

MARION DUMAS

Grantham Research Institute
London School of Economics and Political Science
Houghton St, London WC2A 2AE
+44 2078523626
m.dumas1@lse.ac.edu
<http://tuvalu.santafe.edu/~marion>
Research statement: <http://tuvalu.santafe.edu/~marion/research.pdf>
Teaching statement: <http://tuvalu.santafe.edu/~marion/teaching.pdf>

CURRENT POSITION

2017-present Assistant Professorial Research Fellow
Grantham Research Institute

PRIOR POSITION

2015-2017 Omidyar Fellow, Santa Fe Institute

EDUCATION

2009-2015 PhD, Columbia University
PhD in Sustainable Development · School: International and Public Affairs
Dissertation: *Three essays on political institutions and environmental governance*
Relevant coursework: microeconomics, game theory, econometrics, political economics, advanced quantitative analysis

2011-2012 Exchange Scholar, Harvard University, Department of Government

2007-2009 M.Sc., ETH Zürich
Major in Ecology and Evolution
Thesis: *Developing a model and database for assessing food production systems' sensitivity to phosphate rock shortages at the world scale*

2002-2006 B.Sc., Massachusetts Institute of Technology
Major: Environmental Sciences, Department of Earth, Atmospheric and Planetary Sciences
Minor: Applied Mathematics

RESEARCH FIELDS

Political Economics, Environmental Economics, Ecological Economics

REFERENCES

Professor Samuel Bowles · Santa Fe Institute · bowles@santafe.edu
Professor Michael Ting · Columbia University · mmt2033@columbia.edu
Professor Jenna Bednar · University of Michigan · jbednar@umich.edu
Professor Matthew Jackson · Stanford University · jacksonm@stanford.edu

SELECTED PUBLICATIONS

Dumas M., Rising J. and Urpelainen J., 2016. Political Competition and Renewable energy Transitions over Long Time Horizons: a Dynamic Approach, *Ecological Economics* Vol 124 (2016): 175-184.
Dumas M., 2017. Taking the Law to Court: Citizen Suits and the Legislative Process, *American Journal of Political Science* Vol 61(4): 944-957.

M. Galesic, W. Bruine de Bruin, M. Dumas, A. Kapteyn, J.E. Darling and E. Meijer, 2018. *Asking about Social Circles Improves Election Predictions*. *Nature Human Behavior*, Vol 2(3):187-193.

Dumas M., In *Law as Data (forthcoming)* . Detecting Ideology in Judicial Decisions about the Environment.

UNDER REVIEW

Dumas M., . *under review* The Autonomy of Law from Politics: Evidence from a Network Analysis of US Environmental Law

Dumas M., E. Dugoua, . *under review* Green Product Innovation in Industrial Networks

Taylor R., X. Liang, M. Laublicher, G. West, C. Kempes, M. Dumas (as PI), . *under review* The Scalability, Efficiency and Complexity of Universities and Colleges: A New Lens for Assessing the Higher Educational System

OTHER RESEARCH PAPERS

O'Halloran S., M. Dumas, S. Maskey, G. McAllister, and D.K. Park, 2016. Computational Data Sciences and the Regulation of Banking and Financial Services, *Advances in Social Networks Analysis and Mining* In Press

Dumas M., E. Frossard, and R. Scholz, 2011. Modeling Biogeochemical Processes of Phosphorus for Global Food Supply, *Chemosphere* Vol 84(6): 798-805.

D. Burt, M. Dumas, N. Spring and D. Vaccari, 2012. Global Phosphorus: Geological Sources and Demand-driven Production, In Wyant, K.A. et al., Eds., *Phosphorus, Food, and Our Future*, New York: Oxford University Press.

