Soc-B (Social-Biological) Centre for Doctoral Training in Biosocial Research: Manchester based supervisors and projects

https://socbcdt.wordpress.com/

We are seeking bright, motivated applicants to form the first cohort of students in the new Soc-B (Social-Biological) Centre for Doctoral Training (CDT) in Biosocial Science jointly funded by the Economic & Social Research Council and the Biotechnology & Biological Sciences Research Council.

Strong links between our social environments and health exist; however, the biological processes linking the two are less clear. Recent years have seen increased investments in the collection of biomarker data (e.g. neuroimaging, genomics, metabolomics, cognitive and physical functioning) within a number of well-characterised longitudinal social surveys. Innovative methods are required to handle these high-dimensional datasets and study the causal processes underlying the reciprocal relationships between the social environment and biology.

As a graduate of the innovative Soc-B programme, you will be one of a cadre of cutting-edge researchers with the theoretical knowledge, analytic capabilities and communication skills to capitalise on these investments and make major advances in biosocial research in the future. Soc-B studentships are based across social and biological science departments in three centres of excellence in biosocial research: UCL, University of Manchester and University of Essex. Soc-B PhD studentships are four-year (+4) studentships with the first year spent in project rotations and biosocial training before selecting a PhD research topic for years 2-4.

For more information on how to apply, please visit https://socbcdt.wordpress.com/about/
THE SUBMISSION DEADLINE FOR APPLICATIONS IS MONDAY 23 JANUARY 2017 AT 4.00PM

Manchester based Supervisors
Social Science Supervisors
Biological, Medical and Computer Sciences supervisors

Some examples of Manchester based potential PhD Projects
The social determinants of biomarkers of ageing
The student will work with the Frailty, Resilience And Inequality in Later Life research group (http://www.micra.manchester.ac.uk/research/projects-and-groups/frraill/) and the Manchester Institute for Collaborative Research on Ageing (http://www.micra.manchester.ac.uk/) which includes researchers such as James Nazroo, Neil Pendleton, Debora Price, Gindo Tampubolon and Tarani Chandola. They will learn about the new sets of hormone, metabolomic and genetic data collected in the English Longitudinal Study of Ageing (ELSA), and relate those biomarkers to the social contexts of ELSA participants.

Missing data methods in relation to biomarkers of ageing
The student will work with the National Centre for Research Methods research group on missing data in biomarker data collections (http://www.ncrm.ac.uk/research/WP3/wp3.php) which includes Natalie Shlomo, Joe Sakshaug, Alex Cernat and Tarani Chandola. They will learn about the different statistical methods for dealing with missing data in the context of biomarker data collections in large longitudinal studies like the English Longitudinal Study of Ageing (ELSA) and Understanding Society (UKHLS).

Intergenerational transmission of poverty and ill health

The student will work with Professors Yaojun Li and Anthony Heath at the Cathie Marsh Institute for Social Research at Manchester University on intergenerational transmission of poverty and ill health. Poverty is linked with what Beverage called 'Idleness' or what is currently called 'precariat', marked by high levels of job insecurity, low or zero-hour contract, frequent or long-term unemployment, or heavy and 'dirty' manual jobs with poor pay. The project will also take an intersectional approach by linking class, gender and ethnicity. By tracing the effect of parental precariat on respondent's own precarious life course and its impact on deprivation, lack of bonding and bridging social capital, and poverty-related ill health and/or psychological distress, the project aims to bridge research traditions in social mobility, social capital, ethnicity and health studies. The project will use sociological and biomarker data collections in large longitudinal studies like the English Longitudinal Study of Ageing (ELSA), British Household Panel Study (BHPS) and Understanding Society (UKHLS).

Understanding common biomarkers associated with cognition and higher senses impairment

The student will use biomarker data in English Longitudinal Study of Ageing ELSA to estimate the contribution of common biomarkers including blood analytes or genetic markers to hearing, vision and cognitive impairments in later life. This work will be connected with the EU Horizon a2020 programme SENSE-cog at University of Manchester (investigators Neil Pendleton, James Nazroo, Gindo Tambupolon, Piers Dawes) http://www.micra.manchester.ac.uk/research/projects-and-groups/sense-cog-project/.

Genetic determinants of stress hormones and their effects on sleep, depression and frailty

The student will work with the Frailty, Resilience And Inequality in Later Life research group (http://www.micra.manchester.ac.uk/research/projects-and-groups/frraill/) which includes researchers such as James Nazroo, Neil Pendleton, Krisztina Mekli, Gindo Tampubolon and Tarani Chandola. They will learn about using the English Longitudinal Study of Ageing (ELSA) Genome Wide Association (GWAS) dataset and examine the genetic correlates with measures of stress hormones such as cortisol and cortisone as well as the effect of these stress hormones on phenotypes such as sleep, depression and frailty.

