

# James D. A. Millington

*BSc (HONS) · MSc · PhD · PGCAP · FRGS · FHEA*

## Senior Lecturer in Geography

Department of Geography, King's College London, Strand, London, WC2R 2LS, UK

james.millington@kcl.ac.uk | www.landscapemodelling.net

### PROFILE

#### Geographer & Landscape Ecologist

Interests in socio-ecological landscape dynamics, including land-use change & disturbance dynamics.

#### Computational & Statistical Modeller

Technical expertise in development & application of conceptual and data-driven models.

#### Research Funding and Dissemination

Record of winning grants from RCUK & other sources, with strong publications (30+ articles & chapters).

#### Teaching Experience

Innovating & leading learning across all university levels in Geography & Natural Resources depts. (UK & US).

#### Fieldwork Teaching & Research

Planning & leading data collection & learning in international locations (Malawi, Michigan, Morocco, Spain).

### EDUCATION

#### PhD Geography

Department of Geography, King's College London, July 2007.

Thesis: *Modelling Land Use/Cover Change and Wildfire Regimes in a Mediterranean Landscape*.

Supervisors: Prof John Wainwright, Prof George L.W. Perry, Prof David Demeritt

#### MSc Environmental Monitoring, Modelling and Management (Distinction)

Department of Geography, King's College London, Sept. 2003.

Thesis: *Wildfire Frequency-Area Statistics and Their Ecological and Anthropogenic Drivers*.

Supervisor: Prof Bruce D. Malamud

#### BSc (Hons) Geography (First Class)

Department of Geography, King's College London, July 2002.

Thesis: *Modelling the Effects of Climate Change on Wildfire Risk for a Region in South East Spain*.

Supervisor: Prof George L.W. Perry

#### Postgraduate Certificate in Academic Practice (Distinction)

King's College London, Sept. 2015

### RESEARCH FUNDING

#### UK Natural Environment Research Council (NERC)

Co-Investigator, *Why we Disagree About Resilience: Epistemology, methodology and policy space for integrated disaster risk management (WhyDAR)*, Nov. 2016–July 2017

Total funding of £162,500 between multiple partners in UK & Africa with £137,000 to King's College London through the GCRF Building Resilience funding call. JDAM co-investigator at King's and overseeing one postdoctoral research associate with Bruce D. Malamud.

#### Daphne Jackson Trust

Co-Investigator, *Simulating the Effects of Woodland Restoration and Management on the Flow of Ecosystem Services in the Future Climate*, Sept. 2016–Sept. 2018

Total funding of ~£100,000 with co-PIs Mark Mulligan and Lucie Jerabkova (LJ) to support LJ as postdoctoral research associate at King's College London through Daphne Jackson Trust Fellowship. JDAM co-author of proposal and overseeing LJ with Mark Mulligan.

#### UK Natural Environment Research Council (NERC) via Belmont Forum

Co-Investigator, *Food Security and Land Use: The Telecoupling Challenge*, Feb. 2015–Feb. 2020

Total funding of €1.5 million between multiple partners in UK, USA, China & Brazil with £141,000 to King's College London through Food Security and Land Use Change programme. JDAM co-ordinator of UK team & principal investigator at King's overseeing one postdoctoral research associate.

#### UK Economic & Social Research Council (ESRC) & UK Dept. for International Development (DFID)

Co-Investigator, *Urban Africa Risk Knowledge (Urban ARK)*, Jan. 2015–Jan. 2018

Total funding of £3.3 million between multiple partners in UK & Africa with £800,000 to King's College London through ESRC-DFID Poverty Alleviation Programme. JDAM co-investigator at King's and overseeing one postdoctoral research associate and one PhD student for one work package with Bruce D. Malamud.

### **King's College London, Department of Geography**

Principal Investigator, *Trialling Advanced Technologies for Mapping and Understanding Global Flows of Electronic Waste*, 2013. Funding of £1,200 to JDAM and Andrew Brooks through King's Department of Geography Research Stimulus Fund.

### **Leverhulme Trust**

Principal Investigator, *Model Narratives for Climate Change Mitigation*, Jan. 2011–Dec. 2013

Total funding of approx. £150,000 (three years' salary and research expenses) to King's College London through Leverhulme Early Career Fellowship.

### **UK Economic & Social Research Council (ESRC)**

Principal Investigator, *University of Auckland, New Zealand* May–July 2005

Funding of £1,800 to JDAM through ESRC Overseas Institutional Visit Grants.

### **UK Economic & Social Research Council (ESRC) & Natural Env. Research Council (NERC)**

Principal Investigator, *Modelling Wildfire and Land-Use Interactions in a Mediterranean Landscape*, Sept. 2003–Sept. 2006

Funding of approx. £90,000 (three years' fees, stipend and research expenses) to JDAM with George Perry supervisor through ESRC-NERC Interdisciplinary PhD Research Studentship.

## **PUBLICATIONS**

### **Citation Metrics**

ORCID <https://orcid.org/0000-0002-5099-0001>

ISI Web of Science [[http://bit.ly/JM\\_ISIcites](http://bit.ly/JM_ISIcites)]: total citations 624; h-index 13.

Scopus [[http://bit.ly/JM\\_Scites](http://bit.ly/JM_Scites)]: total citations 772; h-index 16.

Google Scholar [[http://bit.ly/JM\\_GScites](http://bit.ly/JM_GScites)]: total citations 1312; h-index 18.

