

BRIEF CURRICULUM VITAE¹ - PAUL A. MILLER



Date of Birth: 29th January, 1973
Nationality: Irish
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RECENT EMPLOYMENT & EDUCATION HISTORY

Forskare (Oct. 05 – Present) – [DECVEG](#), [ALARM](#), [SWECIA](#) and [CARBO-North](#) projects

Geobiosphere Science Centre, Department of Physical Geography & Ecosystems Analysis, Ecosystem Modelling & Biodiversity Studies (EMBERS) Group, Lund University, Sweden

Postdoctoral Research Associate (Oct. 02 – Sep. 05)

Centre for Polar Observation and Modelling ([CPOM](#)), Department of Earth Sciences (formerly Space and Climate Physics), University College London, London, UK

Software Developer (Oct. 98 – Sep. 02)

Pareto Partners, 271 Regent Street, London W1R 8PP, UK

PhD Theoretical Physics (Oct. 95 - Sep. 98)

Physics Department, King's College London, London WC2R 2LS, UK

Thesis: 'Entropy Signatures of Chaotic and Regular Behaviour in Quantum Non-integrable Systems'.

BSc (First Class) Mathematics and Physics (Oct. 90 - Jun. 94)

University College Cork, National University of Ireland, Ireland

PUBLICATIONS

1. **Paul A. Miller**, Thomas Giesecke, Thomas Hickler, Ben Smith, Richard Bradshaw, Paul J. Valdes, Heikki Seppä and Martin T. Sykes, "Holocene vegetation dynamics in Sweden and Finland as simulated by the generalised vegetation model LPJ-GUESS", *Journal of Ecology*, **96**, 247-259, doi: 10.1111/j.1365-2745.2007.01342.x (2008)
2. Seppä, H., Alenius, T., Muukkonen, P., Giesecke, T., **Miller, P.A.**, Ojala, A.E.K., "Calibrated pollen accumulation rates as a basis for quantitative tree biomass reconstructions", *The Holocene*, *in press* (2009)
3. Thomas Giesecke, **Paul A. Miller**, Martin T. Sykes, Antti E. Ojala, Heikki Seppä, Richard Bradshaw, "The effect of past changes in inter-annual temperature variability on tree distribution limits", *submitted* (2008)
4. Thomas Hickler, Katrin Vohland, **Paul A. Miller**, Benjamin Smith, Luis Costa, Thomas Giesecke, Stefan Fronzek, Tim Carter, Wolfgang Cramer, Ingolf Kuhn, Martin T. Sykes, "Climate-driven changes in European potential natural vegetation and implications for the Natura 2000 protected area network", *submitted* (2008)
5. Vincent Garretta, **Paul A. Miller**, Joel Guiot, Christelle Hely, Simon Brewer, Martin T. Sykes, Thomas Litt, "Holocene climate and vegetation dynamics reconstructed through the inversion of a dynamic vegetation model using pollen data", *submitted* (2008)