Manchester based Supervisors
Social Science Supervisors
Economics
Micro-econometrics applied to the determinants of health and health behaviours

Luke Monford	Research Fellow in Health Economics
Matt Sutton	Professor of Health Economics

Psychology
Behaviour change interventions

Chris Armitage	Professor of Health Psychology
David French	Professor of Health Psychology
Laura Brown	Lecturer in Psychology

Psychology and cognitive neuroscience

Deborah Talmi	Senior Lecturer in Psychology

Sociology/Social Statistics
School and educational interventions

| Maria Pampaka | Lecturer in Social Statistics and Research Fellow in Education |

Missing data in biosocial datasets

Alex Cernat	Research Fellow in Social Statistics
Joe Sakshaug	Senior Lecturer in Social Statistics
Natalie Shlomo	Professor of Social Statistics

Ageing, wellbeing and resilience

David Lee	Research Fellow in Social Statistics
Gindo Tampubolon	Research Fellow in Social Statistics
Tarani Chandola	Professor of Medical Sociology
James Nazroo	Professor of Sociology
Nick Shryane	Lecturer in Social Statistics
Bram van Houtte	Research Fellow

Stress & Health

| Tarani Chandola | Professor of Medical Sociology |

Ethnicity & Race

| Laia Becares | Lecturer in Social Statistics |
| James Nazroo | Professor of Sociology |

Comparative social inequalities research

| Yaojun Li | Professor of Sociology |

Anthropology

Race and Genomics in Latin America

| Peter Wade | Professor of Social Anthropology |

New reproductive technologies, social and ethical aspects

| Jeanette Edwards | Professor of Social Anthropology |

Biological, Medical and Computer Sciences supervisors

Bio and health care informatics

Iain Buchan	Clinical Professor in Public Health Informatics
Georgina Moulton	Bio/Health Informatics Education and Development Fellow
John Ainsworth	Professor of Health Informatics

Computer science and Machine Learning

| Jonathan Shapiro | Reader in Computer Science |

Metabolomics and Network Biology

| Roy Goodacre | Professor of Biological Chemistry |
| Adam Stevens | Fellow in Human Development, systems and network biology |

Dementia

| Nigel Hooper | Professor of Cell Biology |

Primary Care

Harm Van Marwijk	Clinical Chair in Primary Care Research
Chris Todd	Professor of Primary Care and Community Health
Sorrel Burden	Research Fellow at the School of Nursing, Midwifery and Social Work

Occupational/Environmental health

| Andrew Povey | Reader in Molecular Epidemiology |

Gene-environment interactions, epigenetics

| Neil Pendleton | Professor of Medical Gerontology |

[Reinmar Hager](#)   Lecturer in Evolutionary Biology

Neuroscience

[Matthew Lambon Ralph](#) Professor of Cognitive Neuroscience & Associate Vice-President (Research)

[Rebecca Elliott](#)   Professor of Cognitive Neuropsychiatry

Environmental Biology

[Tucker Gilman](#)   Lecturer in Environmental Biology

Evolutionary Biology and Anthropology

[Susanne Shultz](#)   Senior Research Fellow

[Reinmar Hager](#)   Lecturer in Evolutionary Biology

Supervisor profiles

John Ainsworth https://www.research.manchester.ac.uk/portal/John.Ainsworth.html
John.Ainsworth@manchester.ac.uk

John Ainsworth is professor of Health Informatics at the University of Manchester and Director of the Connected Health Cities programme, an initiative to unlock the power of information to transform health and social care services across the North of England. John has a varied background encompassing Physics, Cognitive Science and industrial software engineering. His research focuses on harnessing computing technology to enhance data science, using technology to improve health services, and applying emerging computing technologies to create novel healthcare interventions.

Christopher J. Armitage https://www.research.manchester.ac.uk/portal/chris.armitage.html
chris.armitage@manchester.ac.uk

Chris is a Health Psychologist registered with the UK Health and Care Professions Council, an Associate Fellow of the British Psychological Society, and Director of Research at the Manchester Centre for Health Psychology in the School of Health Sciences at the University of Manchester. Chris's research principally involves using mixed methods to develop tools for effective behaviour change among diverse populations. He welcomes PhD research proposals related to behaviour change, especially those interested in investigating biological pathways that mediate the relationship between psychosocial interventions and health outcomes.

Laia Bécares https://www.research.manchester.ac.uk/portal/laia.becares.html
laia.becares@manchester.ac.uk

Laia Bécares is a Lecturer in Social Statistics based in Social Statistics, the Centre on Dynamics of Ethnicity (CoDE), and the Cathie Marsh Institute. Her research interests are in studying the determinants of ethnic inequalities in health, with a focus on life course and neighbourhood effects. She is particularly interested in understanding the pathways by which the racialisation of people and the places where they live lead to social and health inequalities. She

welcomes PhD research proposals related to investigating the biosocial pathways that lead to ethnic inequalities in health.

Laura Brown http://www.manchester.ac.uk/research/laura.brown/ Email: laura.brown@manchester.ac.uk

Laura is a lecturer in Psychology based in the Division of Psychology and Mental Health in the School of Health Sciences at the University of Manchester. She is also a member of the Manchester Centre for Health Psychology. Laura's research interests are in the psychology of ageing. Specifically, she is interested in characterising the patterns of psychological functioning that are associated with ageing, and in developing interventions to help improve health and wellbeing in older populations. Her recent work has included investigations into the content and consequences of attitudes to ageing on health and wellbeing; the development of new, computerised, tools for assessing cognitive function; as well as characterising the meaning and correlates of successful ageing' in older people with disabilities, or who live in care homes. Laura would welcome any PhD proposals that aim to better understand or support ageing from a psychosocial-biological perspective.

Iain Buchan https://www.research.manchester.ac.uk/portal/Buchan.html Buchan@manchester.ac.uk Twitter: @profbuchan

Iain Buchan is Professor in Public Health Informatics and leads the Centre for Health Informatics at the University of Manchester, where he also leads Civic Informatics across the University and Greater Manchester Combined Authority, and directs the Domain of Populations and Ecosystems in the new Faculty of Biology, Medicine and Health. Nationally, he directs the MRC Health eResearch Centre of the UK's Farr Institute for Health Informatics Research (www.herc.ac.uk) and originated the Connected Health Cities UK network of learning health systems. He holds qualifications in Clinical Medicine, Pharmacology, Biostatistics, Public Health and Health Informatics, and leads a multi-disciplinary team developing and applying health data science methodology. He also writes software (e.g. www.statsdirect.com). Internationally, he is a Fellow of the American College of Medical Informatics and works through international networks towards toward a future of more globally interoperable modelling with large-scale health data - for discovery science, for actionable analytics in health systems, and for citizen-driven healthcare.

