Center for BioComplexity
Past Events

2016-2017

Princeton Day at the Stockholm Resilience Centre

In April 2016, Johan Rockstrom and Henrik Osterblom, leaders of the Stockholm Resilience Centre (SRC), visited Princeton in order to explore closer connections between the SRC and Princeton, and met with a broad representation of leading faculty at Princeton. The next step was a "Princeton Day" at the SRC, which took place in September 2016. The meeting in Stockholm explored the potential for deepened collaborations between the two institutions. In attendance from Princeton were Simon Levin, Guy Nordenson (representing Architecture), Michael Celia (representing PEI), Peter Jaffe (representing the Andlinger Center), Lars Hedin (representing EEB), David Wilcove, Thayer Patterson (representing Miguel Centeno, who independently visited the SRC some months earlier), and current and former Princeton students and postdoctoral fellows. The day was extremely successful, and formed the basis for a return visit to Princeton scheduled for November 13-14, 2017.

Humboldt University-Princeton University Strategic Partnership Cooperation and Collective Cognition Network (CoCCoN) Workshop on the Social Modulation of Risk

On May 14-15, 2017, Princeton hosted the first workshop of the Cooperation and Collective Cognition Network (CoCCoN), with Simon A. Levin and Pawel Romanczuk (Humboldt University) as organizers. CoCCoN is an interdisciplinary research network funded by the strategic partnership program between Princeton University and Humboldt University. Its goal is to bring together scientists from many different fields (ecology, social science, physics, psychology, and economics), who are interested in various aspects of collective behavior. This first collaborative workshop focused on the question: How does social context modulate risk perception in various systems ranging from animal groups, such as fish schools, to human communities and societies? It provided important insights into analogies and differences between such ecological and socio-economic systems, and was highly inspirational for the development of new cross-disciplinary research questions within CoCCoN. Participants included a number of Princeton faculty members: Simon A. Levin, Daniel Rubenstein (EEB), Corina Tarnita (EEB), Miguel Centeno (Sociology, WWS), Elke Weber (Psychology, WWS), Alin Coman (Psychology, WWS), and Naomi Leonard (MAE), as well as Pawel Romanczuk and a delegation of scientists from Humboldt University and the Potsdam Institute of Climate Impact Research. A large number of Princeton graduate students and postdoctoral researchers also participated.

Simons Foundation Workshop

On June 12-13, 2017, the CBC hosted a collaborative venture between the Levin Lab, Stocker Lab (ETH Zurich), and Hein Lab (NOAA, UCSC). Funded by the Simons Foundation and organized by Simon A. Levin and Andrew Hein, the workshop focused on current and future research to explore the importance of bacterial interactions, competition, and carbon consumption in the oceans. Attendees gave presentations about a set of microbial experiments conducted in the Stocker Lab to understand how populations of bacteria respond to realistic pulses of nutrients, and about models that are being developed as part of this collaboration to scale up experimental findings and apply them to marine ecosystems. Simon A. Levin, George Hagstrom (EEB), Doug Brumley (University of Melbourne, Australia), Francesco Carrara (ETH Zurich), and Andrew Hein attended the workshop. Roman Stocker joined in remotely via video conference.

2015

Mini Conference on the Microbiome, Princeton University

On December 7, 2016, the CBC hosted a mini conference with Dr. Martin Blaser (New York University School of Medicine) and his group to learn more about their research on the microbiome and explore ecological approaches to their work. A follow-up meeting was held at Dr. Blaser's lab on May 27 and attended by Princeton faculty, graduate students, and postdocs, and additional meetings are being planned to further the collaboration.

Evolutionary Theory and World Politics Workshop, Princeton University

On October 9 and 10, 2015, the Center for BioComplexity hosted a workshop entitled "Evolutionary Theory and World Politics." Funded by the Princeton Institute for International and Regional Studies (PIIRS) and co-organized by Robert Keohane (International Affairs, Woodrow Wilson School) and CBC director Simon A. Levin, it brought together a group of renowned scholars from a wide variety of fields, including ecology, evolutionary biology, economics, political science, sociology, and psychology to explore the affinities between evolutionary theory and international relations (i.e., world politics). The overarching goal of the workshop was to raise questions about world politics for which evolutionary theory could help suggest testable hypotheses.

Social-Ecological Complexity and Adaptation in Marine Systems Meeting, Princeton University

On June 1, 2015, the Center for BioComplexity hosted the annual meeting for the NSF-funded Coupled Natural-Human Systems Research Project (Social-Ecological Complexity and Adaptation in Marine Systems), organized and chaired by James Watson (Stockholm Resilience Centre) and CBC director Simon A. Levin. Participants came to Princeton from New Zealand, Hawaii, Seattle, and Sweden to discuss their work on social capital in marine systems, focusing on understanding how social networks emerge among fishers, and how this information can be used to promote self-organized sustainable collective-action agreements. They concentrated on synthesizing mathematical and computational modeling, with data drawn from interviews with fishermen.

Nordic Center of Excellence Planning Meeting, Princeton University

On January 4-5, 2015, the Center for BioComplexity hosted a meeting to develop a proposal for a new Nordic Center of Excellence that would be funded by NordForsk. Organized by Anne Maria Eikeset and Simon A. Levin, this meeting was attended by renowned scientists and social scientists from Norway, Sweden, the Netherlands, Iceland, Russia, and the United States. The proposed center would feature an international team of researchers drawn from ecology, sociology, anthropology, economics, and political science. It would be devoted to examining the unique set of problems brought to bear on Arctic marine and coastal social-ecological systems under climate change.

