Andrew **Mellor**

INDUSTRIALLY FOCUSED POSTDOCTORAL RESEARCHER · MATHEMATICIAN

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Employment

Mathematical Institute, University of Oxford   *Oxford, UK*
POSTDOCTORAL RESEARCH ASSISSTANT IN DATA SCIENCE   *Jul. 2017 - Jun. 2020*
- Member of the Oxford-Emirates Research Lab (directed by Prof. Pete Grindrod)

School of Mathematics, University of Leeds   *Leeds, UK*
POSTDOCTORAL IMPACT RESEARCH FELLOW   *May. 2017 - Jun. 2017*
- Writing up papers from thesis for an impact case study

Education

School of Mathematics, University of Leeds   *Leeds, UK*
DOCTOR OF MATHEMATICS (PHD)   *2013 - 2017*
EPSRC CASE Studentship, with sponsorship (£30,000) from Bloom Agency, UK
Thesis: "Monitoring and Modelling of Social Networks"
Advisors: Dr. Jonathan Ward, Prof. Alastair Rucklidge, Dr. Mauro Mobilia
Examined by Prof. Desmond Higham (15/06/17)

Trinity College, University of Oxford   *Oxford, UK*
MASTERS IN MATHMATICS (MMATH)   *2009 - 2013*
Upper Second Class (2.i)/Upper Second Class (2.i)

Greenhead College   *Huddersfield, UK*
FULL TIME STUDENT (A LEVEL)   *2007- 2009*
Mathematics A, Further Mathematics A, Physics A, Chemistry A

Work Experience

Winton Capital Management   *Oxford, UK*
RESEARCH ASSISTANT   *Jun. 2013 - Sep. 2013*
- Provided analysis of financial market data, both stock price time series and fundamentals (financial statements), with an emphasis on finding irregularities and inconsistencies.
- Developed tests using SQL and Python to flag records, and then subsequently investigated them before releasing them into the trading environment.
- Gained knowledge around financial markets, time series analysis and also engaged in internal research seminars and workshops.

Coutts   *London, UK*
DECISION SUPPORT ANALYST   *Jun. 2012 - Sep. 2012*
- Compiled company reports and in the executive decision support team as part of a summer internship. Reported findings to the chief financial officer and made suggestions on possible targets for efficiency savings.
- Created spreadsheet macros to streamline and automate what had previously been a long, manual reporting process.

Publications

JOURNAL ARTICLES

Oct. 2017   **The Temporal Event Graph.**
            A. Mellor. *Journal of Complex Networks*
Jan. 2017   **Heterogeneous Out-of-Equilibrium Nonlinear q-Voter Model with Zealotry.**
            A. Mellor, M. Mobilia, R.K.P. Zia. *Physical Review E*
Mar. 2016   **Characterization of the Nonequilibrium Steady State of a Heterogeneous Nonlinear q-Voter Model with Zealotry.**
            A. Mellor, M. Mobilia, R.K.P. Zia. *EPL (Europhysics Letters) Editor's Choice & Featured in 2016 Highlights)*
Jul. 2015   **Influence of Luddism on Innovation Diffusion.**
            A. Mellor, M. Mobilia, S. Redner, A. M. Rucklidge, J. A. Ward. *Physical Review E*

Conferences

Invited Talks & Posters

Apr. 2017 **Applied Nonlinear Dynamics Seminar** (Talk) *Bristol, UK*
Nov. 2016 **KTN Alan Tayler Day** (Talk) *Oxford, UK*
Feb. 2016 **Nonlinear Dynamics Seminar (LAND)** (Talk) *University of Leeds, UK*
Jan. 2016 **Dynamical Networks and Network Dynamics Workshop** (Talk) *ICMS Edinburgh, UK*
Aug. 2015 **CabDyn Journal Club** (Talk) *University of Oxford, UK*
Nov. 2014 **KTN Alan Tayler Day** (Poster) *Oxford, UK*

Contributed Talks & Posters

Nov. 2017 **Networks Journal Club Semimar** (Talk) *University of Oxford, UK*
Nov. 2016 **Theoretical Foundations for Statistical Network Analysis Workshop** (Poster) *Isaac Newton Institute, Cambridge*
Aug. 2015 **Young Researchers In Mathematics Conference** (Talk) *University of Oxford, UK*
Jul. 2015 **Collective Dynamics & Evolving Networks Workshop** (Talk) *University of Bath, UK*
Sep. 2014 **European Conference of Complex Systems** (Poster) *Lucca, Italy*

Attended

Aug. 2017 **Networks Workshop: from Matrix Functions to Quantum Physics** *University of Oxford, UK*
Sep. 2015 **Fluctuation driven phenomena in non-equilibrium statistical mechanics symposium** *University of Warwick, UK*
Nov. 2013 **Big Data and Social Media Workshop** *Edinburgh, UK*

Schools

Jun. 2016 **Santa Fe Institute Complex Systems Summer School** *Santa Fe, NM, USA*
Jun. 2015 **Complexity Science Summer School** (Talk) *University of Warwick, UK*
Apr. 2014 **Complex Networks Thematic School** *Les Houches, France*

Teaching

Tutorials/Classes

Financial Mathematics I *2014-2016*   *University of Leeds*
Computational Mathematics *2014-2016*   *University of Leeds*

Supervision

Oct. 2017 **Magdalena Georgieva** *Part B Extended Essay*   *University of Oxford*
Modelling the Spread and Optimising the Prevention of Biological Contagion Through Networks
Jul. 2017 **Zetian Gao** *MSc in Mathematical Modelling and Scientific Computing*   *University of Oxford*
Spatiotemporal Analysis of Air-Travel Networks

Other

Case Study for the CDT in Industrially Focused Mathematics (InFoMM) *2018*   *University of Oxford*
Monitoring and Modelling Social Networks

Service

Early Career Researcher (ERC) Committee   *University of Oxford*
Committee member & seminar organiser   *2017-2018*

University Academic Fellowship Interviews   *University of Leeds*
Student representitive   *2015*

Journal Referee

- Europhysics Letters (EPL)
- Journal of Statistical Mechanics (JSTAT)
- New Journal of Physics (NJP)

Memberships

- Society for Industrially Applied Mathematics (SIAM)
- Complex Systems Society (CSS)

Technical Skills

Programming	Python (extensive use), R (working knowledge), MATLAB (working knowledge), Java (working knowledge), C++ (working knowledge)
Version Control	Git (extensive use), SVN (working knowledge)
Databases	mySQL, SQL Server, NoSQL, Graph Databases
Web	HTML, CSS, Javascript
Operating Systems	Linux, Windows

Experience with large scale data-processing frameworks (Spark) and GPU processing (Theano, CUDA).