James A. Rising

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Energy and Resources Group
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Research Interests

Modeling of social-environmental systems: Research focuses on complex systems, food production, impacts of climate change, and resource management.

Technologies for distributed research: Building extendable tools for scientific collaboration, data analysis, and model-building.

Academic Position

2015 – Present **University of California, Berkeley** – Ciriacy-Wantrup Postdoctoral Fellow, Energy & Resources Group

2003 – 2005 **Franklin W. Olin College of Engineering** – Electrical and Computer Engineering instructor

Education

2010 – 2015 **Columbia University** – Ph.D. in Sustainable Development
Title: "Scales for scales: an open look at the open sea"; Committee: Dr. Upmanu Lall, Dr. Geoffrey Heal, Dr. Mark Cane, Dr. Martin Smith, Dr. John Mutter

2013 **Columbia University** – M.A. and M. Phil. in Sustainable Development

1999 – 2003 **Massachusetts Institute of Technology** – Bachelor of Science in Philosophy, 2003

References

Prof. Geoffrey Heal
Columbia Business School
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Prof. Solomon Hsiang
University of California, Berkeley
+1 (510) 643-5751
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Prof. Upmanu Lall
Columbia University
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Prof. Mark Cane
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+1 (845) 365-8344
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Prof. David Anthoff
University of California, Berkeley
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Peer-Reviewed Publications

- Dumas, M., Rising, J. A., & Urpelainen, J. (2016). Path Dependence, Political Competition, and Renewable Energy Policy: A Dynamic Model. *Ecological Economics*.
- Houser, T., R. Kopp, S. Hsiang, M. Delgado, A. Jina, K. Larsen, M. Mastandrea, S. Mohan, R. Muir-Wood, D. J. Rasmussen, J. Rising, & P. Wilson (2015). *American Climate Prospectus: Economic Risks in the United States*. Columbia University Press.
- Rising, J. (2014). Creating the Commons: Fisheries and the World Bank. *History of economic thought and policy*, 75 – 95, DOI: 10.3280/SPE2014-001003.

Online Books

- Sachs, J., Rising, J., *et al.* (2015). The impacts of climate change on coffee: trouble brewing. http://eicoffee.net
- Rising, J. (2005). DSPFirst Lab Book. Olin College of Engineering, http://existencia.org/files/dsplabs.pdf

Circulating Working Papers

- Weather-driven adaptation in perennial crop systems: An integrated study of Brazilian coffee yields – **Job Market Paper**
- Multiscale management of the distributed fishery commons (under review, Journal of Environmental Economics and Management)
- Probabilistic model coupling: an amalgamated approach to modeling (under review, Environmental Modelling and Software)
- Glaciers and flooding in Himalayan river basins (with Upmanu Lall, under review, Journal of Hydrology)
- Global benefits of marine protected areas (with Geoffrey Heal, under review, Science)
- Inferring spatio-temporal anchoveta stocks using catch series and plankton measurements (with Kimberly Lai-Oremus)
- Performance of agricultural process models using global data (with Mark Cane)
- A tool for distributed meta-analysis (with Solomon Hsiang and Robert Kopp)

Working Papers in Preparation

- Empirical estimation of climate impacts under adaptation (with Amir Jina and Solomon Hsiang)
- Scalable network models of US water-energy-food-other resources: Formulation, data requirements and potential applications (with Upmanu Lall)
- Conflict in the currents: the cross-boundary consequences of larval dispersal (with Nandini Ramesh, Denyse Dookie, and Kimberly Lai-Oremus)
- Access and Mobility in Transportation Planning: a Nairobi Case Study (with Kayleigh Campbell)
- Emotions, elections, and Hurricane Sandy (with Prabhat Barnwal)
- Empirical models of yields across climatic regions (with Naresh Devineni)

Grant Projects

2015	**Social Science Meta Analysis and Research Transparency** – PI: Solomon Hsiang (Funded by the Berkeley Institute for Transparency in the Social Sciences)
2015	**Probabilistic projections of potential humanitarian response needs 2015-2035** – PI: Marc Levy
2014 – 2017	**America's water: the changing landscape of risk, competing demands and climate** – Co-PIs: Upmanu Lall, Lisa Goddard, Michael Gerrard, Marc Levy, and Brendan O'Flaherty (Funded by NSF)
2014 – 2015	**Earth Institute Study of Coffee Production and Trade** – PI: Jeffrey Sachs (Funded by Illy Coffee and Lavazza)
2013 – 2014	**Econometric assessment of climate change impacts in the USA** – PI: Solomon Hsiang
2013 – 2014	**Electricity and Green Development** – PI: Wolfram Schlenker (Funded by GGGI)
2013 – 2014	**Emotions, elections, and Hurricane Sandy** – PI: Douglas Almond
2013	**Damage Function Merging for Integrated Assessment Models** – PI: Robert Kopp

Awards

2015 – 2017	Ciriacy-Wantrup Postdoctoral Fellowship, University of California, Berkeley.
2012 – 2015	**NSF Graduate Research Fellowship Program Fellow**
2013	**Co-organizer**, Interdisciplinary Ph.D. Workshop in Sustainable Development
2003	**Todd Anderson Teaching Award**, Experimental Study Group, M.I.T.
2000	**Fiekowsky Community Service Award**, Experimental Study Group, M.I.T.

