

CURRICULUM VITAE

Ross A. Hammond

Senior Fellow, Economic Studies Program
Director, Center on Social Dynamics and Policy
The Brookings Institution
1775 Massachusetts Avenue, NW
Washington, DC 20036
rhammond@brookings.edu
202-797-6020

PRIMARY RESEARCH INTEREST: Modeling complex dynamics of social, economic, political, and public health systems using mathematical and agent-based computational methods

PROFESSIONAL EXPERIENCE

- Director, Center on Social Dynamics and Policy, The Brookings Institution, 2010-present
- Senior Fellow, The Brookings Institution, Economic Studies Program, 2010 – present
- Fellow, The Brookings Institution, Economic Studies Program, 2006-2009
- NSF IGERT fellow, Center for the Study of Complex Systems, University of Michigan (2003–2005)
- Visiting Scholar, The Santa Fe Institute, Santa Fe, NM (2005)
- Graduate Student Instructor, University of Michigan (2002)
- Research Modeler, The Brookings Institution, Washington D.C. (2000-2001)
- Consultant, PricewaterhouseCoopers LLP, Arlington, VA (1999-2000)

AWARDS, PROFESSIONAL SOCIETIES, AND MEMBERSHIPS

- Editorial Board, *Childhood Obesity* (2010-present)
- Steering committee, NIH/USDA/RWJF Envision CompMod network (2009-present)

- Member, NIH/USDA/RWJF National Collaborative on Childhood Obesity Research (2009-present)
- Member, NIH Office of Behavior and Social Science/Univ of Michigan Network on Inequality, Complexity, and Health (NICH) (2010-present)
- Okun-Model Early-Career Fellowship in Economics (2006-7)
- NSF IGERT IDEAS Fellow, Center for the Study of Complex Systems, University of Michigan (January 2003 – August 2005)
- Member, The American Political Science Association (2004-present)

EDUCATION

UNIVERSITY OF MICHIGAN
Ann Arbor, Michigan
September 2001-August 2006

Ph.D., Department of Political Science. Fields of Specialization: Comparative Politics, Political Economy and Development, Methodology, and Complex Systems. Dissertation Chair: Robert Axelrod

WILLIAMS COLLEGE
Williamstown, Massachusetts
September 1995-June 1999

B.A. (with Honors). Double-major in Economics and Political Science with honors thesis on dynamics of corruption.

PEER-REVIEWED PUBLICATIONS

“Social influence and obesity” *Current Opinion in Endocrinology, Diabetes & Obesity* 17 (in press, 2010).

“The Economic Impact of Obesity in the United States” with Levine, R. *Diabetes, Metabolic Syndrome, and Obesity: Targets and Therapy* 3:1-11 (2010).

“Empirical Performance of a Decentralized Civil Violence Model” with Klemens, B, Epstein, JM, and Raifman, M. *Center on Social and Economic Dynamics Working Paper* 56 (2010)

“A Complex Systems Approach to Understanding and Combating the Obesity Epidemic”. In *Obesity Prevention: The Role of Brain and Society in Individual Behavior*, L. Dube et al, eds. Amsterdam: Elsevier (2010).

“Economic Cost and Health Care Workforce Effects of School Closures in the U.S.” with Lempel, H. and Epstein J.M. *PLOS Currents: Influenza* (October 2009).

“Complex Systems Modeling for Obesity Research”. *Preventing Chronic Disease* 6(3) (2009).

“Coupled Contagion Dynamics of Fear and Disease: Mathematical and Computational Explorations” with Cummings, D. Epstein, J.M., and Parker, J. *PLOS_One* 3(12):e3995 (2008).

“Brain-to-Society Systems Models of Individual Choice” with Dube, L., Bechara, A., Bockenholt, U., Ansari, A., et al. *Marketing Letters* 19:323-336 (2008).

“Stages in the Evolution of Ethnocentrism” with Shultz, T., and Hartshorn, M. In B.C. Love, K. McRae, & V.M. Sloutsky (Eds). *Proceedings of the 30th Annual Conference of the Cognitive Science Society* (pp. 1244-1259) (2008).

“Mathematical and Computational Explorations of Coupled Contagion Dynamics” with Epstein, J.M., Parker, J., and Cummings, D. In *Proceedings of the 26th International Conference of the System Dynamics Society*, Curran Associates. (2008)

“Exploring Price-Independent Mechanisms in the Obesity Epidemic” with Epstein, J. *Center on Social and Economic Dynamics Working Paper* 48 (2007).