2014

Social-Ecological Complexity and Adaptation in Marine Systems (NSF: Coupled Natural-Human Systems Grant) Meeting/Workshop, Princeton University

On April 18, 2014, Princeton University hosted the second annual investigator meeting/workshop for the "Dynamics of Coupled Natural-Human Systems: Social-Ecological Complexity and Adaptation in Marine Systems" project funded by the National Science Foundation. This project is exploring the relationships between human behavior and the ecology of natural systems; the technology people use to extract resources; and the management institutions that direct how resource users work. Organized by Simon A. Levin and James Watson, those researchers in attendance focused on assessing the work that was performed in the previous year, and on making plans for the coming years. The workshop identified a number of core themes, emerging from our collaborative work, in particular, the synthesis of agent-based modeling (James Watson) and economic interviews (John Lynham, University of Hawaii at Manoa; Emily Klein), and spatial fisheries data (Simon A. Levin, Andrew Tilman, Erol Açkay, and James Watson). These themes are emergent, but also are falling in line with the original goals of the proposal, that is to understand how behavior is shaped in coupled natural-human systems.

MASpread Workshop, Princeton University

Princeton University hosted the Modeling Anthropogenic Effects in the Spread of Infectious Diseases (MASpread) Workshop on March 27-28, 2014. Funded by the National Institute of General Medical Sciences (NIGMS) under a joint initiative between the NIGMS and the National Science Foundation's Division of Mathematical Sciences (DMS), the MASpread project brings together mathematicians, epidemiologists, ecologists, and resource economists to investigate the economic drivers of 'contact' in dynamic models of emerging human and animal infectious disease systems.

Organized by Simon A. Levin and Charles Perrings (Arizona State University), this meeting of the MASpread group featured discussion organized around papers such as, "The Social Value of Private Infections Disease-Risk Mitigation in a Rich/Poor World" (Ben Morin, Charles Perrings, Ann Kinzig, ASU; Simon A. Levin), "Land Conversion as a Function of Disease Risk" (Katie Lee, David Finnoff, University of Wyoming; Peter Daszak, EcoHealth Alliance), and "Inspection, Interception, Trade Diversion and Disease

Risk in Dynamic Trade Networks" (Ben Morin, Charles Perrings, ASU).

The workshop concluded with the participants outlining new directions for the project, for example, exploring the role of data on human decisions in forecasting epidemics and urbanization; and the risk of emergent zoonoses (the process whereby an infectious disease is transmitted between species from animals other than humans to humans or from humans to other animals).

2013

Research Coordination Network, Biodiversity and Ecosystem Services Research Training Network (BESTNet) Workshop, Princeton University

On April 25-26, 2013, Princeton University hosted the last in a series of BESTNet workshops funded by NIH. BESTNet workshops bring together established scientists in a particular field along with younger researchers – usually doctoral students or post-doctoral research associates but occasionally recently appointed faculty known to be doing interesting and novel work. The general format involves the presentation of papers by the younger researchers who then get feedback from the more established researchers. The latter are typically assigned responsibility to discuss one or two presentations. The benefits to participants stem both from the feedback they receive, and the chance to hear others launching research careers in a particular field.

The final workshop, entitled "Modeling Species Dispersal and Ecosystem Services," was jointly organized by Charles Perrings (ASU), Carols Castillo-Chavez (ASU; Levin postdoc 1985-88), Simon A. Levin, and explored the link between species dispersal and human, animal and plant health. Established scientists included: Scott Barrett, Columbia University; Bryan Grenfell, Princeton University; Eil Fenichel, Yale University; David Finnoff, University of Wyoming; Ann Kinzig, Arizona State University; Les Real, Emory University; David Smith, Johns Hopkins University; and Jorge Pacheco, University of Minho, Portugal.

2012

Dynamics of Coupled Natural-Human Systems: Social-Ecological Complexity and Adaptation in Marine Systems, Investigator Meeting/Workshop, Princeton University

On November 19, 2012, Princeton University hosted an investigator meeting/workshop for the "Dynamics of Coupled Natural-Human Systems: Social-Ecological Complexity and Adaptation in Marine Systems" project funded by the National Science Foundation. This project seeks to understand how human behavior responds and adapts to the ecology of natural systems, the technology people use to extract resources, and the management institutions that direct how resource users work. Organized by James Woods and Simon Levin, this was the first annual meeting of the project, and researchers focused on synthesizing high-level ideas and assessing the availability of data and models. The workshop resulted in shared data products from economics interviews (John Lynham, University of Hawaii at Manoa), spatial fisheries data (Jameal Samhouri, NOAA), as well as a social-ecological theory (Simon A. Levin, Erol Ackay, James Watson). These products contributed to the design of a modeling framework for understanding how behavior is shaped in coupled natural-human systems. In addition to the participants mentioned above, Princeton graduate students Emma Fuller and Andrew Tilman, who are involved with this project, were in attendance.

Dimensions of Biodiversity: Biological Controls on the Ocean C:N:P Ratios Investigator Meeting/Workshop, Princeton University

On May 24 and 25 of 2012, the CBC hosted an investigator meeting/workshop for the "Dimensions of Biodiversity: Biological Controls on the Ocean C:N:P Ratios" project funded by the National Science Foundation. This project seeks to understand the contribution of (and interactions between) the microbial community and abiotic components of the oceans to the ratios of the most important elements (such as carbon, nitrogen or phosphorus) – a key question for the comprehension of the different biogeochemical cycles in the planet. The workshop focused on the integration of data from ocean cruises (Michael Lomas, Bermuda Biological Station; Adam Martiny, UC Irvine) with laboratory work (Adam Martiny, Steve Allison, UCI), as well as comprehensive modeling (Simon A. Levin, Juan Bonachela; John Dunne, GFDL; and Steve Allison) to produce a new picture of patterns of oceanic nutrient rations and ecological and evolutionary explanations.