

Thomas E. Nichols

Curriculum Vitae

General Information

Professor of Neuroimaging Statistics
Oxford Big Data Institute, Nuffield Department of Population Health
University of Oxford
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United Kingdom

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Education

Ph.D. in Statistics, Carnegie Mellon University, 2001.
Thesis title: Spatiotemporal Modeling of Positron Emission Tomography.
Thesis advisor: William F. Eddy.
Certificate, Graduate Training Program, Center for the Neural Basis of Cognition,
Carnegie Mellon University & University of Pittsburgh, 1999.
M.S. in Statistics, Carnegie Mellon University, 1997.
B.S. in Mathematics and Statistics, Carnegie Mellon University, 1992.

Employment

Professor of Neuroimaging Statistics Big Data Institute, Nuffield Department of Population Health, University of Oxford, 2017 –.

Honorary Professor Department of Statistics, University of Warwick, 2017 – 2020.

Professor, Head of Neuroimaging Statistics Department of Statistics & Warwick Manufacturing Group, University of Warwick, 2014 – 2017.

Principal Research Fellow, Head of Neuroimaging Statistics Department of Statistics & Warwick Manufacturing Group, University of Warwick, 2009 – 2014.

Senior Research Fellow Functional Magnetic Resonance Imaging of the Brain (fMRIB) Centre, Department of Clinical Neurology, University of Oxford, 2006 – 2017.

Director, Modelling & Genetics Clinical Imaging Centre, GlaxoSmithKline, 2006 – 2009.

Adjunct Research Associate Professor Department of Biostatistics, School of Public Health, University of Michigan, 2006 – 2009.

Associate Professor Department of Biostatistics, School of Public Health, University of Michigan, 2006.

Assistant Professor Department of Biostatistics, School of Public Health, University of Michigan, 2000 – 2006.

Consultant Advisor on statistical and methodological problems in Positron Emission Tomography (PET) and Functional Magnetic Resonance Imaging (fMRI), 1996 –.

Applications Programmer and Statistician University of Pittsburgh Medical Center PET Facility. Developed software and methods to analyze PET data. Advised investigators on design and analysis of PET studies. 1992 – 1996.

Awards & Honours

Clarivate Web of Science's Highly Cited Researcher, 2019-2023.

Thompson-Reuter's Highly Cited Researcher, 2014 (for influence of my publications 2002–2012).

Wiley Young Investigator Award winner, Organization for Human Brain Mapping, 2009.

Elected Fellow, American Statistical Association, 2012.

Grants (Current)

“EPSRC Centre for Doctoral Training in Health Data Science” UKRI, EP/S02428X/1, £6.6m, Apr 2019 – Sept 2027, 18% avg. effort. P.I. James Davies.

“ABCD-USA Consortium: Data Analysis Centre”, NIH, 5U24DA041123, £2.4m, Apr 2021 – Mar 2027. P.I. Anders Dale, University of California San Diego, £157k (Oxford subcontract).

“Scalable Bayesian Methods for Big Imaging Data Analysis”, NIH, R01DA048993, £1.2m, Sept 2020 – Aug 2025, 10% effort + PhD student. P.I. Jian Kang, University of Michigan, £250k (Oxford subcontract).

“BDI-Novartis Collaboration for AI in Medicine”, Novartis AG, Sept 2018 – Aug 2024, P.I. TE Nichls, 30% effort + PDRAs + staff, £10.7m.

“Large-scale image-based meta-analysis of functional MRI data”, NIH, R01MH096906, £2.5m, Mar 2019 – Dec 2024, 10% effort + PhD student. P.I. Alejandro de la Vega, £294k (Oxford Subcontract).

“Vulnerability and Resiliency in the Aging Adult Brain Connectome (AABC)”, NIH, 1U19AG073585, £5.2m, Oct 2022 – Aug 2026, 10% effort. P.I. Beau Ances, £110k (Oxford subcontract).

Grants (Previous)

“Spatial inference methods for image analysis”, NIH, R01EB026859, £1.3m, May 2019 – Jan 2024, 10% effort + PhD student. P.I. Armin Schwartzman, University of California San Diego, £248k (Oxford subcontract).

“SOLAR-Eclipse Computational Tools for Imaging Genetics”, NIH R01 EB015611-04, £1m, Sept 2016 – Aug 2020, 10% effort + PDRA. P.I. Peter Kochunov, University of Maryland, £305,591 (Oxford subcontract).