“Vision 2030: Securing Growth Momentum for the Future” *Proc. Vision 2030 Global Forum on Sustainable Development* (2007).

“Coupled Contagion Dynamics” with Cummings, D., Parker, J., and Epstein, J.M. *Santa Fe Institute Working Paper* 07-12-48 (2007)

“Migration and Ethnocentrism” in *Models of Social Dynamics: Corruption, Migration, and Prejudice* University of Michigan Dissertation UMI No. AAI3253279 (2006).

“Endogenous Transition Dynamics in Corruption” in *Models of Social Dynamics: Corruption, Migration, and Prejudice* University of Michigan Dissertation UMI No. AAI3253279 (2006).

“Inter-group Contact: Movement, In-group favoritism, and Individual Reciprocity” in *Models of Social Dynamics: Corruption, Migration, and Prejudice* University of Michigan Dissertation UMI No. AAI3253279 (2006).

“The Evolution of Ethnocentrism” with Axelrod, Robert. *Journal of Conflict Resolution* 50: 926-936 (2006).

“Evolution of Contingent Altruism When Cooperation is Expensive” with Axelrod, Robert *Theoretical Population Biology* 69(3), 333-338 (2006).

“Altruism via kin-selection strategies that rely on arbitrary tags with which they co-evolve” with Axelrod, Robert and Grafen, Alan. *Evolution* 58(8), 1833-1838 (2004).

“Population growth and collapse in a multiagent model of the Kayenta Anasazi in Long House Valley” with Axtell, Robert, Epstein, Joshua M., Dean, Jeffrey, et al. *Proceedings of the National Academy of Sciences* 99(3), 7275-7279 (2002).

“Non-explanatory equilibria: An extremely simple game with (mostly) unattainable fixed points” with Epstein, Joshua M. *Complexity* 7(4), 18-22 (2002).

“Non-explanatory equilibria” with Epstein, J.M. *Santa Fe Institute Working Paper* 01-08-043 (2001)

“Endogenous Dynamics of Corruption”. *Brookings Institution Center on Social and Economic Dynamics Working Paper* 19 (1999) – revised 2008

INVITED/FORTHCOMING PEER-REVIEWED PUBLICATIONS

“A Systems Science Perspective and Transdisciplinary Tools for Food and Nutrition Security” (with Dube, L.) *Proceedings of the National Academy of Sciences* (2010).

“A Systems-Based Typological Framework for Understanding the Sustainability, Scalability, and Reach of Childhood Obesity Interventions” (with Huang, TTK and Grimm, B) *Children’s Health Care* (2010).

ARTICLES CURRENTLY UNDER REVIEW and WORKING PAPERS

“Spatial clustering and the effectiveness of epidemic interventions”

“Combining Computational Fluid Dynamics and Agent-Based Modeling: A New Approach to Evacuation Planning” (with Epstein, J.M., and Pankajakshan, Ramesh)

“The tradeoff between the rate of weight loss and recidivist risk: toward a physiologically based theory of dietary design” (with Epstein, J.M.)

“Inter-group Contact: Movement, In-group favoritism, and Individual Reciprocity”

SELECTED PRINT MEDIA COVERAGE

“The Scouting Report Web Chat: Flu Contagion in Schools” *Politico webchat* October 21, 2009

“Swine Flu School Closings Could Cost Billions,” *The Associated Press* September 30, 2009.

“High cost to close schools for swine flu,” *UPI* September 30, 2009.

“Swine flu fear catching fast in weak world economy”, Adam Geller. *The Associated Press* April 28, 2009.

“Swine flu: An Investor’s Overview”, David Bogoslaw. *Business Week* April 28, 2009.

“Obesity and the Influence of Others” Op-Ed with Graham, C. and Young, P. *The Washington Post* August 21, 2007 (2007).

“Born Prejudiced”, Mark Buchanan. *The New Scientist* March 17, 2007.

The Social Atom, Mark Buchanan. Bloomsbury, USA May, 2007.

“We’re Prejudiced, now what?”, Robert Burton. *Salon* October 31, 2007

“Life with the Artificial Anasazi,” Jared Diamond. *Nature* 419(6907), 2002.