### **Peer-Reviewed Journal Articles**

28. Liu *et al.* incl. **Millington, J.D.A.** (2018) Spillover systems in a telecoupled Anthropocene: typology, methods, and governance for global sustainability, *Current Opinion in Environmental Sustainability*, 33 58–69
27. Xiong, H., **Millington, J.D.A.**, and Xu, X. (2018) Trade in the telecoupling framework: evidence from the metals industry, *Ecology and Society*, 23(1):11.
26. **Millington, J.D.A.**, Xiong, H., Peterson, S. and Woods, J. (2017) Integrating modelling approaches for understanding telecoupling: global food trade and local land use, *Land*, 6(3) 56.
25. Bush, A. *et al.* incl. **Millington, J.D.A.** (2017) Connecting Earth observation to high-throughput biodiversity data. *Nature Ecology and Evolution*, 1 0176.
24. **Millington, J.D.A.** and Wainwright, J. (2017) Mixed qualitative-simulation methods: Understanding geography through thick and thin. *Progress in Human Geography*, 41(1) 68–88.
23. Seijo, F., **Millington, J.D.A.**, Gray, R.W. *et al.* (2017) Divergent fire regimes in two unevenly developed Mediterranean Chestnut forest landscapes. *Human Ecology*, 45(2) 205–219.
22. Sun, Z., Lorscheid, I., **Millington, J.D.A.** *et al.* (2016) Simple or complicated agent-based models? A complicated issue. *Environmental Modelling and Software*, 86 56–67.
21. Fischer, A.P. *et al.* incl. **Millington, J.D.A.** (2016) Wildfire risk as a socioecological pathology. *Frontiers in Ecology and Environment*, 14(5) 276–284.
20. Seijo, F., **Millington, J.D.A.** *et al.* (2015) Forgetting fire: Traditional fire knowledge in two chestnut forest ecosystems of the Iberian Peninsula and its implications for European fire management policy. *Land Use Policy*, 47 130–144.
19. **Millington, J.D.A.**, Butler, T. and Hamnett, C. (2014) Aspiration, Attainment and Success: An agent-based model of distance-based school allocation. *Journal of Artificial Societies and Social Simulation*, 17(1) 10.
18. Müller, B. *et al.* incl. **Millington, J.D.A.** (2014) Standardised and transparent model descriptions for agent-based models: Current status and prospects. *Environmental Modelling & Software*, 55 156–163.
17. **Millington, J.D.A.**, Walters, M.B., Matonis, M.S. and Liu, J. (2013) Filling the gap: A compositional gap regeneration model for managed northern hardwood forests. *Ecological Modelling*, 253 17–27.
16. **Millington, J.D.A.**, Walters, M.B., Matonis, M.S. and Liu, J. (2013) Modelling for forest management synergies and trade-offs: Northern hardwood tree regeneration, timber and deer. *Ecological Modelling*, 248 103–112.
15. **Millington, J.D.A.**, O'Sullivan, D. and Perry, G.L.W. (2012) Narrative explanation in generative simulation modelling. *Geoforum*, 43(6) 1025–1034.
14. **Millington, J.D.A.**, Demeritt, D. and Romero-Calcerrada, R. (2011) Participatory evaluation of agent-based land use models. *Journal of Land Use Science*, 6(2) 195–210.
13. **Millington, J.D.A.**, Walters, M.B., Laurent, E.J. *et al.* (2011) Combined long-term effects of variable tree regeneration and timber management on forest songbirds and timber production. *Forest Ecology and Management*, 262 718–729.
12. **Millington, J.D.A.** and Perry, G.L.W. (2011) Multi-model inference in biogeography. *Geography Compass*, 5(7) 448–530.
11. Matonis, M.S., Walters, M.B. and **Millington, J.D.A.** (2011) Gap-, stand-, and landscape-scale factors contribute to poor sugar maple regeneration after timber harvest. *Forest Ecology and Management*, 262 286–298.

10. Wainwright, J. and **Millington, J.D.A.** (2010) Mind, the Gap in Landscape-Evolution Modelling. *Earth Surface Processes and Landforms*, 35(7) 842–855.
9. **Millington, J.D.A.**, Walters, M.B., Matonis, M.S. and Liu, J. (2010) Effects of local and regional landscape characteristics on wildlife distribution across managed forests. *Forest Ecology and Management*, 259 1102–1110.
8. Romero-Calcerrada, R., Barrio-Parra, F., **Millington, J.D.A.** and Novillo, C.J. (2010) Spatial modelling of socioeconomic data to understand patterns of human-caused wildfire ignition risk in the SW of Madrid (central Spain). *Ecological Modelling*, 221(1) 34–45.
7. **Millington, J.D.A.**, Wainwright, J., Perry, G.L.W. *et al.* (2009) Modelling Mediterranean landscape succession-disturbance dynamics: A landscape fire-succession model. *Environmental Modelling and Software*, 24 1196–1208.
6. **Millington, J.D.A.**, Romero-Calcerrada, R., Wainwright, J. and Perry, G.L.W. (2008) An agent-based model of Mediterranean agricultural land-use/cover change for examining wildfire risk. *Journal of Artificial Societies and Social Simulation*, 11(4) 4.
5. Romero-Calcerrada, R., Camacho, C.J., **Millington, J.D.A.** and Gomez-Jimenez, I. (2008) GIS analysis of spatial patterns of human-caused wildfire ignition risk in the SW of Madrid (Central Spain). *Landscape Ecology*, 23 34–54.
4. Perry, G.L.W. and **Millington, J.D.A.** (2008) Spatial modelling of succession-disturbance dynamics in terrestrial ecological systems. *Perspectives in Plant Ecology, Evolution and Systematics*, 9(3-4) 191–210.
3. **Millington, J.D.A.**, Perry, G.L.W. and Romero-Calcerrada, R. (2007) Regression techniques for examining land use/cover change: A case study of a Mediterranean landscape. *Ecosystems*, 10(4) 562–578.
2. Malamud, B.D., **Millington, J.D.A.** and Perry, G.L.W. (2005) Characterizing wildfire regimes in the USA. *Proceedings of the National Academy of Science*, 102(13) 4694–4699.
1. **Millington, J.D.A.** (2005) Wildfire risk mapping: considering environmental change in space and time. *Journal of Mediterranean Ecology*, 6(1) 33–42.