“Transforming statistical methodology for neuroimaging meta-analysis”, Wellcome Trust, 100309/Z/12/Z, June 2013 – Feb 2020. 100% effort + 2 PDRA, £1.1m.

“Integrated Multimodal Brain Imaging for Neuroscience Research and Clinical Practice”, Wellcome Trust Strategic Award, 098369/Z/12/Z, Sept 2012 – Aug 2017, 5% effort. P.I. Stephen Smith, Oxford University, £20,475 (Warwick subcontract).

“Bayesian Spatial Point Process Modeling of Neuroimage Data”, NIH R01 NS075066-01A1, £1m Apr 2012 – Dec 2016, 25% effort + PhD student. P.I. Timothy Johnson, University of Michigan, £287,053 (Warwick subcontract).

“Personalised Medicine through Learning in the Model Space”, EPSRC N1747005, Oct 2013 – Sept 2016, PDRA. P.I. Peter Tino, University of Birmingham, £199,659 (Warwick subcontract).

“Inside-out: Statistical methods for Computed Tomography validation of complex structures in Additive Layer Manufacturing”, EPSRC, EP/K031066/1, Oct 2013 – Sep 2016, 5% effort. P.I. Wilfrid Kendall, £639,264.

“SOLAR-Eclipse Computational Tools for Imaging Genetics”, NIH R01 EB015611-01, £1.2m, July 2012 – April 2016, 15% effort. P.I. Peter Kochunov, University of Maryland, £141,291 (Warwick subcontract).

“Human Connectome Project: Structure, Function & Heritability”, NIH U54 MH091657, £19m, September 2010 – September 2015. 6% effort, P.I. David Van Essen, Washington University at St. Louis, £45,531 (Warwick subcontract).

“Optimal Fixed and Adaptive Designs for fMRI Clinical Trials”, G1100188, MRC CASE Industrial PhD Studentship in Statistics, joint with GlaxoSmithKline’s Prof. Ed Bullmore. Oct 2011 – Sept 2015. Covers fees, topped-up stipend & training expenses, £92,838.

“Skills Gap Award”, MRC G0900908, Aug 2009 – July 2012. 66% effort, P.I. Thomas Nichols, £249,990.

“Nonparametric Inference for Neuroimaging Data”, NIH 1 R01 MH069326, 2004 – 2008. 50% effort + Phd student, P.I. Thomas Nichols, \$175,000.

“PET Study of Biochemistry and Metabolism of the CNS”, NIH P01 NS 15655, 2001–2006. 20% effort, P.I. Kirk Frey, \$21,492 (subaccount).

“Elimination of Head Movement Artifact in fMRI”, NIH/NIBIB 1 R01 EB002683, 2003–2005, 10% effort, P.I. Noll \$10,951 (subaccount).

“Advancing PET Science for New Measures of Brain Function”, Department of Energy DE-FG01-87ER60561, 2003–2005, 10% effort, P.I. Michael Kilburn, \$10,103 (subaccount).

“Neurochemical Mediation of Placebo Responses in Humans”, NIH 1 R01 AT001414, 2003–2008, 5% effort, P.I. Zubieta, \$4,199 (subaccount).

“Neurochemical Endophenotype Responses to Pain Stress”, NIH 1 R01 DA016423, 2004–2008, 5% effort, P.I. Zubieta, \$4,413 (subaccount).

“Mu-Opioid Mediated Stress Regulation in BPD”, NIH 1 R21 MH069612, 2004–2007, 2% effort, P.I. Zubieta, \$125,000.

“Neurocognitive Risk for Alcoholism into Adulthood”, NIH 1 R01 AA012217, 2005–2010, 10% effort, P.I. Zucker, \$6,473 (subaccount)

“Fast, Quantitative, Perfusion-Based functional-MRI”, NIH 1 RO1 EB004346, 2005–2008, 7% effort, P.I. Hernandez, \$20,002 (subaccount)

“Alzheimer’s Disease Neuroimaging Initiative”, NIH, 2005–2006, 0% effort, \$37,096, P.I. Weiner/Koeppel.

“Training in Functional Magnetic Resonance Imaging”, NIH, 2005–2010, 33% of August, P.I. Jonides, \$133,517.

