Providence, RI.
- Okubo, A. and S. A. Levin, eds. 2002. *Diffusion and Ecological Problems: Modern Perspective*, 2nd Edition, Springer, New York.
- 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): 6263-68.
- 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.
- Levin, S. A., Editor-in-Chief. 2001 *Encyclopedia of Biodiversity*, Five Volumes, Academic Press, San Diego.
- 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.
- Levin, S. A. 1999. *Fragile Dominion: Complexity and the Commons*, Perseus Books, Reading, MA.
- Levin, S. A. 1998. Ecosystems and the biosphere as complex adaptive systems. *Ecosystems*. 1: 431-36.
- Levin, S. A. and S. W. Pacala. 1997. Theories of simplification and scaling of spatially distributed processes. Pp. 271-96. In: (D. Tilman and P. Kareiva, eds.). *Spatial Ecology: The Role of Space in Population Dynamics and Interspecific Interactions*. Princeton University Press, Princeton, NJ.
- 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.
- 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.
- Durrett, R. and S. A. Levin. 1994. The importance of being discrete (and spatial). *Theoretical Population Biology* 46: 363-94
- Levin, S. A. 1992. The problem of pattern and scale in ecology. *Ecology* 73(6): 1943-67.
- Levin, S. A. and L. A. Segel. 1985. Pattern generation in space and aspect. *SIAM Review* 27(1): 45-67.
- Paine, R. T. and S. A. Levin. 1981. Intertidal landscapes: disturbance and the dynamics of pattern. *Ecological Monographs* 51(2): 145-78.
- Levin, S. A. 1974. Dispersion and population interactions. *American Naturalist* 108(960): 207-28.