### Other Articles

5. **Millington, J.D.A.** and Wainwright, J. (2016) Comparative Approaches for Innovation in Agent-Based Modelling of Landscape Change. *Land*, 5(2) 13.
4. Roos, C.I., *et al.* incl. **The Fire and Mankind Discussion Group** (2016) Living on a flammable planet: interdisciplinary, cross-scalar, and varied cultural lessons, prospects, and challenges. *Philosophical Transactions of the Royal Society – B*, 371 20150469
3. **Millington, J.D.A.** (2012) Using social psychology theory for modelling farmer decision-making *In: Seppelt, R. et al.* (Eds.) *Proceedings of iEMSs 2012 International Congress on Environmental Modelling and Software*. Germany, 2485–2492.
2. **Millington, J.D.A.**, O'Sullivan, D. and Perry, G.L.W. (2012) Narrative explanation of agent decision-making *In: Seppelt, R. et al.* (Eds.) *Proceedings of iEMSs 2012 International Congress on Environmental Modelling and Software*. Germany, 2660–2665.
1. McConnell, W.J., **Millington, J.D.A.** *et al.* (2011) Research on Coupled Human and Natural Systems (CHANS): Approach, Challenges, and Strategies. *Bulletin of the Ecological Society of America*, 92 218–228.

### Edited Books

1. **Millington, J.D.A.** and Wainwright, J. (Eds.) (2016) *Agent-Based Modelling and Landscape Change*. Basel: MDPI. ISBN: 978-3-03482-281-5
2. Francis, R.A., **Millington, J.D.A.** and Chadwick, M.A. (Eds.) (2016) *Urban Landscape Ecology: Science, Policy and Practice*. London: Routledge. ISBN 978-1-13888-851-7

### Book Chapters

8. **Millington, J.D.A.** (2016) Simulation and reduced complexity models *In: Clifford et al.* (Eds.) *Key Methods in Geography*. (3rd ed.) London: SAGE, 400–422.
7. Francis, R.A., **Millington, J.D.A.** and Chadwick, M.A. (2016) An overview of landscape ecology in cities *In: Francis, R.A., Millington, J.D.A. and Chadwick, M.A.* (Eds.) *Urban Landscape Ecology: Science, Policy and Practice*. London: Routledge, 1–18.
6. Hochstrasser, T., **Millington, J.D.A.** *et al.* (2014) The study of land degradation in drylands: State of the art *In: Mueller, E.N., Wainwright, J., Parsons, A.J. and Turnbull, L.* (Eds.) *Patterns of Land Degradation in Drylands*. Springer, 13–54.
5. Jeltsch, F. *et al.* incl. **Millington, J.D.A.** (2014) Resilience, self-organization, complexity and pattern formation *In: Mueller, E.N., Wainwright, J., Parsons, A.J. and Turnbull, L.* (Eds.) *Patterns of Land Degradation in Drylands*. Springer, 55–84.
4. Mueller, E.N. *et al.* incl. **Millington, J.D.A.** (2014) Land degradation in drylands: Re-evaluating pattern-process interrelationships and the role of ecogeomorphology *In: Mueller, E.N., Wainwright, J., Parsons, A.J. and Turnbull, L.* (Eds.) *Patterns of Land Degradation in Drylands*. Springer, 367–383.
3. **Millington, J.D.A.**, Wainwright, J. and Mulligan, M. (2013) Representing human activity in environmental modelling *In: Wainwright, J. and Mulligan, M.* (Eds.) *Environmental Modelling: Finding Simplicity in Complexity*. (2nd ed.) Oxford: Wiley-Blackwell, 291–307.

2. O'Sullivan, D., **Millington, J.D.A.**, Perry, G.L.W. and Wainwright, J. (2012) Agent-based models – because they're worth it? *In: Heppenstall, A.J., Crooks, A.T., See, L.M. and Batty, M. (Eds.) Agent-Based Models of Geographical Systems*. Springer, 109–123.
1. **Millington, J.D.A.**, Perry, G.L.W. and Malamud, B.D. (2006) Models, data and mechanisms: quantifying wildfire regimes *In: Cello, G., Malamud, B. D., and Davey, P. (Eds.) Fractal Analysis for Natural Hazards*. Geological Society, London, 155–167.

### Book Reviews

3. **Millington, J.D.A.** (2009) New models for ecosystem dynamics and restoration Hobbs, R.J. and Suding, K.N. (Eds.) *Landscape Ecology* 24(9) 1269–1270.
2. **Millington, J.D.A.** (2009) A companion to environmental geography Castree, N., Demeritt, D., Liverman, D. and Rhoads, B. (Eds.) *Progress in Physical Geography* 33(3) 445–447.
1. **Millington, J.D.A.** (2007) Engaging the future: forecasts, scenarios, plans, and projects Hopkins, L.D. and Zapata, M.A. (Eds.) *Environment and Planning A* 39 2797–2798.

## ACADEMIC ESTEEM & SERVICE

### Fellowships & Studentships

- Leverhulme Early Career Fellowship, Jan. 2011–Sept. 2013.  
ESRC-NERC Interdisciplinary PhD Research Studentship, Sept. 2003–Dec. 2006.

### Invited Workshop Participant (Fully-Funded)

5. *Theoretical foundations and empirical specification of decision rules in agricultural agent-based modelling approaches: Current state and future prospects*, Swiss National Science Foundation-funded workshop, ETH Zurich, Switzerland, Jan. 2017.
4. *Coupled Natural-Human Systems in Fire-Prone Ecosystems: Interconnections and Research Needs*, US National Science Foundation-funded workshop, Oregon State University, Bend, OR, USA, Aug. 2014.
3. *Self-organised Ecogeomorphic Systems: Confronting Models with Data for Land-Degradation in Drylands*, European Science Foundation-funded workshop, Potsdam, Germany, June 2010.
2. *General Integration of the Applications of Complexity in Science: Applications of Complex Systems to Social Sciences*, EU-funded NEST Summer School, Kazimierz Dolny, Poland, Sept. 2006.
1. *Emerging Theories and Methods in Sustainability Research: Analysing Complexity*, EU-funded Marie Curie Summer School, The Autonomous University of Barcelona, Barcelona, Spain, June 2006.