“Imagery, Visual Memory & Aging: A Neuroimaging Approach”, NIH R01 AG06265, 2002–2004, 7% effort, P.I. Denise Park.

“Automatic 3D registration for Enhanced Cancer Management Statistics Core”, NIH/NCI P01 CA87634, 2002–2007, 5% effort, P.I. Chuck Meyer.

Teaching Experience

Co-Instructor, “Translational Health Data Science”, University of Oxford EPSRC CDT in Health Data Science, 1-week module, 2020-2024.

Instructor, “Statistics and Data Management”, University of Oxford Interdisciplinary Bioscience DTP, 2-day module, 2020-2023.

Instructor, “Computational Statistics”, University of Oxford EPSRC CDT in Health Data Science, 1-week module, 2020-2021.

Instructor, “Probabilistic and Statistical Inference”, University of Warwick Complexity Sciences, Term 2, 2012-2013.

Co-Instructor, “Advanced Topics in Biostatistics”, University of Warwick Statistics. Term 1, 2012-2013.

Co-Instructor, “Advanced Topics in Biostatistics”, University of Warwick Statistics. Term 1, 2011-2012.

Co-Instructor, “Advanced Topics in Biostatistics”, University of Warwick Statistics. Term 1, 2010-2011.

Instructor, “Applied Biostatistics”, University of Michigan Biostatistics. Fall 2002, Fall 2003, Fall 2004, Fall 2005.

Instructor, “Introduction to Biostatistics”, University of Michigan Biostatistics (600). Fall 2003, Fall 2004.

Instructor, “Introduction to fMRI”, University of Michigan Biostatistics. Summer 2001, Summer 2002, Summer 2004, Summer 2005.

Instructor, “Biostatistics” (for non-residential clinical program), University of Michigan Biostatistics. Fall-Winter 2001.

Instructor, “Applied Statistics I: Linear Regression”, University of Michigan Biostatistics. Fall 2000, Fall 2001.

NSF VIGRE Teaching Fellow, “Introduction to Statistical Reasoning”, CMU Statistics. Fall 1999.

Short Courses Organized

TE Nichols. *SPM Short Course*. Three-day short course, UBC Brain Research Centre, University of British Columbia, Vancouver, August 5 - 7, 2010.

K Kiehl, V Calhoun, TE Nichols. *fMRI Image Acquisition and Analysis Course*. Three-day short course, Olin Neuropsychiatry Research Center, Institute of Living, Hartford, August 4 - 7, 2005, November 9 - 11, 2005, March 30 - April 1, 2006.

K Kiehl, TE Nichols. *USA SPM Short Course*. Three-day short course, Yale University, April, 2005.

TE Nichols. *Basic & Advanced Group Modeling for fMRI*. Half-day short course. Department of Statistics, Southern Methodist University, February 18, 2005.

TE Nichols. *Current Topics in the Statistical Analysis of fMRI Data*. Full-day short course, Department of Psychology, Columbia University, February 4, 2005.

TE Nichols. *Modeling & Inference of fMRI data w/ SPM*. Two-day short course, Beckman Institute, University of Illinois, Champaign-Urbana, July 2003.

TE Nichols. *Under the Hood of Statistical Parametric Mapping: SPM96, SPM97 & SPM99*. Two day short-course, Cognitive Science and Cognitive Neuroscience Program, University of Michigan, Ann Arbor. October 1999.

Professional Activities

Alan Turing Institute

Faculty Fellow, 2016 –

Co-organiser, “Alan Turing Institute Symposium on Reproducibility for Data Intensive Research”, Oxford, 6-7 April 2016.

Co-organiser, “Alan Turing Institute High Value Manufacturing Data Summit”, The Shard, 9 March 2016.

American Statistical Association (ASA)

Co-founder, Section on Statistics in Imaging (2011).

President, Ann Arbor Chapter, 2005 – 2006.

Organizer, *Mixed Models, Longitudinal and Incomplete Data* Short Course, Molenberghs & Verbeke speakers, sponsored by Ann Arbor Chapter & UM CSCAR. 90 registrants. Ann Arbor, MI, March 2005

Vice-President, Ann Arbor Chapter of ASA, 2002 – 2005

Student of the Year, Pittsburgh Chapter of the ASA, 2000

Member, 1999 –

Functional Biomedical Informatics Research Network (FBIRN)

Member, Statistics External Advisory Committee.

