

## Participant Biographies

### Dr Mhairi Alexander

Institute of Biomedical and Environmental Health Research (IBEHR)  
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I am a Marine Ecologist and have been in my current role as a Lecturer in Zoology at the University of the West of Scotland since September 2015. I completed a BSc in Marine and Environmental Biology at the University of St Andrews (2006) and an MRes in Marine Biology at Plymouth University (2007) before moving to Queen's University Belfast to complete my PhD in Marine Ecology (2012). Upon completion of my PhD, I moved to South Africa and spent three years as a postdoctoral fellow at Stellenbosch University.

My work is divided between native and invasive animal systems. I am mostly interested in the interactions of species (e.g. predator-prey) that live in coastal environments such as intertidal rocky shores in temperate regions like the United Kingdom. My research in South Africa spanned additional systems however and included freshwater streams and manmade impoundments. Here my work was entirely focussed on non-native species and I was involved in the development of a methodology that enables better prediction of the environmental impacts of invasive species before they occur.

My current research continues to be marine focussed and is split between a range of diverse projects. I continue to investigate invasive species impacts in South Africa with interest in the effects they have particularly on commercially important native species such as rock lobsters. I am also developing interests in the effects of other environmental stressors on aquatic systems such as anthropogenic noise and agricultural pollutants and what their consequences are for animal behaviours and impact at the population- and community level. I am also now involved in industry funded project work investigating shrimp behaviour in aquaculture and restoration of coral reefs in Indonesia.

## Dr Miranda Anderson

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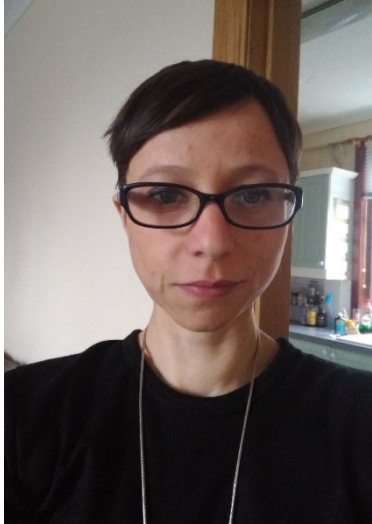


Miranda Anderson is a Research Fellow at the University of Edinburgh and the initiator of the AHRC-funded project, 'A History of Distributed Cognition' (HDC). Recently claims have been made in philosophy of mind and cognitive science that rather than being entirely brain-based or purely metaphysical, the mind is distributed or extended across the brain, body and world. The HDC project explores the history of this notion through an examination of philosophical, scientific and cultural works from classical antiquity to the mid-twentieth

century and we have a four volume series forthcoming with Edinburgh University Press (2018). The project expands on the research interests of her book, *The Renaissance Extended Mind* (2015), which was the outcome of a Leverhulme Trust Fellowship, and which explores parallels (and contrasts) between recent philosophical theories about the extended mind and analogous ideas in philosophical, scientific and cultural works circulating between the fifteenth and early-seventeenth century. Miranda was the initiator of Palimpsest as a prototype and of the AHRC-funded project 'Palimpsest: Literary Edinburgh' on which she then became a Research Fellow. The outcome of this project was a web and mobile device that enables users to access geolocated extracts of fictional and historical texts set in Edinburgh: <http://litlong.org/>. Miranda combines specialization in Medieval and Renaissance literary, philosophical, and scientific texts, with a broader interest in investigating paradigms of the human mind and self across disciplinary and historical spans, along with related ethical issues. More generally, her recent publications examine relations between research in philosophy of mind and cognitive science and in the arts and humanities, and considers the ways in which these disciplines can inform each other. She is also interested in how the digital humanities can contribute to our reading of literary texts, particularly in terms of assessing the attribution of aesthetic qualities.

## **Dr Chiara L Bernardi**

Communication Media and Culture  
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I am a lecturer in Digital Media at the University of Stirling. I hold a PhD in Interdisciplinary methodologies from the University of Warwick and have spent one year at the EPFL in Switzerland as part of my postdoctoral experience. My research interests lie at the intersection of computation and social sciences. I am interested specifically in understanding the role of technology and computational methodologies in enacting and socio-cultural practices.

## **Dr Heidi Burdett**

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Dr Heidi Burdett is a Research Fellow at the Lyell Centre for Earth and Marine Science and Technology. Before joining the Lyell Centre, Heidi worked as an Associate Editor for Nature Microbiology, having previously held a research fellowship at the University of St Andrews. Heidi completed a PhD in Marine Science at the University of Glasgow in 2007, investigating the sulphur biogeochemistry of coralline algal habitats, and its relationship to photosynthesis.