¹ Last updated: December 15th, 2008

6. Chris D Thomas, Ralf Ohlemüller, Barbara Anderson, Thomas Hickler, **Paul A. Miller**, Martin T. Sykes, John W. Williams, "Exporting the ecological impacts of climate change", *EMBO Reports*, **9**: S28-33 (2008), doi:10.1038/embor200842
7. Smith, B., Hickler, T. & **Miller, P.** 2007. Modelling av vegetationsförskjutningar i Sverige under framtida klimatscenarier. In: Sverige Inför Klimatförändringarna - Hot och Åtgärder. Slutbetänkande av Klimat- och sårbarhetsutredningen. Appendix B 23. Statens Offentliga Utredningar, SOU 2007:60, Stockholm. (in Swedish, available at: <http://www.regeringen.se/sb/d/8704/a/89334>)
8. Thomas Hickler, Benjamin Smith, Colin Prentice, Kristina Mjöfors, **Paul Miller** and Martin T. Sykes, "CO₂ fertilization in temperate FACE experiments not representative of boreal and tropical forests", *Global Change Biology*, **14**(7), pp.1531-1542, doi: 10.1111/j.1365-2486.2008.01598.x (2008)
9. Almut Arneith, **Paul A. Miller**, Marko Scholze, Thomas Hickler, Guy Schurgers, Ben Smith, I. Colin Prentice, "The CO₂ inhibition of leaf isoprene metabolism offsets effects of temperature and fertilisation of terrestrial productivity in global emission estimates", *Geophysical Review Letters*, **34**, L18813, doi:10.1029/2007GL030615 (2007)
10. Almut Arneith, Guillaume Schurgers, Thomas Hickler, **Paul A. Miller**, Effects of species composition, land surface cover, CO₂ concentration and climate on isoprene emissions from European forests, *Plant Biology*, doi:10.1055/s-2007-965247 (2007)
11. **Paul A. Miller**, Seymour W. Laxon, and Daniel L. Feltham (2007), Consistent and contrasting decadal Arctic sea ice thickness predictions from a highly optimized sea ice model, *J. Geophys. Res.*, 112, C07020, doi:10.1029/2006JC003855.
12. Alexander V. Wilchinsky, Daniel L. Feltham, and **Paul A. Miller**, "A Multithickness Sea Ice Model Accounting for Sliding Friction", *Journal of Physical Oceanography*, Vol. 36, No. 9, 1719—1738, doi: 10.1175/JPO2937.1 (2006)
13. **Paul A. Miller**, Seymour W. Laxon, Daniel L. Feltham, and Douglas J. Cresswell, "Optimization of a sea ice model using basin-wide observations of Arctic sea ice thickness, extent and velocity", *J. Climate*, 19, 1089-1108, doi: 10.1175/JCLI3648.1 (2006)
14. **Paul A. Miller**, Seymour W. Laxon, and Daniel L. Feltham, "Improving the spatial distribution of modeled Arctic sea ice thickness", *Geophys. Res. Lett.*, 32, L18503, doi:10.1029/2005GL023622 (2005)
15. **P. A. Miller** and S. Sarkar, "Signatures of chaos in the entanglement of two coupled quantum kicked tops", *Phys. Rev. E* 60, 1542 (1999)
16. **P. A. Miller** and S. Sarkar, "Entropy production, dynamical localization and criteria for quantum chaos in the open quantum kicked rotor", *Nonlinearity* 12, 419-422 (1999)
17. **P. A. Miller** and S. Sarkar, "Fingerprints of classical instability in open quantum dynamics", *Phys. Rev. E* 58, 4217 (1998)
18. **P. A. Miller**, S. Sarkar and Raphael Zarum, "Quantum chaos: entropy signatures", *Acta Physica Polonica B* 29, 3643 (1998)

ORAL CONFERENCE PRESENTATIONS

Helsinki Climate Workshop – past, present and future climate
 Helsinki, Finland, 10-12 November, 2008
 - Invited Speaker -

Miller, P.A., Giesecke, T., Hickler, T., Bradshaw, R., Smith, B. & Sykes, M.T., Seppä H., Valdes, P.J. & Ojala A.E.
 Exploring Holocene vegetation dynamics and the effect of interannual variability on vegetation composition in Sweden and Finland using the generalised vegetation model LPJ-GUESS

EGU General Assembly 2007

Vienna, Austria, 15 – 20 April 2007

Miller, P.A., Giesecke, T., Hickler, T., Bradshaw, R., Smith, B. & Sykes, M.T.
Holocene Vegetation Dynamics in Sweden and Finland as Simulated by the Generalised Vegetation Model LPJ-GUESS
Geophysical Research Abstracts, Vol. 9, 03414, 2007 (Abstracts of the contributions of the EGU General Assembly 2007), EGU2007-A-03414. (ISSN: 1029-7006).

EGS-AGU-EUG Joint Assembly
Nice, France, 06 - 11 April 2003

EAE03-A-12182; CR11-1TH3O-004
Miller, P.A.; Cresswell, D.J.; Laxon, S.W.
Constraining sea ice model parameters using remote sensed sea ice thickness data

European Geosciences Union 1st General Assembly
Nice, France, 25 - 30 April 2004

EGU04-A-03501
Miller, P.; Laxon, S.; Feltham, D.
Modelling the interannual variability of Arctic sea ice using an optimised sea ice model

UK Natural Environment Research Council NERC
COUPLED OCEAN-ATMOSPHERE PROCESSES AND EUROPEAN CLIMATE (COAPEC)
Final Meeting - Regent's College, London, 24th-25th May 2005

Miller, P.A., S. W. Laxon, D. L. Feltham
Constraining sea ice model parameters using sea ice observations from satellites and submarines

http://www.soc.soton.ac.uk/coapec/FM_report.php

Ninth Arctic Ocean Model Intercomparison Project (**AOMIP**) Workshop
McGill University, Montreal, Canada, June 6-7 2005

Miller, P.A., S. W. Laxon, D. L. Feltham
Using remote-sensed sea ice thickness, extent and speed observations to optimise a sea ice model

http://fish.cims.nyu.edu/project_aomip/workshops/workshop_9/schedule_day2.html

Dynamic European Climate and Vegetation (DECVEG) Meeting
Borrowdale, UK, 27-28 September 2006

Paul Miller, Martin Sykes, Thomas Hickler, Thomas Giesecke, Richard Bradshaw DECVEG Holocene Simulations Using LPJ-GUESS