International Biometrics Society (ENAR)

Member, 2001-

International Society for Magnetic Resonance in Medicine (ISMRM)

Co-organizer, *fMRI Data Analysis* Morning Categorical Course, with S Smith. 10th Scientific Meeting, 2002

Member, 2001 – 2014.

Institute of Electrical and Electronics Engineers (IEEE)

Co-organizer, *Statistical Modeling and Inference of fMRI Data* tutorial, with K Worsley. IEEE International Symposium on Biomedical Imaging, 2004

Attendee, IEEE EMBS International Summer School on Biomedical Imaging. 1998

Institute for Mathematical Statistics (IMS)

Member, 1999 –

Institute for Pure and Applied Mathematics, University of California Los Angeles

Co-organizer, *Mathematics in Brain Imaging* 2 week Graduate Summer School, with M Miller, R Poldrack, J Taylor, P Thompson, & K Worsley. July 2008

Co-organizer, *Mathematics in Brain Imaging* 2 week Graduate Summer

School, with P Thompson, M Miller, R Poldrack & S Osher. July 2004
Laboratory of Neuro Imaging Resource (LONIR), University of Southern California

Member, Scientific Advisory Board, 2013–2023.

Medical Image Computing and Computer Assisted Intervention (MICCAI) Society

Co-organizer, *Statistical perspective on fMRI data analysis: Beyond Mass-Univariate Modelling* workshop, with B Thirion, A Roche & P Ciuciu. 12th International Conference, London, 2010.

Organization for Human Brain Mapping (OHBM)

Chair, Aperature Oversight Committee, 2020 –.

Member, Aperature Oversight Committee, 2022 –.

Chair, Committee on Best Practice in Data Analysis and Sharing, 2014 – 2016, 2022 –.

Abstract Reviewer, Annual Meetings, 2005 – .

Co-organizer, *Beyond blobology: advances in statistical inference for neuroimaging* Educational Course, with W. Weeda, S. Davenport, B Thirion. 29th Annual Meetings, 2023. (Note: OHBM Educational Courses are awarded based on competitive review.)

Co-organizer, *What should we do with neuroimaging analytical flexibility?* symposium, with J.-B. Poline, A. Laird, C Mauet. 28th Annual Meetings, 2022. (Note: OHBM Symposia are awarded based on highly competitive review.)

Elected Chair, Education Committee, 2005–2008, 2018–2021.

Reviewer, OHBM Replication Award, 2017 – 2021.

Co-organizer, *Neuroimaging Meta Analysis* Educational Course, with S Eickhoff. 19th–22st Annual Meetings, 2013 – 2016

Ad hoc member, Program Committee of OHBM, 2014 – 2016.

Co-organizer, *Imaging Genetics* Educational Course, with J-B Poline. 16th–21st Annual Meetings, 2010 – 2015

Co-Organizer, *Genetics of the Connectome* Workshop, with David Glahn. 21st Annual Meeting, 2015. (Note: OHBM Workshops are awarded based on highly competitive review.)

Elected Secretary, Governing Council of OHBM, 2011 – 2014.

Co-organizer, *How Not to Analyze Your Data: A Skeptical Introduction to Modeling Methods* Half-day Educational Course, with Victor Solo. 19th Annual Meeting, 2013.

Co-Organizer, *Big Data in Neuroimaging: Big Opportunities or Just a Big Hassle - The Skeptical Neuroimagers View* Morning Workshop, with Martin Lindquist. 19th Annual Meeting, 2013.

Organizer, *Where's Your Signal? Explicit Spatial Models to Improve Interpretability and Sensitivity of Neuroimaging Results* Morning Workshop, 18th Annual Meeting, 2012

Organizer, *How To Be a Skeptical Neuroimager: Functional Connectivity & Causal Modeling*. Morning Workshop, 17th Annual Meeting, 2011

Co-organizer, *Introduction to Imaging Genetics* 1/2 day Educational Course,

with J-B Poline. 15th Scientific Meeting, 2009

Member, Advisory Board, Pittsburgh Brain Connectivity Competition. 15th Annual Meeting, 2009

Member, Advisory Board, Pittsburgh Brain Activity Interpretation Competition: Inferring Experience Based Cognition from fMRI. 12th Annual Meeting, 2006; 13th Annual Meeting, 2007.