Sorrel Burden https://www.research.manchester.ac.uk/portal/Sorrel.Burden.html
Sorrel.Burden@manchester.ac.uk

Sorrel qualified as a dietitian in 1992 and has spent a number of years working in nutritional support and perioperative nutrition. She was a member of the nutritional support team at Central Manchester Foundation Trust for a number of years. Sorrel currently works as a Clinical Academic in Dietetics at the School of Health Sciences at the University of Manchester supported by a Senior Clinical Lectureship from NIHR/HECFE and Salford Royal Foundation Trust. Her research is centred on the MRC guidance for developing complex interventions into clinical practice. This has involved a mixture of qualitative and quantitative research projects in nutrition with cancer patients. Sorrel is also interested in looking into the links between frailty and sarcopenia (low muscle mass) and how people can improve their everyday lives by eating a healthy diet and increasing physical actively. Sorrel would welcome PhD applications on the links between frailty and sarcopenia (low muscle mass) and nutrition and how this affects the lives of older people living the community.

Alexandru Cernat https://www.research.manchester.ac.uk/portal/alexandru.cernat.html
alexandru.cernat@manchester.ac.uk

Alexandru Cernat has joined Social Statistics in July 2016. Prior to this he was a Research Associate at the National Centre for Research Methods. He received a PhD in Survey Methodology from the University of Essex. An important part of Alexandru's research is centred on modelling data quality in the framework of generalized latent variables (i.e., Structural Equation Modelling, Latent Class and Item Response Theory). These statistical models are usually used in the context of survey methodology to investigate topics such as: measurement error, non-response, designing longitudinal studies, mixed mode designs, paradata, interviewer effects, surveying sensitive topics, etc. He welcomes PhD research proposals related to methodological issues in the collection and analysis of socio-biological data. Some of his students are looking at how missing biomarker data can impact substantive results or how nurses influence the quality of the data.

Tarani Chandola https://www.research.manchester.ac.uk/portal/tarani.chandola.html
tarani.chandola@manchester.ac.uk

Tarani is a Professor of Medical Sociology based in Social Statistics and the Cathie Marsh Institute. He is a co-director of the Social-Biological (Soc-B) Centre for Doctoral training, the ESRC National Centre for Research Methods (NCRM) and the ESRC Centre for Lifecourse Studies in Society and Health (ICLS). Tarani's research is primarily on the lifecourse social determinants of health, focusing on health inequalities and psychosocial factors, and the analysis of longitudinal cohort studies such as the Whitehall II study, the English Longitudinal Study of Ageing and the UK Household Longitudinal Study. Much of his research is on stress at work and its effects on health and well-being through biomarkers associated with the stress. He welcomes PhD research proposals related to socio-economic position, work and health, especially those interested in investigating biological pathways that link social factors to health outcomes. Some of his PhD students are looking at how cortisol levels change with ageing and during retirement, and whether lifelong learning prevents cognitive decline among older adults.

Jeanette Edwards https://www.research.manchester.ac.uk/portal/jeanette.edwards.html
jeanette.edwards@manchester.ac.uk

Jeanette Edwards is Professor of Social Anthropology at Manchester University. She has carried out ethnographic research on kinship and assisted reproductive technologies in the UK, convened and directed an EU-funded collaborative project on 'public understandings of genetics, and is currently chair of a Nuffield Council on Bioethics working party focusing on 'cosmetic procedures'.   Her publications include: *Born and Bred: Idioms of Kinship and New Reproductive Technologies in England* (Oxford University Press); with C. Salazar, *Kinship Matters: European Cultures of Kinship in the Age of Biotechnology* (Berghahn Books); and with M. Petrović-Šteger, *Recasting Anthropological Knowledge: Inspiration and Social Science* (Cambridge University Press). She welcomes PhD students with an interest in reproductive technologies, cosmetic surgery and bioethics.

Rebecca Elliott https://www.research.manchester.ac.uk/portal/rebecca.elliott.html
rebecca.elliott@manchester.ac.uk

Rebecca Elliott is Professor of Cognitive Neuropsychiatry in the School of Biological Sciences at the University of Manchester. Rebecca's research interests focus around the neurocognitive mechanisms of stress, resilience and vulnerability to mental health problems. She has published widely on emotion, motivation and social cognition, particularly in depression and addictions, and has recently completed a project on the impact of environmental stressors on cognitive measures and brain function. Current PhD projects include cognitive mechanisms of brief interventions in heavy drinkers, cognitive mechanisms of putative "internet gaming disorder", social cognition and vulnerability to psychosis and the impact of exercise on cognitive function in early psychosis. She would be interested in supervising PhDs focused on neurocognitive effects of different types of stress and trauma in healthy individuals, as well as people with a range of mental health problems. The exacerbating or mitigating effects of lifestyle factors on neurocognitive function in these groups would also be potential project areas.