### Invited Speaker

12. *Agent-Based Modelling of Land Use Workshop*, University of Edinburgh, Edinburgh, UK, May 2015.
11. *Department of Geography Seminar Series*, University of Auckland, Auckland, New Zealand, May 2013.
10. *Centre for Biodiversity and Biosecurity Seminar Series*, University of Auckland, Auckland, New Zealand, May 2013.
9. *Harvard Forest Lab Group Seminar Series*, Harvard University, Petersham, MA, USA, April 2012.
8. *Centre for Environmental Change and Sustainability Seminar Series*, University of Edinburgh, UK, Nov. 2011.
7. *Environmental Monitoring and Modelling Seminar Series*, King's College London, London, UK, Nov. 2011.
6. *Ecological Modelling Seminar*, Helmholtz Centre for Environmental Research, Leipzig, Germany, May 2011.
5. *Hanover Forest Science Seminar Series*, Michigan State University, Lansing, MI, USA, Feb. 2010.
4. *Pharmaceuticals in the Environment: Current Trends and Research Priorities*, Michigan State University, Lansing, MI, USA, Nov. 2007.
3. *Graduate Student Organisation Seminar Series*, Department of Fisheries and Wildlife, Michigan State University, Lansing, MI, USA, Nov. 2007.
2. *Scale-invariance and scale dependence in earth structure and dynamics* [presentation and panel discussant], British Geophysical Association Conference, London, UK, March 2006.
1. *School of Geography and Environmental Science Seminar Series*, University of Auckland, Auckland, New Zealand, May 2005.

### Board Membership

- International Association for Landscape Ecology, Board Member UK Chapter, 2014–Present.

### Journal Editorship

- Plant Ecology, Associate Editor, 2013–Present.  
LAND, Editorial Board, 2016–Present.  
LAND, Special Issue on Agent-Based Modelling and Landscape Change, 2016.

### **Journal Manuscript Reviewer** [[http://bit.ly/JM\\_Publons](http://bit.ly/JM_Publons)]

Reviewer of over 45 manuscripts for 31 journals: *Advances in Complex Systems*; *American Naturalist*; *Annals of Forest Science*; *Anthropocene*; *Area*; *BMC Ecology*; *Canadian J. of Zoology*; *Ecological Complexity*; *Ecological Modelling*; *Ecology and Society*; *Ecosphere*; *Ecosystems*; *Environment and Planning A*; *Environmental Conservation*; *Environmental Modelling & Software*; *Forest Ecology and Management*; *International J. of GIS*; *International Journal of Wildland Fire*; *JASSS – J. of Artificial Societies and Social Simulation*; *J. of Environmental Policy and Planning*; *J. of Geographical Systems*; *J. of Land Use Science*; *J. of Nature Conservation*; *Land*; *Land Use Policy*; *Landscape Ecology*; *Mammal Review*; *Natural Hazards*; *Plant Ecology*; *Sustainability*; *Transactions in GIS*; *Tropical Conservation Science*.

### **Research Grant Proposal Reviewer**

EU 7th Framework Programme, 2009.  
Royal Geographical Society, 2016, 2017.  
UK Economic and Social Research Council (ESRC), 2014.  
US National Science Foundation, 2009.  
US-Israel Agricultural Research & Development Fund, 2017.

### **Conference Organisation**

3. Conference Organiser, *Urban Landscape Ecology: Science, Policy and Practice*, International Association for Landscape Ecology (UK) Annual Conference, London, UK, Sept. 2014. Full details available online: <http://www.iale.uk/conference2014>.
2. Session co-convener, *Wildfires*, European Geophysics Union General Assembly, Nice, France and Vienna, Austria, 2005, 2006, 2008 & 2009.
1. Session Chair, *Landscape Change*, US Regional Association of the International Association for Landscape Ecology Annual Meeting, Madison, WI, USA, Apr. 2008.

## **EMPLOYMENT**

### **Senior Lecturer in Geography**

Department of Geography, King's College London, Sept. 2017–Present.  
Undergraduate and postgraduate research-led teaching plus research, publishing and administrative leadership.

### **Lecturer in Physical & Quantitative Geography**

Department of Geography, King's College London, Sept. 2013–Aug. 2017.  
Undergraduate and postgraduate research-led teaching plus research, publishing and administrative roles.

### **Research Fellow**

Department of Geography, King's College London, Jan. 2011–Aug. 2013.  
Innovative research on interdisciplinary uses of agent-based modelling and simulation.

### **Visiting Research Associate**

Center for Systems Integration & Sustainability, Michigan State University, USA, May 2007–Nov. 2010.  
Fieldwork and analysis for development of a forest simulation model of analysis of resource use trade-offs.

### **Adjunct Instructor**

Department of Fisheries and Wildlife, Michigan State University, USA, Aug. 2008–Dec. 2008.  
Taught postgraduate (800-level) class on Systems Modelling and Simulation for Fisheries and Wildlife students.

### **Undergraduate Personal Tutor**

Department of Geography, King's College London, Sept. 2005–June 2006.  
Tutor to first and second year undergraduate students.

### **Teaching Assistant**

Department of Geography, King's College London, Sept. 2003–June 2006.  
Contributed to laboratory learning & marking assessments across Physical Geography (including fieldwork).

## **UNIVERSITY ADMINISTRATION (KING'S COLLEGE LONDON)**

### **Research**

Chair, Geocomputation Research Domain [<http://kingsgeocomputation.org>], May 2015–Present.  
Member, Dept. of Geography Research Executive, May 2015–Present.  
Chair, Search Committee, Research Associate Telecoupling, May 2016.  
Member, Search Committee, Lecturer in Spatial Analysis, Apr. 2016.  
Member, Search Committee, Reader in Geocomputation and Spatial Analysis, July 2015.  
Member, Search Committee, Research Associate UrbanARK, Mar. 2015.