Panelist, HBM Functional Imaging Analysis Contest, 11th Annual Meeting, 2005

Co-organizer, *Intersubject Heterogeneity in fMRI RFX Analyses* Morning Workshop, with S Smith. 11th Annual Meeting, 2005

Co-organizer, *Mixed Effects Models* Morning Workshop, with S Smith. 10th Annual Meeting, 2004

Co-organizer, *Inference in Neuroimaging: Thresholding Statistic Images* Morning Workshop, with S Smith. 9th Annual Meeting, 2003

Co-organizer, *Spatiotemporal Modeling in Functional Neuroimaging* Morning Workshop, with S Smith. 8th Annual Meeting, 2002

Member, 1998 –

Royal Statistical Society (RSS)

Co-Organizer, *Statistical Challenges in Brain Imaging* contributed session, with J Aston. RSS Conference 2009.

Fellow, 2008 –

Statisticians in the Pharmaceutical Industry (PSI)

Co-organizer, *Biomarkers in Early Development* 1 day meeting. Glaxo-SmithKline Clinical Imaging Centre. 18 November, 2008.

Member, Biomarkers Special Interest Group, 2008 – 2010.

Member, 2008 – 2010

Editorial Work

Editorial Boardmember, *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 2015 –

Editor, Special Issue on “Sharing the wealth: Neuroimaging data repositories”, *Neuroimage*. With S Eickhoff, JD Van Horn, JA Turner. Volume 124(Pt.B), 2016.

Editorial Boardmember, *Scientific Data*, 2014 –

Editorial Boardmember, *PlosOne*, 2014 – 2016

Editorial Boardmember, *Brain Imaging and Behavior*, 2007 –

Editorial Boardmember, *Human Brain Mapping*, 2005 –

Editorial Boardmember, *NeuroImage*, 2005 –

Handling Editor, Modelling & Analysis, *NeuroImage*, 2009 – 2013

Editor, Special Issue on “Mathematics in Brain Imaging”, *Neuroimage*. With PM Thompson, MI Miller, RA Poldrack, JE Taylor, KJ Worsley, JT Ratnanather. Volume 45(1S), 2009.

Reviewing

External Review

Reviewer, Villum Foundation, Copenhagen, Denmark. 2014.

Member, International Advisory Board, Centre for Integrated Molecular Brain Imaging (CIMBI), Copenhagen, Denmark. 2009 review.

Site Visits

Member, International Advisory Board, Centre for Integrated Molecular Brain Imaging (CIMBI), Copenhagen, Denmark. 2009 review.

Journal Articles

Biological Psychiatry; Biometrics; Brain Research Protocols; Cerebral Cortex; Cognitive, Affective, & Behavioral Neuroscience; Human Brain Mapping; IEEE Transactions on Medical Imaging; IEEE Transactions on Nuclear Science; Journal of the American Statistical Association; Journal of Cerebral Blood Flow & Metabolism; Journal of Magnetic Resonance Imaging; Journal of Neuroscience Methods; Magnetic Resonance in Medicine; Medical Image Analysis; NeuroImage; Proceedings of the National Academies of Science; Schizophrenia Bulletin; Statistics in Medicine

Book Chapters

Bayesian Statistics 7; Case Studies in Bayesian Statistics

Book Proposals

Springer-Verlag

Research Grant Proposals

Wellcome Trust; member of the Cognitive Neuroscience and Mental Health Expert Review Group.

Engineering and Physical Sciences Research Council.

Medical Research Council.

L'Agence Nationale de la Recherche (National Research Agency of France).

University of Washington Alzheimer's Disease Research Center.

American Association for the Advancement of Science, Women's International Science Collaboration program.

Departmental & University Service

University of Oxford

Associate Head (Training & Innovation), Big Data Institute, 2023 –

Chair, Training Committee, Big Data Institute, 2020 – 2023

Member, Training Committee, Big Data Institute, 2018 – 2023

Member, Management Board, Wellcome Centre for Integrative Neuroscience, 2017 –

University of Warwick

Co-chair, Warwick Medical Imaging Network, a Network of Excellence of the Science and Technology for Health Global Research Priority, 2013 –.