David French https://www.research.manchester.ac.uk/portal/david.french.html
david.french@manchester.ac.uk
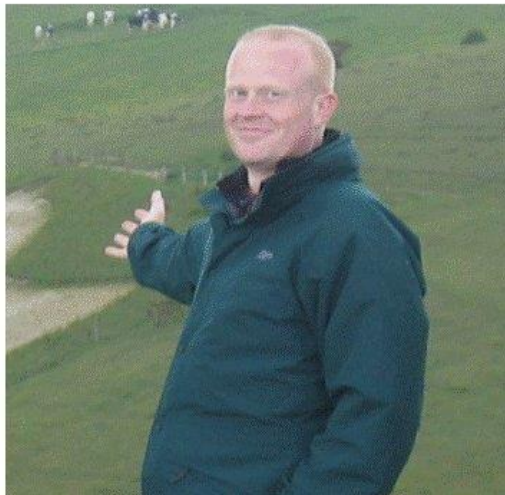
Professor of Health Psychology
NIHR Public Health Research programme research funding board member (2015-present
MRC Methodology Research Programme panel member (2014-present)
NIHR Programme Grants for Applied Research: sub-panel member (expert in health psychology/ behavioural science) (2009-2014)
British Journal of Health Psychology (official journal of British Psychological Society): Editor (2013-present)
Annals of Behavioral Medicine (official journal of Society of Behavioral Medicine): Editorial Board member (2009-present)

Tucker Gilman https://www.research.manchester.ac.uk/portal/tucker.gilman.html
tucker.gilman@manchester.ac.uk

I am a Lecturer in Environmental Science at the University of Manchester. My research focuses on two related questions. First, how do behaviours evolve in animals and humans? Second, how to evolved behaviours shape institutions, cultures, species, and ecosystems? For example, my lab has studied how the ability to learn from others evolved, and how learned behaviours sweep through populations. We have also studied how and why humans and animals learn mate preferences, and how mate preference learning might drive evolution. Much of, the work in my lab is theoretical. That is, we use mathematical and computational tools to approach fundamentally biological questions. We also conduct experiments in animals and more recently in humans to test the theory we develop. I welcome PhD proposals that will use models or statistical approaches to study questions at the interface between biology and society.

Roy Goodacre http://www.manchester.ac.uk/research/Roy.Goodacre/
roy.goodacre@manchester.ac.uk

Roy Goodacre is Professor of Biological Chemistry at the University of Manchester. His research interests are broadly within analytical biotechnology and systems and synthetic biology. He has over 20 years experience of advanced bioanalytical measurements including MS-based metabolomics and has pioneered the application of a variety of Raman spectroscopy methods for the direct analysis of bacteria and their products. His research group (www.biospec.net) comprises ~25 researchers (1:2 PDRA:PhDs) and as PI and CoI he has a combined grant portfolio of >£15M from the UK and EU. He is founding director of a novel microbial resistance typing diagnostics company (Spectromics; www.spectromics.com). He has published >350 scientific papers and if you believe in such metrics has healthy H-indices (58, WoK; 70, Google Scholar). He helped established the *Metabolomics Society*, is a director of the *Metabolic Profiling Forum*, and is founding Editor-in-Chief of *Metabolomics* (established 2005) and on the Editorial Advisory Boards of four other journals. Finally, he was awarded the RSC Industrially-Sponsored Award in Bioanalytical Chemistry in 2005 and was made a Fellow of the *Society for Applied Spectroscopy* in 2015.

Reinmar Hager https://www.research.manchester.ac.uk/portal/Reinmar.Hager.html
reinmar.hager@manchester.ac.uk

Reinmar is Lecturer in Evolutionary Biology and works at the interface of evolutionary genetics, epigenetics and behavioural ecology using a systems genetics approach that combines quantitative genetics, genomics and bioinformatics tools. Reinmar's research focuses on two areas. The first looks at how early life experience influences trajectories of adult cognitive development and the role of interactions between family members. We are specifically interested how the maternally provided environment interacts with genetic predisposition in determining adult stress responses, and what the molecular signatures of these interactions are at the gene expression and epigenetic level. The second research focuses on how epigenetic mechanisms mediate the responses to environmental factors. The overall objective is to establish fitness and developmental consequences of experiencing changes from early to late environment and associated differences in the epigenome. Our prediction is that plastic responses to changing environments are rendered through modifications in the epigenome.

Nigel Hooper https://www.research.manchester.ac.uk/portal/nigel.hooper.html
nigel.hooper@manchester.ac.uk

Nigel Hooper is Professor of Cell Biology in the Division of Neuroscience and Experimental Psychology in the Faculty of Biology, Medicine and Health. He is also Director of Dementia Research and leads the cross-University Dementia@Manchester network. Hooper's research is focused on understanding the biological mechanisms underlying Alzheimer's disease, other forms of dementia and ageing. He uses a range of cell biological approaches in his research, including the use of human induced pluripotent stem cells and post mortem human brain tissue. He welcomes PhD research proposals that seek to link lifestyle and environmental factors to changes in the biology underlying dementia, and how such factors influence ageing at the cellular level.

David Lee https://www.research.manchester.ac.uk/portal/david.m.lee.html
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David is a Research Fellow in the Cathie Marsh Institute for Social Research and Manchester Institute for Collaborative Research on Ageing. David is an epidemiologist, researching how sexual attitudes, activities, problems and satisfaction among older men and women associate with, and potentially influence, trajectories of ageing and late life health and wellbeing. His research is interdisciplinary, examining how biological, psychological and social factors interrelate to influence sexuality in later life. Main data sources include the English Longitudinal Study on Ageing (ELSA) as well as the US National Social Life, Health, and Aging Project (NSHAP). Much of his current research utilises data from married and cohabiting couples, allowing a dyadic exploration of how the biopsychosocial perspectives of both partners affect sexual functioning, behavioural adaptation, wellbeing and healthy ageing. He welcomes PhD research proposals focusing on international comparisons of sexual behaviours and sexual health in later life, or using dyadic data to characterise how relationship and sexual dynamics may interact to confer beneficial, or detrimental, impacts on health and wellbeing.