### **Postgraduate Research**

Member, CANES ESPRC CDT Recruitment Panel, March 2017.  
Member, College CASE Studentship Review Panel, 2015–2016.  
Deputy PhD Admissions Tutor, Dept. of Geography, Jan. 2014–July 2016.  
Member, Dept. of Geography Postgraduate Research Committee (PARC), Jan. 2014–July 2016.

## Postgraduate Taught

- Deputy Chair, Dept. of Geography Sub-Board of Examinations, 2017.
- Chair, Dept. of Geography Sub-Board of Examinations, 2016.
- Member, Faculty of Social Science & Public Policy Board of Examinations, 2016.
- Member, Dept. of Geography PGT Board of Studies, Jan. 2016– Oct. 2017.
- Programme Director and Admissions Tutor, MSc Env. Monitoring, Modelling & Mgmt., Sept. 2013–Aug. 2017.
- Programme Director and Admissions Tutor, MSc Geography, Sept. 2013–Aug. 2016.
- Careers and Employability Officer, Jan. 2017–Present.

## Undergraduate

- Chair, Dept. of Geography Undergraduate Board of Studies, Sept. 2017–Present.
- Careers and Employability Officer, Jan. 2017–Present.
- Member, Search Committee and Interview Panel, Teaching Fellows in Physical Geography, July 2017.

## TEACHING

### PhD Research (King's College London)

- Supervisor: Mattia Mancini, *Modelling complexity in coupled human and natural systems*, funded via NERC-DTP, Apr. 2016–Present.
- Supervisor: Eleanore Heasley, *Characterising the catchment effect on physical habitats in UK rivers*, funded via NERC-DTP, June 2016–Present.
- Supervisor: Andrew Lane, *Spatio-temporal dynamics of interacting social and natural drivers of terrestrial ecological disturbance regimes*, funded via CANES DTC, Sept. 2016–Present.
- Co-Supervisor: Sara Boutamina, *Tracing provenance in the global food system*, funded via The Sir Richard Trainor PhD Scholarships with Simon Miles (Informatics, King's), May 2016–Present.
- Co-Supervisor: Bernard Majani, *Understanding multi-hazards in urban Africa*, funded via King's College London and UrbanARK with Bruce D. Malamud, June 2016–Present.
- Second Supervisor: Josh Johnston 2013–2016; Mark De Jong 2014–Present; Claudia Gutierrez Arellano 2015–Present.
- Upgrade Panel: Elina Aletrari, 2013; Kate Baker, 2013; Yu Kyung Oh, 2015; Kelly Gunnell, 2016.

### Postgraduate Taught (King's College London)

- Co-taught level 7 *Methods for Environmental Research*; lectures computer labs; 2013/14 (five weeks, co-convenor).
- Taught level 7 *Methods for Environmental Research*; lectures and computer labs; 2014/15, 2015/16, 2016/17 (eight weeks, convenor).
- Tutor level 7 *MSc Dissertation Preparation Tutorials*; 2013/14 (five students), 2014/15 (five), 2015/16 (four), 2016/17 (four).
- Supervisor level 7 *MSc Dissertation* 2014/15 (three students), 2015/16 (three), 2016/17 (four).
- Co-taught section of level 7 Simulation Methods module 2014/15, 2015/16, 2016/17 (two weeks).
- Designed and taught PhD-level *Social Simulation* for KISS-DTC (ESRC) students; seminars and computer labs; 2013/14 (three weeks, 8 students) 2014/15 (three), 2015/16 (three).
- Designed and taught PhD-level *Landscape Simulation* for London NERC DTP students; computer lab; 2014/15, 2015/16 (three hours, 40 students).
- Department Seminar on *How to Write and Publish Papers*; 2016, 2017.

### Postgraduate Taught (Michigan State University, USA)

- Re-designed and taught 800-level class on Systems Modelling and Simulation for Fisheries & Wildlife students; lectures and computer labs; 2008/09 (16 weeks, 20 students).

### Undergraduate (King's College London)

- Co-taught level 4 *Geography Concepts, Skills and Methods*; lectures & computer labs; 2011/12, 2012/13, 2013/14 (five weeks).
- Co-designed & co-taught level 4 *Principles of Geographical Inquiry*; lectures & computer labs; 2014/15 (ten weeks and convenor); 2015/16 (five weeks).
- Co-designed and co-taught level 5 *Landscapes: Ecology, Biogeography and Management*; lectures & computer labs; 2014/15, 2015/16 (five weeks).
- Tutor level 4 *Geography Tutorials: Critical thinking and techniques*; two groups of six students; 2011/12, 2012/13 (10 weeks).
- Taught and led, level 4 one-day trip to Heartwood Forest, UK; 2013/14 (12 students), 2014/15 (4).
- Taught and led, level 4 one-day trip to Heartwood Forest, UK; 2013/14 (co-leader, 140 students), 2014/15 (co-leader, 160), 2015/16 (leader, 150).
- Co-taught level 5 *Principles of Geographical Inquiry II*; lectures & computer labs; 2013/14 (five weeks).

- Co-designed and co-taught level 5 *Geocomputation*; seminars and computer labs, 2015/16, 2016/17 (seven weeks, convener), 2017/18 (five weeks, convener).
- Co-designed level 5 *Spatial Analysis*, 2015/16.
- Co-designed and co-taught level 5 *Fieldwork in Physical Geography*; 8-day fieldtrip to Morocco plus pre- and post-trip lectures, computer and lab work; 2014/15 (38 students), 2015/16 (29), 2016/17 (25), 2017/18 (12).
- Designed and taught section of level 5 *Research Skills*; agent-based modelling and cellular automata computer labs 2015/16 (four weeks, 18 students), 2016/17 (five weeks, 20 students). 2017/18 (five weeks, 14 students).
- Taught section of level 5 *Global Environmental Issues*; 2015/16, 2016/17, 2017/18 (one lecture, ~80 students).
- Co-taught level 6 *Current Research in Geography*; seminars; 2013/14, 2014/15, 2015/16, 2016/17 (two weeks).
- Supervisor level 6 *Independent Geographical Study*; dissertation; 2013/14 (1 student), 2014/15 (3), 2015/16 (3), 2016/17 (5), 2017/18 (5).