University of Warwick, Warwick Manufacturing Group

Co-chair, fMRI Reading Group, 2009 – 2010

University of Warwick, Department of Statistics

Chair, IT Committee, 2014 –
Chair, Local Organizing Committee, UseR 2011 Conference, 2011
Member, Local Organizing Committee, UseR 2011 Conference, 2009 –
2010

University of Warwick, Department of Computer Science
Member, Program Committee, Medical Image Understanding and Analysis
2010 Conference, 2009 –

University of Michigan, Department of Biostatistics
Chair, Computer Committee, 2000 – 2006
Member, Admissions Committee, 2004 – 2006
Member, Curriculum Committee, 2002 – 2003
Chair, Seminar Committee, 2001 – 2002
Member, Seminar Committee, 2000 – 2001

University of Michigan, School of Public Health
Member, Computing & Network Committee, 2004 – 2006

University of Michigan, Office of the Vice President for Research
Member, Operations Committee, fMRI Lab, 2001 – 2006

Advising & Mentoring

Ph.D. Students Advised, University of Oxford
George Hutchings. *Spatial Latent Space Models for Large-Scale Imaging Data*. In Statistics, 2022 –.
Lav Radosavljevic. *Missing Data for Epidemiological-Scale Data*. In Population Health, 2021 –.
Kan Keeratimahat. *Scalable Spatial Bayesian Models for Population Neuroimaging Data*. In Population Health, 2020 –.
Yifan Yu. *Advances in Neuroimaging Meta Analysis*. In Computer Science, 2019 –.
Anna Menacher. *Computationally efficient spatial Bayesian models for white matter lesions*. In Statistics, 2019 –.
Thomas Maullin-Sapey. *Distributed large scale neuroimaging analyses*. In Population Health, 2018 –2022.
Petya Kindalova. *Imaging genetics analyses of brain lesion data*. In Statistics, OxWasp DTC, 2016 –2021.
Samuel Davenport. *Comprehensive inference for local maximum of statistic images*. In Statistics, OxWasp DTC, 2016 – 2021.
Alex Bowring *Confidence set inference for precise spatial inferences*. In Population Health, 2017 – 2020.
Anderson Winkler. *Design and Analysis of Resting state pharmacofMRI clinical trials*. Marie Curie Initial Training Network studentship, through GlaxoSmithKline & University of Maastricht, 2011 – 2016.

Ph.D. Students Advised, University of Warwick
Marco Palma. *Functional quantile regression for neuroimaging phenotypes*. In Statistics, OxWasp DTC, 2017 –2021.
Zhangdaihong (Jessie) Liu. *Population Neuroimaging Genetics*. In Com-

plexity Sciences DTC, co-advised with Jianfeng Feng, 2015 – 2020.

Sherman Ip. *Detecting artifacts in 3D printed objects from cone beam CT images*. In Statistics, 2017 – 2020.

Ruth Harbord. *Inferring population differences in dynamic connectivity in task-free fMRI*. In Molecular Organisation and Assembly in Cells DTC. 2014 – 2017.

Bernd Taschler *Spatial modelling of Multiple Sclerosis lesions*. In Complexity Sciences DTC. 2014 – 2016

Soroosh Afyouni. *Group inference on graph theoretic measures of brain connectivity*. 2013 – 2016.

Habib Ganjgahi. *Permutation and Random Field Methods for Neuroimaging Heritability Analysis*. 2013 – 2016.

Pantelis Samartsidis. *Statistical Modelling for Neuroimaging Meta-Analysis*. 2012 – 2016.

Dragana Pavlovic. *Optimal Fixed and Adaptive Designs for fMRI Clinical Trials*. MRC CASE Industrial PhD Studentship in Statistics sponsored by GlaxoSmithKline, joint with Prof. Ed Bullmore. 2011 – 2015.

Bryan Guillaume. *Improving Group Inference for fMRI Clinical Trials with Task or Task-Free Designs*. Marie Curie Initial Training Network studentship, through GlaxoSmithKline & Leige Université de Liège.) 2011 – 2015.

Tian Ge. *Kernel Machine Approaches to Detecting Genetic Associations in Imaging Data*. Computer Science student, co-advised with Jianfeng Feng. 2011 – 2014.

Lilia Carneiro-da-Costa. *Dynamic Bayesian Models for Resting State fMRI Data*, Co-advised with F Rigat. 2010 – 2015.

Xu Chen. *Spatially Regularization of Voxel-wise Heritability Estimates*. 2010 – 2015.

