

Curriculum Vitae: Dr Max Little

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Skills

- **Statistical mathematics (10 years):** classical and advanced density modeling and forecasting, spatial statistics, linear and nonlinear time series analysis, ARMA modelling, signal processing, statistical machine learning and classification, computational statistics (bootstrapping, Monte-Carlo simulation, surrogate data methods), general data processing
- **Applied mathematics (8 years):** systems analysis, continuum and discrete spatio-temporal physical systems modeling (ODEs, PDEs, CAs), analytic solutions, approximate solutions (perturbation methods, numerical methods), graph theory, numerical optimization, variational calculus, network modeling, graph theory, fractal geometry
- **Software engineering (15 years):** R, Matlab, C/C++, Java, MathCad, Maple, algorithm design, systems design, debugging, profiling, version control, documenting, reverse engineering
- **Reporting (15 years):** academic articles, technical reports, patents, technical manuals, user guides
- **Dissemination (4 years):** lecturing, tutoring, presenting, demonstrating, training, lecture course design
- **Management (6 years):** project planning, budget handling, team leading, interviewing and team building, supervising

Education

2003 – 2007	D.Phil. Applied Mathematics and Engineering Science, Oxford Centre for Industrial and Applied Mathematics and Department of Engineering Science, Oxford University, UK
2006 – present	M.Sc. Mathematics, Open University, Milton Keynes, UK
1999 – 2003	First class B.Sc. (Hons) Mathematical Sciences (<i>7 distinctions</i>), Open University, Milton Keynes, UK
2001 – 2002	Diploma in Mathematics, Open University, Milton Keynes, UK

Academic Research Profile

Grants and Awards

2007 – 2009	£300,000 Flood Risk From Extreme Events award, NERC grant number NE/E002013/1
2006	€400 IEEE ICASSP Prize Paper Winner, ICASSP 2006 conference, Toulouse, France
2005 – present	Independent Component Analysis Research Network partner, EPSRC grant number EP/C005554/1
2003 – 2006	£30,000 DTA doctoral research award, EPSRC

Professional Research Activities

- **Editor-in-Chief:** *Open Journal of Multidisciplinary Modelling*, 2008
- **Co-founder, editor, organiser:** *Systems Analysis, Modelling and Prediction Group* (SAMP), Department of Engineering Science, Oxford University, UK, <http://www.eng.ox.ac.uk/samp>
- **Collaborators:** *Prof. Paul Samuels*, *Rodney White*, *Dr David Tyler*, *Richard Kellagher* (HR Wallingford, UK), *Dr Harvey Rodda* (Hydro-GIS Ltd, UK), *Dr Diego Perugini* (University of Perugia, Italy), *Dr Mike Deisher* (Intel, US), *Mr Martin Burton*, *Mr Declan Costello* (Nuffield Department of Surgery, Oxford University, UK), *Prof. Stephen McLaughlin* (Edinburgh University, UK), *Dr Daniel Heesch* (Imperial College, London, UK), *Prof. Adrian Fourcin* (University College London, UK)
- **Journal reviewer:** *Geophysical Research Letters* (AGU Press), *Physical Review Letters* (American Physical Society), *Chaos* (American Institute of Physics), *Physics Letters A* (Elsevier), *The Quarterly Journal of Mathematics* (Oxford University Press), *IEEE Transactions on Biomedical Engineering* (IEEE Press), *Bulletin of Mathematical Biology* (Elsevier), *Medical Engineering and Physics* (Elsevier), *IEE Proceedings on Systems Biology* (IEE Press), *Mechanical Systems and Signal Processing* (Elsevier)

Selected Peer-Reviewed Journal Publications

- Rodda H., **Little M.**, Wood R., MacDougal N., McSharry P. (2008), *Extreme Rainfalls in the British Isles 1866-1968*, *Weather* (in review)
- **Little M.**, McSharry P., Taylor, J.W. (2008), *Site Specific Density Forecasting of UK Daily Rainfall: Generalised Linear Models versus Ensembles*, *Monthly Weather Review* (in review)
- **Little M.**, McSharry P., Roberts S., Costello D., Moroz I. (2007), *Exploiting Nonlinear Recurrence and Fractal Scaling Properties for Voice Disorder Detection*, *BioMedical Engineering Online* 2007, 6:23
- Perugini D., **Little M.**, Poli G. (2006), *Time series to petrogenesis: analysis of oscillatory zoning patterns in plagioclase crystals from lava flows*, *Periodico di Mineralogia*, 76(2):325-336
- **Little M.**, McSharry P., Moroz I., Roberts S. (2006), *Testing the assumptions of linear prediction analysis in normal vowels*, *Journal of the Acoustical Society of America*, 119(1):549-558
- **Little M.**, Heesch D. (2004), *Chaotic root-finding for a small class of polynomials*, *Journal of Difference Equations and Applications*, 10(11):949–953

Positions Held

2007 – present	Consultant Mathematician and Statistician , HR Wallingford, Wallingford, UK
2007 – present	Research Associate , Department of Engineering Science, Oxford University, UK
2006 – 2007	Research Director , Pixsta Ltd, UK
2004 – present	Lecturer , Open University, Milton Keynes, UK
2003 – 2007	Tutor/Teaching Assistant , Mathematics Institute, Oxford University, UK
2001 – 2003	Senior Researcher , Criterion Studios, Guildford, Surrey, UK
1999 – 2001	Researcher , Sensaura, Egham, Surrey, UK
1998 – 1999	Design Engineer , Imagination Technologies, Kings Langley, UK
1997 – 1998	Information Systems Engineer , Nuffield Orthopaedic Centre, Oxford, UK