Yaojun Li https://www.research.manchester.ac.uk/portal/Yaojun.Li.html
Yaojun.Li@manchester.ac.uk

Yaojun Li is Professor of Sociology at Sociology and the Cathy Marsh Institute for Social Research, Manchester University, UK. His research interests are in social mobility and social stratification, social capital, and the socio-economic integration of minority ethnic groups. He has published widely in these areas. He has also conducted over twenty research projects funded by academic and government agencies in Britain, USA, Australia, China and Qatar. He has written a dozen reports for government organisations and is a frequent contributor to Runnymede, Society Central at Essex University, Demos and Centre for Social Investigation at Nuffield College, Oxford University. He has edited a book on *Social Capital* (2015) and is writing a book with Anthony Heath on *Social Mobility.*

George Moulton http://www.manchester.ac.uk/research/Georgina.Moulton/

Georgina.Moulton@manchester.ac.uk

I have 10 years' experience in education and development with a background in bio –health and public health informatics. I currently lead on the education strategy and programmes across a multi-institutional centre – the Health eResearch Centre - as well as the Centre of Health Informatics at the University of Manchester. In addition, I am one of four who lead the capacity building agenda for the UK-wide Farr Institute. I sit on the Steering Group of the NHS North west Informatics Skills and Development Network. I have been responsible for training over 3,500 professionals from academia, industry (bio-pharma and technology) and the NHS. I have extensive experience with working with different stakeholders (in particular, the NHS) to deliver innovative, up-to-date and relevant education programmes for different audiences. All of the programmes that have been developed follow skills requirement/gap analysis; business case (or bid) development; pedagogy consideration and full evaluation.

Luke Munford https://www.research.manchester.ac.uk/portal/luke.munford.html

luke.munford@manchester.ac.uk

Luke is a research fellow based at the Manchester Centre for Health Economics. He is a current holder of an MRC Skills Development Fellowship entitled "*Health and Well-Being in Later Life: Measurement, Predictions, and Interventions*". Luke's research is primarily focussed on applying economic and statistical methods to existing secondary data to determine what determines an individual's stocks and flows of health. Examples include the effects of commuting behaviour on health and well-being, how home ownership impacts on health, and examining if non-health interventions (such as community assets and groups) can improve health. Luke has used many longitudinal cohort studies, such as Understanding Society (and its predecessor the British Household Panel Survey) and the Labour Force Survey. His current PhD student is looking at the effect that the quality of primary care has on health outcomes (including suicide prevention). Luke welcomes PhD students interested in the determinants of health, particularly using biomarkers as measures of objective health.

James Nazroo https://www.research.manchester.ac.uk/portal/James.Nazroo.html
james.nazroo@manchester.ac.uk

James is Professor of Sociology at the University of Manchester, Director of the ESRC research Centre on Dynamics of Ethnicity, co-Director of the Manchester Institute for Collaborative Research on Ageing, and co-PI of the English Longitudinal Study of Ageing. Before coming to Manchester, he was Professor of Medical Sociology in the Department of Epidemiology and Public Health at UCL.

Issues of inequality, social justice and underlying processes of stratification have been the primary focus of his research activities, which have centred on ethnicity and ageing, and the interrelationships between these. His research on ageing has been concerned to understand the patterns and determinants of social and health inequalities in ageing populations, with a particular interest on the 'transmission' of inequalities across the lifecourse, patterns of 'retirement', formal and informal social and civic participation, and how class operates post-retirement. His work on ethnicity focuses on understanding the contribution that social and economic disadvantage might make to ethnic inequalities in health. Central to this has been examining the links between ethnicity, racism, class and inequality. This work has covered a variety of elements of social disadvantage, including socioeconomic position, racial discrimination and harassment, and ecological effects. His work also includes a critical examination of mental health services. He welcomes PhD proposals on any topics related to his interests.

Maria Pampaka http://www.manchester.ac.uk/research/Maria.Pampaka/
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Maria is a Lecturer holding a joint position within SEED (Manchester Institute of Education) and Social Sciences (Social Statistics).

Maria's research is primarily in (mathematics) education focusing on learners' attitudes and dispositions and their relationship with teaching practices. Most of her research involves primary data from longitudinal survey designs, and using advanced quantitative methods, measurement approaches and systematic reviews. One of her current projects involves a systematic review of mathematics anxiety, from both cognitive and emotional perspectives. Her research interests spread across various areas of social research methodology and advanced quantitative methods, including measurement and assessment with focus on the use of the Rasch model and other (Multidimensional) Item Response Theory Models, Missing Data and data imputation techniques and the application of tools from the complexity theory perspective (e.g. Agent based simulations, dynamic nonlinear modelling, etc).

Neil Pendleton https://www.research.manchester.ac.uk/portal/neil.pendleton.html
neil.pendleton@manchester.ac.uk

Neil Pendleton is Professor of Medical Gerontology and physician in Ageing Complex Medicine in the School of Biological Sciences. He is deputy director of the Manchester Institute for Collaborative Research in Ageing (MICRA). He is a co-director of the Social-Biological (Soc-B) Centre for Doctoral training with Professor Tarani Chandola. His interests are in applying biomarkers to complex phenotypes, including cognitive, emotional ageing and physical function. He leads a longitudinal study of ageing in Manchester and works MRC/ESRC/NIHR/EC funded programmes of work using population representative gerontology cohorts such as ELSA, SHARE and HRS. He was part of ESRC funded creation of the genome wide genotype resource in ELSA, harmonised with HRS genetic array. In this work he focuses on applying comprehensive molecular marker arrays such as genome wide nucleotide polymorphisms to complex phenotypes to develop mechanistic insights. He has published on genetics of cognition, hearing, frailty and emotional health in journals such as Molecular Psychiatry, PNAS and Nature. He is collaborator of a number of international consortia including CAGES, COGENT, Social Science Genetic Association Consortium and LIFEGEN. He is associate editor of the journal Age and Ageing. In 2016 he was appointed as member of the pool of experts for the BBSRC.