George Minas. *Adaptive Design for fMRI Clinical Trials*, Co-advised with F Rigat, JD Aston & N Stallard. 2009 – 2013.

M.Sc. Student Projects, University of Warwick

Sherman Ip (OxWasp, joint Oxford-Warwick student). *Inside-Out: Characterisation of Computed Tomography Noise in Projection and Image Space with Applications to 3D Printing*, 2015 – 2016.

Nathan Cunningham (OxWasp, joint Oxford-Warwick student). *Examining evidence for neurogenic atrial fibrillation using neuroimaging data*, 2015 – 2016

Ashwath Padinjattayil Shaji, *Supply Change and Market Analysis of Medical Imaging Service in India*, 2014 – 2015.

Tom Watkins. *Advanced State Space Modelling of Driver Performance Data*, 2014 – 2015.

Renming Guo. *State Space Modelling of Driver Performance Data*, 2013 – 2014.

Jade Eaton. *Data Analysis of Driver Behaviour Using Machine Learning Techniques*, 2013 – 2014.

Suchin Jin. *Investigation of random variation in CT validation of Additive Layer Manufacturing*, 2013 – 2014.

Kevin Tang. *Interactive visualisation of high-dimensional brain imaging data and models*. 2013 – 2014.

Jack Stone. *Conjunction Inference for Neuroimaging*, 2012 – 2013.

Alexis Sofianos. *What kind of driver are you? Modelling of driver performance data*, 2012 – 2013.

Sabrina Khushi. *The Classification of Multiple Sclerosis From the Spatial Distribution of Lesions*, 2012 – 2013.

James Kwann. *Classification of Multiple Sclerosis Patients From Lesion Data*, 2012.

Thomas Honnor. *Building a modelling framework for cluster inference: Where's the blob?*, 2012.

Shen Ting Ang. *False Discovery Rate Procedures for Neuroimaging*, 2011 – 2012.

Romain Hendrickx. *Optimizing the Robustness of fMRI Experimental Designs with a Genetic Algorithm*, visiting from University of Namur, Belgium, 2011.

Sam Cuthbertson. *The Erdős-Rényi Mixture Model for Graph Valued Data from Resting State fMRI Data*, 2010 – 2011.

Chipo Mashayamombe. *Analysis of Proteomic Data During and Outside of a Migraine Attack*, 2010.

Rachel Walton. *Using Clustering to Infer the Structure of Brain Anatomy Heritability*. 2009 – 2010.

B.S. Student Projects, University of Warwick

Peter Williams. *Browser-based Visualisation of NIDM Results Data Structures*. Summer Internship, 2016.

Alex Bowring. *Creating Massive Library of fMRI Analyses in NIDM Results*. Summer Internship, 2015.

Emma Thomas. *Exact Neuroimaging Inference with Nonparametric Permutation*. 3rd Year Engineering Project, 2010 – 2011.

Shen Ting Ang. *Improving the sensitivity of fMRI heritability estimates with spatial regularization*. Undergraduate Research Scholarship Scheme, awarded top-up with EPSRC 2010 Vacation Bursary Programme. 2009 – 2010.

Ph.D. Students Advised, GlaxoSmithKline

David Cole, *Functional network analysis of human brain systems under pharmacological manipulation*. Co-advised with Christian Beckmann. Dept. of Clinical Neurosciences, Imperial College London. 2009 –

Reza Salimi, *Advancing Meta Analysis in fMRI*. Co-advised with Stephen Smith. FMRIB Centre, Oxford. August, 2007 – 2011.

Maria Vounou, *Joint Modelling of Imaging & Genetics Data*. Co-advised with B Whitcher (GSK) & G Montana (IC). Department of Mathematics (Statistics), Imperial College London. August, 2007 –

M.S. Student Projects, GlaxoSmithKline

Matt Silver. *Evaluating Nontationarty Cluster Size Inference for Imaging Genetics VBM Studies*. Co-advised with Giovanni Montana. Department of Mathematics (Statistics), Imperial College London. 2009 –

2010.

Biostatistics Ph.D. Students Advised, University of Michigan

Satoru Hayasaka, *Validating and Improving Cluster Size Inference in Brain Image Analysis*. January, 2001 – December, 2003

Wen-Lin Luo, *General Linear Model for fMRI Time Series Data: Model Formulation, Covariance Estimation, and Model Selection*. September, 2000 – August, 2004

Jeanette Mumford, Covariance modeling in group fMRI models. January, 2003 – June, 2006.