## External Engagement

- **Pint of Science**, Agency Models, presentation and discussion; May 2018.
- **Royal Geographical Society**, Field Mapping and Monitoring Party; presentation and discussion; Mar. 2016.
- **Royal Geographical Society**, Data Skills in Geography CPD for Teachers, activity leader; June 2016.
- **University of London Taster Days**, Department of Geography, King's College London; activity leader; 2013–15.
- **School Engagement**, Emanuel School, Battersea, London; presentation and discussion; Mar. 2015.

## Grants

### King's College London, Faculty of Social Science and Public Policy, Faculty Education Fund

Co-Investigator, *King's Humanitarian Mappers*, Aug. 2016 – July 2017. Total funding £3082.28 with PI Faith Taylor and Co-PI Michele Ferretti, to run bi-weekly and other mapathon events for staff and students and fund the development of training and dissemination. Overseeing one postgraduate research assistant with Faith Taylor.

### King's College London, Faculty of Social Science and Public Policy, Faculty Education Fund

Co-Investigator, *GeoCUP: the Geocomputation USB-Platform for Flexible Learning and Teaching*, June 2015–June 2016. Total funding £3,866 with PI Jon Reades and Co-PI Naru Shiode to research, configure and develop a bootable USB flash drive to support innovative teaching of open-source programming tools and software. Overseeing one undergraduate research assistant with Dr Jon Reades.

### The Professor Sir Richard Trainor PhD Scholarships

Co-Investigator, *Tracing provenance in the global food system*, May 2016–May 2019. Total funding £45,000 over three years to support a PhD student with Simon Miles (Informatics, King's).

## AWARDS AND HONOURS

### King's Awards (Innovation and Impact)

Winner (with Faith Taylor and Michele Ferretti), King's College London 2015/16.

### Teaching Excellence Awards

Nominated, King's College London, 2013/14.

Nominated, King's College London, 2015/16.

## TECHNICAL SKILLS AND EXPERTISE

### Data Analysis and Statistics

Numerous frequentist and Bayesian methods for hypothesis testing, inference and forecasting. Including regression (linear, GLM, trees, etc.), multi-model inference, time series analysis, cluster analysis, Monte-Carlo.

### Programming Tools

Object-oriented languages for development and use of bespoke scientific applications. Proficient in C++, R, Python, HTML, WINBUGS, Jupyter Notebooks. Basic use of Java, JavaScript, XML, SQL.

### Modelling and GIS

Over a decade of experience using multiple simulation approaches, including for spatially explicit investigation. Approaches include agent-based models (ABM), cellular automata (CA) & grid based models, and systems modelling. Proficient using ESRI suite (incl. ArcGIS), QGIS, Trimble GPS, NetLogo, STELLA, Fragstats. Basic use of ENVI, SAGA GIS, IDRISI, Google Maps API, Garmin GPS.

### Other Software

Office Suite and cloud services for productivity, project management and production of publication-grade figures. Proficient using MS Word, Excel, PowerPoint, Access, Outlook, Visual Studio, EndNote, Inkscape, Google products. Basic use of Linux OS, OpenOffice.

## ACADEMIC AND PROFESSIONAL ASSOCIATIONS

### Royal Geographical Society

Fellow, 2007–Present.

### **International Association for Landscape Ecology**

Member UK Chapter, 2006–Present.

Member US Chapter, 2007–2010.

### **The Higher Education Academy**

Fellow, 2015–Present.

### **Association of American Geographers**

Member, 2007–2011.