Andrew Povey https://www.research.manchester.ac.uk/portal/andy.povey.html
apovey@manchester.ac.uk

Andrew is a Reader in Molecular Epidemiology based in the Centre of Occupational and Environmental Health in the School of Health Sciences. He has recently been appointed a member of the Committee on Mutagenicity of Chemicals in Food, Consumer Products and the Environment. Andrew's research has primarily been focussed on human exposure to toxic chemicals and how they interact with the body to produce adverse health effects. Chemicals of particular interest include carcinogens, pesticides and those that affect male fertility. Recent publications include Povey et al, Acute ill-health in sheep farmers following use of pesticides, Occup Med, 2012,62,541-8; Modifiable and non-modifiable risk factors for poor semen quality: a case-referent study, Hum Reprod, 2012,27, 2799-806 and Pesticide exposure and screen-positive neuropsychiatric disease in British sheep farmers, Env Res 2014, 135,262-70. He welcomes PhD research proposals that wish to explore the relationships between psychosocial factors, chemical exposure and ill-health.

Matt Lambon Ralph https://www.research.manchester.ac.uk/portal/matt.lambon-ralph.html
matt.lambon-ralph@manchester.ac.uk

Matt Lambon Ralph is Professor of Cognitive Neuroscience in the Neuroscience and Aphasia Research Unit, part of the Division of Neuroscience and Experimental Psychology. He is also the Vice-President for Research in the University.

Lambon Ralph's research makes use of four key methodologies to relate human behaviour to the underpinning biological and neural mechanisms: neuropsychology, computational models (models that can mimic neural organisation in their construction but also produce target behaviours), transcranial magnetic stimulation (TMS), structural and functional neuroimaging, and cortical grid-electrode studies. The group explores different topics under three broad research programmes: (1) Semantic Cognition - various interlinked projects explore the nature and neural underpinnings of semantic memory and semantic processing, as well as their disorders after different kinds of neurological disease; (2) Language - there are several ongoing projects exploring different aspects of language production and comprehension, their neural bases, and disorders after different kinds of neurological diseases including stroke and dementia. (3) Recovery, rehabilitation and neuroplasticity - is devoted to the study of the neural and cognitive principles that guide recovery and rehabilitation. This includes active rehabilitation programmes, longitudinal neuropsychological assessment of recovery, computational models of neuroplasticity and parallel functional imaging studies of patients.

Joseph Sakshaug https://www.research.manchester.ac.uk/portal/joe.sakshaug.html
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Joseph is a Senior Lecturer of Social Statistics based in the Cathie Marsh Institute for Social Research at the University of Manchester. He is also a Senior Researcher in the Department of Statistical Methods at the Institute for Employment Research in Nuremberg, Germany, an Adjunct Research Assistant Professor in the Survey Research Center at the University of Michigan, and a faculty member of the International Program in Survey and Data Science.

Joseph's research focuses on all aspects of survey methodology, with a particular emphasis on the design and implementation of cross-sectional and longitudinal studies. Much of his research is on the collection and analysis of physical and biological measurements (or biomarkers) in longitudinal health studies, including the U.S. Health and Retirement Study, the Survey of Health, Ageing and Retirement in Europe, and the English Longitudinal Study of Ageing. Additionally he conducts research on nonresponse and measurement error in surveys, record linkage, and missing data problems. Joseph welcomes PhD research proposals related to the collection of biomarkers in surveys (e.g. interviewer/nurse effects), the linkage of surveys to external data sources to improve survey estimation, and the impact of nonresponse and measurement error in longitudinal studies.

Jonathan Shapiro http://www.cs.man.ac.uk/~jls/
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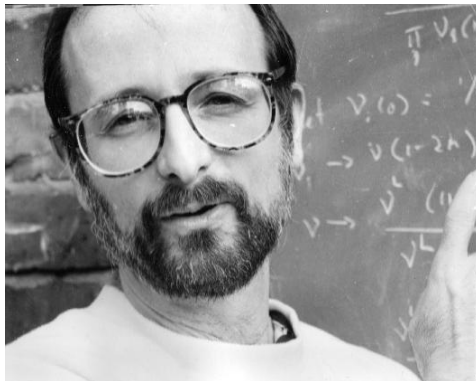
I am a Reader in the School of Computer Science at the University of Manchester, where I teach and carry out research in machine learning and optimization. I am also The head of the Machine Learning and Optimization research Group, the Director of Postgraduate (PhD) Research in the School of Computer Science and the Manager of the Manchester EPSRC Centre for Doctoral Training in Computer Science

Natalie Shlomo https://www.research.manchester.ac.uk/portal/natalie.shlomo.html
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Natalie Shlomo (BSc, Mathematics and Statistics, Hebrew University; MA, Statistics, Hebrew University; PhD, Statistics, Hebrew University) is Professor of Social Statistics in the Social Statistics Discipline Area, School of Social Sciences at the University of Manchester. Natalie's research interests are in statistics, survey methodology and the analysis of complex survey designs. Areas of research relevant to this programme are in the analysis of linked hierarchical data, analysis of non-response bias and compensating for missing data. These topics are particularly important since biosocial research is based on the collection of blood from respondents to longitudinal surveys where the mechanism of response and participation are highly informative. Other areas of research relevant to this programme is on data linkage, small area estimation and data privacy and confidentiality related to health data.