Teaching Experience

2013, 2015	**Complexity Science** – Columbia University, developed curriculum and co-taught with Upmanu Lall and Johannes Castner (2013) and Marion Dumas (2015)
2012	**Progressive Alternatives** – Columbia University (joint with Harvard and Sciences Po), TA for Jeffrey Sachs
2011	**Environmental Science for Sus. Dev.** – Columbia University, TA for John Mutter
2008	**Future Seminar** – Experimental Study Group, M.I.T., Instructor
2005	**Run the World Seminar** – Experimental Study Group, M.I.T., and Olin College of Engineering, Instructor
2005	**Philosophy of Love** – Massachusetts Institute of Technology, TA for Lee Perlman
2005	**Introductory Electronics** – Olin College of Engineering, TA for Gill Pratt
2005	**Engineering of Distributed Systems** – Olin College of Engineering, TA for Gill Pratt
2004	**Human System Dynamics** – Olin College of Engineering, Instructor
2004	**Engineering of Continuous Systems** – Olin College of Engineering, TA for Gill Pratt
2004 – 2005	**Discrete Signal Processing** – Olin College of Engineering, TA for Diana Dabby
2003	**Software Using Images and Sound** – Olin College of Engineering, TA for Jill Crisman
2003	**Technologies and Cultures** – Experimental Study Group, M.I.T., co-taught with Amilio Aviles
2003	**The Learning Seminar** – Experimental Study Group, M.I.T., Instructor
2001 – 2002	**Structure and Interpretation of Computer Programs** – Massachusetts Institute of Technology, TA for Eric Grimson and Ben Vandiver
2000 – 2003	**Lego Robotics Seminar** – Experimental Study Group, M.I.T., Instructor

Online Class Materials

- Rising, J. and A. Aviles (2011). SP.272 / ES.SP272 Culture and Technology, Spring 2003. Massachusetts Institute of Technology: MIT OpenCouseWare, `http://ocw.mit.edu/courses/special-programs/sp-272-culture-tech-spring-2003/`
- Rising, J. (2010). SP.256 / ES.SP256 The Coming Years. Massachusetts Institute of Technology: MIT OpenCouseWare, `http://ocw.mit.edu/courses/special-programs/sp-256-the-coming-years-spring-2008/`
- Rising, J. (2009). SP.291 / ES.SP291 Learning Seminar: Experiments in Education. Massachusetts Institute of Technology: MIT OpenCouseWare, `http://ocw.mit.edu/courses/special-programs/sp-291-learning-seminar-experiments-in-education-spring-2003/`
- Rising, J. (2008). SP.293 / ES.SP293 Lego Robotics. Massachusetts Institute of Technology: MIT OpenCouseWare, `http://ocw.mit.edu/courses/special-programs/sp-293-lego-robotics-spring-2007/`

Industry Experience

1997 – 2012	**Contract Software Development** – Statistical analysis (**D_xCG, Inc.**), database tools (**Terascape Software**, **EMC^2, Inc.**, **NormaTec, Inc.**), website development (**iNeed.com**, **SoundSpectrum**), audio and video processing (**Wave Arts, Inc.**, **SalientStills**, **Harmonix Music**), mobile apps (**EnginArt**, **Liiiike, Inc.**)
2009 – 2010	**Wired for Change** – Head advocacy developer
2008 – 2009	**Virsona, Inc.** – Chief natural lanaguge architect
2006 – 2008	**Travelers Network** – CEO and head developer

Experience in assembly, C++ (C, C#, Objective-C), Java, Julia, Lisp, Perl, PHP, Python, Ruby, Matlab, R, SAS, SQL, Stata, VB, XHTML, and .NET. Familiarity with several development frameworks and databases.

Presentations

2016	**NBER Summer Institute**, Environmental and Energy Economics Workshop, short talk
2016	**Alliance Summer School in Science and Policy 2016**, talk and workshop*
2016	**Columbia University**, Sustainable Development Research Conference
2016	**American Geophysical Union**, Ocean Sciences
2015	**American Geophysical Union**, Fall Meeting
2015	**Global Coffee Forum**
2014	**International Institute of Fisheries Economics and Trade**
2014	**Columbia University**, Interdisciplinary Ph.D. Workshop in Sustainable Development
2014	**American Geophysical Union**, Fall Meeting
2013	**Union of Concerned Scientists**, Project Meeting*
2013	**Columbia University**, Interdisciplinary Ph.D. Workshop in Sustainable Development
2013	**International Congress for Conservation Biology**, Conservation Conflicts Panelist*
2013	**Earth System Governance Tokyo Conference**, Semi-Plenary Panelist*
2012	**4th International Ecosummit**
2012	**Columbia University**, Interdisciplinary Ph.D. Workshop in Sustainable Development
2011	**American Geophysical Union**, Fall Meeting
2010	**Salsa Users Conference**, Panel Host
2007	**Mathworks, Inc.**, Apps Meeting*

* Invited presentation

Professional Service

Conference organization: **AGU Session**: The Future of America's Water: understanding the landscape of water security risk, and addressing the associated societal and economic impacts (co-chair, oral and poster); **Student Conferences**: Sustainable Development Research Conference (co-organizer, Columbia University, 2016); Interdisciplinary Ph.D. Workshop in Sustainable Development (co-organizer, Columbia University, 2014); Science and Policy Summer School (coordinator, Sciences Po, 2012)

Reviewer: Journal of Environmental Economics and Management; Climatic Change; Journal of Conflict Resolution; Cloud Computing in the Ocean and Atmospheric Sciences (book)