## **CONFERENCE PRESENTATIONS**

### **Oral**

40. \*Taylor, F.E., Malamud, B.D. and **Millington, J.D.A.** *Networks and Narratives: Qualitative GIS for Understanding Urban Flood Resilience* Presented at: EGU General Assembly, Vienna, Austria, April 2018.
39. \*Taylor, F.E., Malamud, B.D., **Millington, J.D.A.** et al. *Collaborative Methods for Disaggregating and Understanding Urban Risk in Africa* Presented at: EGU General Assembly, Vienna, Austria, April 2018.
38. \*Taylor, F.E., Malamud, B.D. and **Millington, J.D.A.** *Understanding risk to the urban built environment in data-poor regions* Presented at: RGS-IBG Annual International Conference 2017, London, UK, Aug 2017.
37. **Millington, J.D.A.** and Seijo, F. *Managing Landscape Fire: traditional knowledge and changing regimes in Mediterranean Chestnut Forests* Presented at: ialeUK Annual Conference, Manchester, UK, June 2017.
36. \*Taylor, F.E., Malamud, B.D., and **Millington, J.D.A.** *Identifying urban infrastructure multi-hazard risk in developing country contexts* Presented at: EGU General Assembly, Vienna, Austria, April 2017.
35. **Millington, J.D.A.**, Xiong, H., Xu, W., Peterson, S. and Woods, J. *How do we model telecoupling? Approaches to quantitative modelling of global food trade and local land use* Presented at: US-IALE Annual Meeting, Baltimore, USA, Apr. 2017.
34. **Millington, J.D.A.**, Batistella, M., Peterson, S., Yu, Q. and Liu, J. *Modelling feedbacks across scales and levels in telecoupled global food trade and local land use* Presented at: Global Land Programme 3<sup>rd</sup> Open Science Meeting, Beijing, China, Oct. 2016.
33. \*Woods, J., Peterson, S., Chaturvedi, R.K., Strapasson, A. and **Millington, J.D.A.** *Assessing the climate impacts of Chinese dietary choices using a telecoupled global food trade and local land use framework* Presented at: Global Land Programme 3<sup>rd</sup> Open Science Meeting, Beijing, China, Oct. 2016.
32. **Millington, J.D.A.**, Reades, J. and Shiode, N. *The Future of Geocomputation: Training, Tools and an Agenda* Presented at: RGS-IBG Annual International Conference 2016, London, UK, Aug. 2016.
31. \*Brooks, A.B. and **Millington, J.D.A.** *Mapping, Understanding and Capturing Value in Global Flows of Electronic Waste* Presented at: Association of American Geographers Annual Conference, Tampa, USA, April 2014.
30. **Millington, J.D.A.** *Understanding Dynamics: Narrative explanation in agent-based modelling* Presented at: Agent-based modelling workshop, Institute for Complex Systems Simulation, University of Southampton, UK, Dec. 2013.
29. **Millington, J.D.A.** *Representing cultural change in agent-based models of landscape scale socio-ecological systems* Presented at: IALE 2013 European Congress, Manchester, UK, Sept. 2013.
28. **Millington, J.D.A.** *Patterns of Aspiration: Spatial agent-based simulation of school choice policy* Presented at: International Geographical Union Conference 2013: Applied GIS & Spatial Modelling, Leeds, UK, June 2013.
27. **Millington, J.D.A.**, O'Sullivan, D., Perry, G.L.W. *Narrative explanation in agent-based modelling* Presented at: Association of American Geographers Annual Meeting, Los Angeles, California, April 2013.
26. **Millington, J.D.A.**, Walters, M.B., Matonis, M.S., Liu, J. *Trade-offs in long-term forest ecosystem management: Timber, birds and deer* Presented at: ialeUK Annual Conference, Edinburgh, UK, Sept. 2012.
25. **Millington, J.D.A.** *Using social psychology theory for modelling farmer decision-making* Presented at: 6th International Congress on Environmental Modelling and Software, Leipzig, Germany, July 2012.
24. **Millington, J.D.A.**, O'Sullivan, D., Perry, G.L.W. *Narrative explanation of agent decision-making* Presented at: 6th International Congress on Environmental Modelling and Software, Leipzig, Germany, July 2012.
23. **Millington, J.D.A.**, Walters, M.B., Matonis, M.S., Liu, J. *Investigating Combined Long-Term Effects of Variable Tree Regeneration and Timber Management on Forest Wildlife and Timber Production Using FVS* Presented at: Fourth Forest Vegetation Simulator (FVS) Conference, Fort Collins, Colorado, April 2012.
22. **Millington, J.D.A.** *Agricultural Landscape Change: Using social psychology theory in agent-based models of land-use change* Presented at: US-IALE Symposium, Newport, Rhode Island, April 2012.
21. **Millington, J.D.A.**, Walters, M.B., Matonis, M.S., Liu, J. *Regeneration for Sustainability: Coordinating Long-term Forest Ecosystem Management for Timber Production and Wildlife Habitat* Presented at: US-IALE Symposium, Newport, Rhode Island, April 2012.
20. **Millington, J.D.A.**, O'Sullivan, D., Perry, G.L.W. *Model Histories: The generative properties of agent-based modelling* Presented at: RGS-IBG Annual International Conference 2011, London, UK, Sept. 2011.
19. **Millington, J.D.A.**, Matonis, M.S., Walters, M.B., Hall, K.R., Laurent, E.J., Liu, J. *Trees, Birds and Timber: Coordinating Long-term Forest Management* Presented at: RGS-IBG Annual International Conference 2011, London, UK, Sept. 2011.
18. **Millington, J.D.A.**, Walters, M.B., Matonis, M.S., Liu, J. *Ecological-economic modeling for sustainable forest management* Presented at: US-IALE Symposium, Athens, Georgia, April 2010.



17. **Millington, J.D.A.**, Walters, M.B., Matonis, M.S., Liu, J. *Local winter white-tailed deer density: Effects of forest cover pattern, stand structure, and snow in a managed forest landscape* Presented at: Ecological Society of America, Albuquerque, New Mexico, Aug. 2009.
  16. \*Matonis, M.S., Walters, M.B., **Millington, J.D.A.**, and Liu, J. *Gap-, stand-, and landscape-scale factors affecting tree regeneration in harvest gaps* Presented at: Ecological Society of America, Albuquerque, New Mexico, Aug. 2009.
  15. **Millington, J.D.A.**, Walters, M.B., Matonis, M.S., Lupi, F., Chen, S., Hall, K.R., Laurent, E.J. and Liu, J. *Modeling Interactions of Human and Natural Disturbances in a Managed Forest Landscape* Presented at: US-IALE Symposium, Snowbird, Utah, April 2009.
  14. **Millington, J.D.A.**, Wainwright, J., Romero-Calcerrada, R., Perry, G.L.W. and Demeritt, D. *Investigating the Interaction of Land Use/Cover Change and Wildfire Using Agent-Based Modelling* Presented at: US-IALE Symposium, Snowbird, Utah, April 2009.
  13. \*Demeritt, D. and **Millington, J.D.A.** *Beyond Prediction: Participation, Learning and the Future of LUCC Modelling* Presented at: Helsinki University Environmental Research Centre Spring Seminar, Helsinki, Finland, April 2008.
  12. \*Wainwright, J. and **Millington, J.D.A.** *Modelling Human Impacts on Geomorphic Processes* Presented at: Annual Conference of the British Society for Geomorphology, Birmingham UK, July 2007.
  11. **Millington, J.D.A.** *A Simulation Model of Vegetation Dynamics and Wildfire for a Mediterranean Landscape* Presented at: The Royal Geographical Society Annual Meeting, London UK, Sept. 2006.
  10. **Millington, J.D.A.** *Modelling Land Use Decision-Making and Ecological Processes in a Mediterranean Landscape* Presented at: The Royal Geographical Society Annual Meeting, London UK, Sept. 2006
  9. **Millington, J.D.A.**, Malamud, B.D. and Perry, G.L.W. *The use of power-law statistics to characterise and compare wildfire regimes* Presented at: British Geophysical Association Conference 'Scale-invariance and scale dependence in earth structure and dynamics' London, UK, March 2006.
  8. **Millington, J.D.A.** *An inside job? 'Validation' of Integrated Landscape Simulation Models* Presented at: The Royal Geographical Society Annual Meeting, London UK, Sept. 2005.
  7. O'Sullivan, D., Perry, G.L.W. and **Millington, J.D.A.** *Science Fictions: Narrative as tool for model-based research* Presented at: The Royal Geographical Society Annual Meeting, London UK, Sept. 2005.
  6. **Millington, J.D.A.**, Perry, G.L.W. and Romero-Calcerrada, R. *Modelling Land Cover Change in a Mediterranean Landscape: Integrating Biophysical and Socio-Economic Data* Presented at: European IALE Congress, Faro, Portugal, April 2005.
  5. \*Romero-Calcerrada, R., Perry, G.L.W. and **Millington, J.D.A.** *The socio-economic trends as major driving force of Mediterranean landscape changes* Presented at: European IALE Congress, Faro, Portugal, April 2005.
  4. \*Perry, G.L.W., Romero-Calcerrada, R. and **Millington, J.D.A.** *Analysis and Implications of landscape change in the EU Special Protection Area (SPA) number 56, Encinares del río Alberche y Cofio, 1984-1999* Presented at: European IALE Congress, Faro, Portugal, April 2005.
  3. \*Malamud B.D., **Millington J.D.A.**, and Perry G.L.W. *Characterizing wildfire regimes in the USA* Presented at: American Geophysics Union Fall Meeting, San Francisco, California, Dec. 2004.
  2. **Millington, J.D.A.**, Perry, G.L.W. and Romero-Calcerrada, R. *Modelling Land Cover Change in a Mediterranean Landscape: Integrating Biophysical and Socio-Economic Data* Presented at: LUCC Workshop, Amsterdam, The Netherlands, Oct. 2004.
  1. **Millington, J.D.A.**, Malamud, B.D. and Perry, G.L.W. *Characterizing wildfire regimes in the USA* Presented at: European Geophysics Union 1st General Assembly, Nice, France, April 2004.
- \*indicates presentation made by co-author