RESEARCH PAPERS IN PROGRESS

with E. Power and J. Barker, . When Does Reputation Lie? Dynamic Feedbacks between Reputation, Social Structure, and Wealth.

with C. Brelsford, . Human Choices Matter but How do we Model Them? A Synthetic Overview of the Social Sciences' Potential Contribution to Socio-hydrology

INVITED TALKS

2017 · *Studying Legal Systems and the Properties of Good Laws from the Perspective of Complex Systems* · University of Michigan, Political Science Department

2016 · *When Does Reputation Lie? Dynamic Feedbacks between Reputation, Social Structure and Wealth* (with Eleanor Power)

· *Human Behavior and Institutions Workshop, SFI*

2016 · *Cities and Governance for Sustainability* · Global Sustainability Summer School, SFI

2016 · *Building the Institutional Foundations for Sustainability in a Complex World* · Alliance Summer School in Science and Policy, Sciences-Po Paris

2016 · *Impact of Supply Chain Structure on Radical Innovation: Insights and Strategic Implications* · Women Corporate Directors Foundation Meeting

2016 · *Whose Law Is It? Network Analysis of the Evolution of U.S. Environmental Law* · Midwest Political Science Association Meeting, Chicago and 20th Annual Conference of the Society for Institutional Organizational Economics, Paris

WORKSHOPS

- 2017 · Co-organizer of SFI Workshop *From Institutions, to Behaviors, to Hydrological Outcomes: Frontiers of Socio-hydrological Dynamics*
- 2017 · Co-organizer of SFI Working Group *Modeling Dynamics of Violent Radicalization in Western Democracies*
- 2016 · Chair and organizer of Satellite Session on Law and Complexity at the 2016 Conference on Complex Systems, Amsterdam

TEACHING AND
MENTORING

- 2016 · Member and contributing author of **CORE-econ**
- 2016 · Students mentored: Kat Wicks, Shane Dabor and Xavier Gutierrez
- 2015 · Instructor Complexity Science, Columbia University
Developed and taught an introductory course on methods and concepts from complexity science
- 2015 · TA Economics of Energy, Columbia University
- 2012-2014 · TA Political Economy of Development, Columbia University
- 2011 · TA Environmental Science for Sustainable Development, Columbia University

ACADEMIC SERVICE

- Referee for *American Journal of Political Science*, *Earth's Future*, *Science Advances*, *BioScience*
- 2015-2016 · Selection Committee Omidyar Fellowship SFI
- 2014 · Selection Committee Mellon Fellowship, Columbia University
- 2013-2015 · Organizer of a Graduate Seminar in Complexity Science

GRANTS AND AWARDS

- 2018 · 125,000, AXA Future Research Leader Fellowship
- 2017 · \$50,000 from the National Science Foundation for a workshop on Water and Governance
- 2013 · Mellon Fellowship
- 2010 · Sasakawa Young Leaders Fellowship Fund Grant for summer research
- 2010 · ETH Medal for Excellence in Research
- 2009-2014 · Columbia Graduate Fellowship
- 2009-2012 · Stanford Graduate Fellowship (declined)
- 2006 · MIT Goetze Prize for Undergraduate Research

OTHER WORK
EXPERIENCE

- 2013-2015 · Consultant, DataPop Alliance, New York
Recommendations to ODI, World Bank and DfID on Leveraging Big Data for Climate Resilience
Description: Synthesis report on the applications of Big Data for Climate Resilience; design of an information system as part of a Rockefeller Grant on Climate Resilience
- 2006-2007 · Consultant, Utopies, Paris, France
Sustainability strategies of companies; Co-lead of the sustainable construction working group
- 2003 · Engineer Intern, Consorzio Venezia Nuova, Venice, Italy
Computational Modeling of the Venice Lagoon's Dynamics

PARTICIPATION IN
WORKSHOPS AND
SUMMER SCHOOLS

- June 2013 · Santa Fe Institute
Advanced Graduate Workshop in Computational Social Science
Core Faculty: John MILLER · Scott PAGE
- December 2012 · Workshop in Institutional Analysis
Coase Institute
Core Faculty: Lee BENHAM · John NYE · Gary LIBECAP

September 2010 · Oxford Poverty & Human Development Initiative (Amman, Jordan)
Capability and Multidimensional Poverty Graduate Summer School
Core Faculty: Sabina ALKIRE

LANGUAGES

FRENCH, ENGLISH, GERMAN

COMPUTER
LANGUAGES

PYTHON, MATLAB, R, MATHEMATICA, STATA, BASH SCRIPTING, GIS

January 23, 2019