Hui Zhang, Random Field Theory for Cluster Mass Inference. May 2005 – Lei Xu, Bayesian Spatial Modelling of Group fMRI Data. Co-advised with Timothy Johnson. May, 2005 – October, 2007.

Jian Kang, Bayesian Point Processing Neuroimaging Meta-Analysis Data. Co-advised with Timothy Johnson. September, 2007 – July, 2011.

Biostatistics M.S. Students supported, University of Michigan

Wei Xie, Evaluation of FDR methods under smoothness. September 2004 – May 2006

Hui Zhang, RA for Nichols RO1. Developing SPMd software to evaluate parametric assumptions in fMRI data. September, 2004 – April, 2005

Jun Ding, RA for Nichols RO1. Developing SnPM software for nonparametric permutation inference on neuroimaging data. January, 2004 – May, 2005.

Xiaoabi Huang, RA for Norman Foster, Neurology. Analysis of FDG-PET image data in Alzheimer's Disease patients & elderly normals. September, 2004 – August, 2007.

Kelly O'Brien, RA for Norman Foster, Neurology. Analysis of FDG-PET ROI data in Alzheimer's Disease patients & elderly normals. January – May, 2004

Erick Heyt-Ender, RA for Thomas Nichols. Accounting for missingness in fMRI slice-to-volume motion-corrected data. May, 2003 – April, 2004

Non-Biostatistics Ph.D. Committees, University of Michigan

Carol Anilowski, Business School, 2005 – 2006

Shao-Hsuan Ho, Psychiatry, 2005 – 2006

James Nelson, Psychology, 2004 – 2005

Anastasia Yendiki, Electrical Engineering, 2004 – 2005

Jennifer Britton, Psychiatry, 2002 – 2005

Alberto Vazquez, Biomedical Engineering, 2001 – 2005

Tor Wager, Psychology, 2002 – 2004

Sangtae Ahn, Electrical Engineering, 2003 – 2004

Brad Sutton, Biomedical Engineering, 2003 – 2004

Paul Hamilton, Psychology, 2003 – 2004

Scott Peltier, Applied Physics, 2001 – 2003

Marko Slyz, Electrical Engineering, 2001 – 2002

Charles Behensky, Psychology, 2001 – 2003

K30 Trainees, Statistical Advisor, University of Michigan

Aine Kelly, 2003 – 2004

Elaine Caioli, 2002 – 2003

External Examiner

Jérôme-Alexis Chevalier, Mathématiques et Informatique, Paris-Saclay University, 2020.

Jérôme Dockès, Neurospin, Inria-CEA, 2019.

Wiktor Olszowy, Neuroscience, University of Cambridge, 2019.

Matthew Pearce, MRC Epidemiology Unit, University of Cambridge, 2018.

João De Matos Monteiro, Computer Science, University College London, 2017.

Romy Lorenz, PhD, Neuroscience, Imperial College London, 2017.

Ricardo Pio Monti, PhD, Mathematics, Imperial College London, 2017.

Alexander Mendelson, PhD, Computer Science, University College London, 2017.

Francisca Marie Tan, Ph.D., Electrical and Electronic Engineering, University of Nottingham. 2016.

Joke Durnez, Ph.D., School of Psychology, University of Ghent. 2015.

Christopher Minas, Ph.D., Mathematics/Statistics, Imperial College. 2014.

Gabriella Blokland, Ph.D., School of Psychology, University of Queensland. 2012.

Emma Sprooten, Ph.D., Division of Psychiatry, University of Edinburgh. 2012.

Sara Kherad-Pajouh, Ph.D., Mathematics/Psychology, University of Geneva. 2011.

David Glenn Lawyer, Ph.D., University of Oslo. 2008.

Moh'D Taleb Suleiman Al Odat, M.S., Statistics, McGill University. 2004.

Marnie Shaw, Ph.D., Medical Physics, University of Melbourne. 2002.

Methodological Publications *Publications with primarily statistical content that have received peer review.*

TE Nichols, J Qi, and RL Leahy. Continuous time dynamic PET imaging using list mode data. In *Information Processing in Medical Imaging*, volume 1613 of *Lecture Notes in Computer Science*, pp 98-111, Berlin, 1999.

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