Nick Shryane https://www.research.manchester.ac.uk/portal/N.Shryane.html
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Nick is a lecturer in Social Statistics based in Social Statistics and the Cathie Marsh Institute for Social Research (CMIST) at the University of Manchester.
His research is focused on the characteristics, causes and consequences of severe mental health, in particular psychosis. He has a particular interest in statistical methods, especially Structural Equation Modelling and its more modern development, Generalized Latent Variable Modelling. He is interesting in collaborating on projects seeking to develop and evaluate integrated bio-psycho-social theoretical models of mental health outcomes using quantitative data.

Susanne Shultz https://www.research.manchester.ac.uk/portal/susanne.shultz.html
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Susanne Shultz is a Royal Society University Research Fellow based in the School of Earth and Environmental Sciences. Susanne's research has two main foci: 1) the evolution of sociality, cooperation and culture in humans and other animals and 2) understanding species resilience to environmental and social challenges using behaviour, physiology and demographic markers. Susanne welcomes projects involving understanding the impact of social and environmental stress on individuals, how social and population structure changes across different environments and these changes are associated with behavioural and cultural processes. Her current PhD students are studying social learning, the relationship between conflict, aggression and environment, and how species respond to environmental change.

Adam Stevens https://www.research.manchester.ac.uk/portal/Adam.Stevens.html
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I received my PhD in the genetics of autoimmunity from the University of Manchester in 2000. In my early career I spent several years in the pharmaceutical industry developing systems biology approaches to assess drug safety. More recently as part of my academic career I have developed network approaches to investigate age-related gene expression and gene/environment interactions in pediatric conditions. I have written 50 peer-reviewed publications. I have focused my research career on human development and links to disease. During my PhD I examined the relationship of functional prolactin gene polymorphism to systemic lupus erythematosus (SLE). With post-doctoral research positions in molecular endocrinology I went on to develop growing expertise in systems biology and became increasingly involved in research into human growth and metabolism. As a direct consequence of my interest in growth disorders I have started to develop a research niche in human development, correlating the phases of normal human growth with gene expression and associating these changes with phenotype, drug response and the environment. My current research is centered on the pharmacogenomics of growth hormone therapy in growth hormone deficient (GHD) and Turner syndrome (TS) children. My work combines my background in genetics, systems biology and molecular endocrinology with the analysis of different 'omic datasets in patient cohorts. I have developed approaches using network biology that allows the analysis of gene expression data in the context of models of all known human protein:protein interactions (the "Interactome"). I have also pioneered the use of multiple 'omic datasets (metabolomic, genetic, transcriptomic, proteomic) to increase confidence in analysis by taking an integrated approach. These approaches allow understanding how the growth mechanism can effect disease along with the efficacy and safety of drugs. I currently use the network biology-driven understanding of human growth and development to investigate a range of developmental related conditions with clinical and non-clinical collaborators.

Matt Sutton https://www.research.manchester.ac.uk/portal/Matt.Sutton.html

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Matt obtained a first class honours degree in Economics with Econometrics from the University of Leeds in 1990 and an MSc in Health Economics from the University of York in 1991. He joined The University of Manchester as Professor of Health Economics in April 2008.   Matt's research addresses the financing and organisation of health care, the healthcare workforce and influences on health and health behaviours. It primarily involves the development and application of micro-econometric techniques. Governments use both financial and non-financial incentives to improve the performance of health care providers. Contracts that link provider payments to activity, quality indicators and/or outcomes are becoming increasingly widespread. Matt's research examines the intended and unintended consequences of the introduction of these payment systems, including their effects on the distributions of activity, quality and outcomes across population and provider characteristics. Needs-based funding formulae are used in many countries to distribute available resources fairly between health care organisations. In the UK, these formulae influence the shares of the NHS budget that are allocated to local geographical organisations. Over 15 years, Matt has undertaken research that has underpinned the resource allocation formulae used in England, Scotland and Northern Ireland.

Deborah Talmi https://www.research.manchester.ac.uk/portal/deborah.talmi.html
deborah.talmi@manchester.ac.uk Deborah Talmi is a senior lecturer at the Division of Neuroscience and Experimental Psychology. She is a cognitive neuroscientist, researching the relationship between emotion and cognition. She operationalises emotional arousal with ecologically valid, personally meaningful stimuli such as scenes of violence, bitter and sweet tastes, physical pain and physical effort, and measures their brain and behaviour impact using behavioural experiments, psychophysiology, modelling, and neuroimaging (fMRI and EEG). She welcomes PhD research proposals focusing on the representation of emotional value in the brain, and its effect on judgment, learning and memory.

Gindo Tampubolon http://www.manchester.ac.uk/research/Gindo.Tampubolon/research
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Gindo Tampubolon is a research fellow in Social Statistics at the Cathie Marsh Institute. He was involved in the crafting of the Social-Biological (Soc-B) Centre for Doctoral training bid. Tampubolon studies successful ageing in particular cognitive ageing. He has drawn the first empirical trajectory of biomarkers-based healthy ageing phenotype (DOI: 10.1016/j.maturitas.2016.03.002) and published on inflammation and cognitive deficits (DOI: 10.1016/j.dadm.2015.11.009), physical performance (DOI: 10.1016/j.dadm.2015.11.009), lung function (DOI: 10.1586/17476348.2014.919226) and muscle function (to appear in PLoS One). He has devised two new methods for life course analysis linking childhood to beyond retirement with childhood information subject to errors and biases (DOI: 10.1371/journal.pone.0144722). He analyses longitudinal ageing studies from the US, England, Europe, Indonesia and Malaysia. His students study successful ageing around the world.