## Poster

14. Lane, A., **Millington, J.D.A.**, Miles S. and Solich, P. *Modelling 10,000 years of human-environment interactions* Presented at: ialeUK Annual Conference, Manchester, UK, June 2017.
13. Jerabkova L., **Millington, J.D.A.** and Mulligan M. *How does woodland restoration affect future landscape ecosystem services?* Presented at: ialeUK Annual Conference, Manchester, UK, June 2017.
12. Taylor F.E., Malamud B.D. and **Millington, J.D.A.** *Sources of Free and Open Source Spatial Data for Natural Disasters and Principles for Use in Developing Country Contexts* Presented at: European Geosciences Union General Assembly 2016, Vienna, Austria, April 2016.
11. Taylor F.E., Malamud B.D. and **Millington, J.D.A.** *Quantifying Urban Texture in Nairobi, Kenya and its Implications for Understanding Natural Hazard Impact* Presented at: European Geosciences Union General Assembly 2016, Vienna, Austria, April 2016.
10. **Millington, J.D.A.**, O'Sullivan D., Perry G.L.W., and Demeritt, D. *Generative Simulation Modelling and Its Narrative Properties* Presented at: Epistemology of Modeling and Simulation National Conference, Pittsburgh, PA, USA, April 2011.
9. **Millington, J.D.A.**, Matonis M.S., Laurent E.J., Walters M.B., Lupi F., Hall K.R., and Liu J. *Anticipating Threats to Northern Hardwood Forest Biodiversity with an Ecological-Economic Model* Presented at: 9th National Conference on Science, Policy and the Environment, Washington D.C., USA, Dec. 2008.

8. **Millington, J.D.A.**, Wainwright J., Perry G.L.W., Romero-Calcerrada R. and Malamud B.D. *An Integrated Socio-Ecological Simulation Model of Succession-Disturbance Dynamics in a Mediterranean Landscape* Presented at: European Geophysics Union General Assembly 2008, Vienna, Austria, April 2008.
7. Romero-Calcerrada, R., Barrio-Parra F., **Millington, J.D.A.** and Novillo C.J. *Spatial modelling of the influence of human activity on wildfire ignition risk in a Mediterranean landscape* Presented at: European Geophysics Union General Assembly 2008, Vienna, Austria, April 2008.
6. **Millington, J.D.A.**, LeBouton J.P., Walters M.B., Hall K.R., Matonis M.S., Laurent E.J., Lupi F., Chen S. and Liu J. *An Ecological-Economic Model for Sustainable Forest Management: Modeling Deer Distributions from Local & Landscape Characteristics* Presented at: US-IALE Symposium, Madison, Wisconsin, April 2008.
5. Romero-Calcerrada, R. and **Millington, J.D.A.** *Spatial analysis of patterns and causes of fire ignition probabilities using Logistic Regression and Weights-of-Evidence based GIS modelling* Presented at: European Geophysics Union 4th General Assembly, Vienna, Austria, April 2007.
4. Malamud B.D., **Millington, J.D.A.** and Perry G.L.W. *Risk, ecosystems and robust power-law scaling of wildfires. Coupling in Earth Systems: Solids, Fluids, Life*. Presented at: 26th IUGG conference on Mathematical Geophysics, Sea of Galilee, Israel, June 2006.
3. Malamud B.D., **Millington, J.D.A.** and Perry G.L.W. *Risk, ecosystems and robust power-law scaling of wildfires* Presented at: European Geophysics Union 3rd General Assembly, Vienna, Austria, April 2006.
2. Malamud B.D., **Millington, J.D.A.** and Perry G.L.W. *Characterizing wildfire regimes in the USA* Presented at: European Geophysics Union 2nd General Assembly, Vienna, Austria, April 2005.
1. **Millington, J.D.A.**, Perry, G.L.W. and Romero-Calcerrada, R. *Implications of Landscape Change for Wildfire Incidence and Risk in the SPA 56 'Encinares del Río Alberche y Cofio', Central Spain* Presented at: European Geophysics Union 1st General Assembly, Nice, France, April 2004.