“Seeing Around Corners,” Jonathan Rauch. *The Atlantic Monthly* April 2002.

SELECTED BROADCAST MEDIA COVERAGE

BBC America, NPR “The Takeaway”, Fox Business, Al Hurrah, MSNBC, regional NBC, CBS, and ABC affiliates

RECENT MAJOR CONFERENCE PRESENTATIONS

“Complex Systems Modeling for Obesity – Novel Approaches” at National Collaborative on Childhood Obesity Research (NCCOR) NIH Briefing (July 2010)

“Agent-Based Computational Modeling and Public Health” at IBM *Almaden Institute* (San Jose, April 2010)

“Agent-Based Computational Modeling in Epidemiology” at The World Health Organization, SE Asia meeting (India, March 2010)

“Agent-Based Computational Modeling” at *Bridging Systems Science to Longitudinal and Cross-Sectoral Data to Set New Frontiers for the Multi-Level Study of Childhood Obesity* (Montreal, November, 2009)

“Modeling Complexity and Change over the Lifecourse” at *Bridging Life Course and Complex Systems Approaches to Population Health and Health Disparities* (NIH, OBSSR, University of Michigan, SFI), September 2009

“A Complex Systems Approach to Understanding and Combating the Obesity Epidemic” at *First Annual Workshop on Dynamic Modeling for Health Policy* (NIH & Lupina), July 2009

“Spatial Clustering and the Effectiveness of Epidemic Interventions” at National Institute of Health MIDAS Modeling Network Meeting (Monterey, CA), December 2008

“Agent-Based Modeling as an Example of Upstream Modeling” at National Cancer Institute CISNET Annual Meeting (Washington DC), November 2008

“Complex Systems, Agent-based Modeling, and Obesity: Understanding the Past and Exploring Policy for the Future” at *McGill Health Challenge Thinktank* (Montreal, Canada), November 2008

“Complex Systems and Agent-based Modeling: Applications to Obesity and Public Health” at NIH *Environmental Systems of Public Health Workshop*, October 2008

“Coupled Contagion Dynamics of Fear and Disease” at *International Conference of the System Dynamics Society* (Athens, Greece), July 2008

“Agent-Based Computational Modeling of Complex Social Dynamics” at *Frontiers of Statistical, Mathematical, and Computational Science Symposium* (Washington DC), May 2008

“Obesity and Complexity” at United States Department of Agriculture, April 2008.

“Agent-Based Models and Smoking” at *Mathematical Modeling in Tobacco Control* (National Cancer Institute and Univ of Michigan School of Public Health), May 2008

“A Complex Systems Approach to Understanding and Reversing the Obesity Epidemic” at *McGill Health Challenge Think Tank* (Montreal, Canada), November 2007

“Agent-based modeling and behavioral realism in social and public health models” at *Wharton Invitational Choice Symposium* (Philadelphia, PA), June 2007

“Vision 2030: Securing Growth Momentum for the Future” at *The Vision 2030 Global Forum on Sustainable Development* (Seoul, Korea), December 2006

CURRENT RESEARCH GRANTS

National Institutes of Health. U01: *Multi-level Modular Agent-based Modeling for the Study of Childhood Obesity*, with McGill University.

National Academy of Sciences Keck Futures Initiative Grant. *Humans as Explicit Players in Ecosystems: Using Bioenergetic Food-web Dynamics and Individual-Based Modeling Approaches to Explore Persistence and Stability in Complex Ecological Networks*, with Santa Fe Institute.

Washington University/Brookings Academic Venture Fund Award. *Integrated Childhood Obesity Modeling*

National Institutes of Health. U54 (Modeling of Infectious Disease Agent Study Centers of Excellence): *Computational Models of Infectious Disease Threats*, with University of Pittsburgh School of Public Health/Johns Hopkins University.

DHS University Center of Excellence Grant: *Preparedness And Catastrophic Event Response (PACER)*, with Johns Hopkins University Medical School.

CDC/NIH RFA-TP-08-001 *Preparedness and Emergency Response Research Centers: A PHS Approach*, with University of Pittsburgh School of Public Health

MAJOR COMPUTER LANGUAGES AND SOFTWARE

Java, C++, ASCAPE, RePAST, NetLOGO, Pascal, Mathematica

FOREIGN LANGUAGE TRAINING

French and Latin

PERSONAL

Citizenship: United States