Chris Todd https://www.research.manchester.ac.uk/portal/Chris.Todd.html
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Chris is Professor of Primary Care and Community Health in the School of Health Sciences. He moved to Manchester in 2001 and has some 30 years research experience. He got his BA, MA and PhD in Psychology at Durham University and held post-doc research posts in Northern Ireland and Cambridge and was Director of Health Services Research at the Institute of Public Health, University of Cambridge, and a Fellow of Wolfson College. He is a Chartered Psychologist and Associate Fellow of the British Psychological Society. Chris has a large portfolio of research funding from UK funders (NIHR, Research Councils and Charities) and the European Commission. Chris is author/co-author on more than 200 publications. Nearly all of his teaching is at postgraduate level, on MRes, MSc, MPhil courses, and he has supervised more than 30 PhD/MD students. Chris leads the Healthy Ageing Research Group and his work is broadly Health Services Research covering two substantive themes and he welcomes enquiries from potential PhD students in the area of
 (1) Fall prevention and activity promotion amongst older people, including the use of technologies in support of interventions,
(2) Palliative care and prognostication and inequalities in cancer treatment.
On a personal note Chris sculls with Agecroft Rowing Club in Manchester.

Bram van Houtte https://www.research.manchester.ac.uk/portal/bram.vanhoutte.html
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Bram is a Simon Research Fellow at the department of Sociology, Cathie Marsh Institute for Social Research and Manchester Institute for Collaborative Research on Aging. Bram's is a quantitative sociologist, researching the heterogeneous experiences in ageing from an interdisciplinary perspective, bridging psychological, sociological and medical perspectives. His main expertise is in using longitudinal studies on aging, such as the English Longitudinal Study on Ageing (ELSA) as well as the US Health and Retirement Study (HRS), and the Australian Life Histories and Health Study, to highlight life course determinants of wellbeing and health in later life. He welcomes PhD research proposals focusing on international comparisons of health trajectories in later life, or using life history data to characterise socioeconomic exposure over the life course.

Harm van Marwijk https://www.research.manchester.ac.uk/portal/harm.vanmarwijk.html
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Harm is a Professor of General Practice and GP based in the Centre for Primary Care of the Division of the Division of Population Health, Health Services Research and Primary Care, School of Health Sciences, Faculty of Biology, Medicine and Health. Harm's primary interest is in understanding and improving primary care and the interface with secondary care. He is curious about how to make better and safer clinical decisions, using decision aids, and self-management and novel strategies to access and use information, such as apps, but he is also interested in honing consultation skills and introducing mindfulness. He focuses on people with complex needs such as stress, frailty, cardiovascular issues and (unexplained) symptoms. Harm's research interest is primarily on the relationships between stress, mood, heart disease and social determinants of health such as loneliness, focusing on the analysis of longitudinal cohort studies to prepare future trial bids. He works on minimal interventions for stress at work in primary care and on how to measure and discuss stress with people, through biomarkers such as heart rate variability associated with the stress. He welcomes Ph.D. research proposals related to work and health, and the use of fit notes, and validation of existing stress measurements for use in primary care.

Peter Wade https://www.research.manchester.ac.uk/portal/peter.wade.html

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Peter Wade is Professor of Social Anthropology at the University of Manchester. He focuses on race and ethnicity, with a special interest in Latin America. He participated in a project titled "Public Understanding of Genetic (directed by his Manchester colleague Jeanette Edwards and funded by the EC), which started an interest in the intersections between race, nation and genomics. This resulted in a project, directed by Wade and funded by the ESRC and the Leverhulme Trust, on "Race, genomics and *mestizaje* (mixture) in Latin America" and a British Academy Wolfson Research Professorship (2013-2016) to explore the theme "Race, nation and genomics: biology and society". Relevant publications include *Race, Ethnicity and Nation: Perspectives from Kinship and Genetics* (Berghahn, 2007), *Mestizo Genomics: Race Mixture, Nation, and Science in Latin America* (Duke University Press, 2014), *Genomic research, publics and experts in Latin America: Nation, race and body* (a special issue of *Social Studies of Science*, December 2015) and *Degrees of Mixture, Degrees of Freedom: Genomics, Multiculturalism and Race in Latin America* (Duke, 2017). He welcomes PhD students with an interest in genetics and social identities (race, ethnicity, nation, etc.).

Alison Wearden https://www.research.manchester.ac.uk/portal/alison.wearden.html

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Alison Wearden is Professor of Health Psychology in the School of Health Sciences at the University of Manchester, and is Director of the Manchester Centre for Health Psychology. She is currently co-Editor (with Professor David French) of the British Journal of Health Psychology. Alison's research interests focus around the experience and management of long-term health conditions. She is best known for her research in chronic fatigue syndrome (CFS), where she has conducted two randomised controlled trials and has published numerous other studies. Her interest in interpersonal factors in illness developed while she was working on her PhD on Expressed Emotion in partners of adults with diabetes, and recently she has brought these two topics together in studies of family factors in CFS. She would be interested in supervising PhDs which focus on the impact of illness on families and relationships, and/or the ways in which interpersonal factors can impact on illness. With colleagues, she is currently carrying out a pilot study of a partner-support experimental stress test, with a view to implementing the paradigm in studies with patient groups and their family members.