Heidi adopts a multi-disciplinary approach to investigate how marine photosynthetic organisms (e.g. algae, seagrasses, corals) affect, and are affected by, the environment in which they live. This is considered within the context of natural environmental variability (e.g. daily, seasonal and annual cycles) and future climate change, especially ocean warming, acidification and deoxygenation.

Heidi is also seeking to define the limits of photosynthesis, and the impact this has on our understanding of marine biogeochemistry, resource provision and conservation, and the translation of marine science into industry.

## **Dr Hannah Burrows**

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My main research interests are in the medieval North, particularly Old Norse-Icelandic literature, language, culture, and society. At the moment I am particularly interested in interactions between law, poetry, and humour, and in Old Norse perceptions of the natural world. I studied for a BA (Hons) in English and Linguistics, an MA in Medieval Studies, and a PhD in English and Related Literature, all at the University of York. During 2007-2012 I was a Research Associate at the University of Sydney, Australia, working on an international research project editing and translating the entire corpus of Old Norse skaldic poetry, and in 2013-14 was a Junior Research Fellow at Durham University. I came to Aberdeen as Lecturer in Scandinavian Studies in September 2014. I am a council member of the Viking Society for Northern Research and a steering group member of History UK.

## Dr David Childs

Engineering

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David T.D. Childs (M'15) received the B.Sc. degree in Physics, the M.Sc. degree in Semiconductor Science and Technology from Imperial College, London in 1996 and 1997 respectively. He continued at Imperial where he received his PhD in Properties and applications of 1.3 $\mu$ m InAs/GaAs Quantum Dot Devices in 2002. He was then with the R&D Department of Marconi Optical Components (latter Bookham, now Oclaro) at the Caswell semiconductor research and fabrication facility until 2006, where he was responsible for the development of a range of telecoms lasers. During this time he also worked on several European projects developing Quantum Dot technology. Following this he joined the department of Electronic and Electrical Engineering at the University of Sheffield. There he was engaged in a number of projects developing semiconductor light sources from visible through to THz wavelengths. He was also involved in developing systems to demonstrate the application of semiconductor devices to fields ranging from selective laser melting (3D printing), to mid-infrared hyper-spectral imaging (biomedical imaging). Since 2015 he is a lecturer in the Electronic and Nanoscale Engineering group within the School of Engineering at the University of Glasgow. He has contributed to over 100 journal and conference publications. His research interests span from semiconductor light emitter development through photonic integration to the applications of these devices and systems from communications to biomedicine.

## Dr Katherine R Duncan

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I am a Chancellor's Research Fellow and Lecturer in Drug Discovery. I discover novel antibiotics and anticancer compounds from the oceans. I have over 12 years' experience in marine natural products research, spanning 3 countries. My multidisciplinary research knowledge within the area of drug discovery encompasses biotechnology, metabolomics, microbiology, next generation sequencing, anticancer and antimicrobial bioactivities, whole genome sequencing, genome mining for biosynthetic gene clusters, molecular biology, natural products chemistry and bioinformatics, providing a powerful strategy for high-throughput and innovative drug discovery. I am committed to advancing my research through innovation, interaction and novel idea creation. My

research is multidisciplinary, spanning science, technology, medicine and social science, involving both academia and industry. I have a RSC MChem (Scotland), an international Masters placement in Chemistry (Florida), a PhD in Biomedical Sciences (Canada), two postdoctoral fellowships in Marine Biomedicine (Scripps Institute of Oceanography, University of California) and Marine Biotechnology (Scottish Association for Marine Science). As a Chancellor's Fellow I aim to develop a wider societal context for my research, thus, I would like to increase my understanding of wider public engagement to raise awareness of critical global issues E.g. antimicrobial resistant infections and the urgent need for new medicines. I am able to bring 7 years of international interdisciplinary research experience and global collaborations. I have a multi-national public engagement profile. I am a strong advocate for women in STEM and public dissemination of research. I want to work in interdisciplinary collaborations to benefit society.

## **Dr Jonathan Fraser**

Mathematics and Statistics  
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I am a lecturer in mathematics at the University of St Andrews. My research interests include: fractal geometry, geometric measure theory, ergodic theory, Fourier analysis, probability theory, and connections with other areas of mathematics. Before moving to St Andrews in August 2016, I was a lecturer at the University of Manchester and, before that, an EPSRC funded research fellow at the University of Warwick. I completed my PhD in June 2013 at the University of St Andrews. I was also an undergraduate at St Andrews from 2005 to 2009. I was born in Glasgow in 1987 and attended both Carolside Primary School and Williamwood High School, before my family moved to the north of Scotland in 2001, where I attended Dornoch Academy.



## **Dr Susana Garcia Lopez**

School of Engineering and Physical Sciences

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Dr. Susana García received her MEng in Chemical Engineering from the University of Oviedo (Spain), and then her PhD in Chemical Engineering from the University of Nottingham (UK). Her PhD research focus was on injection of CO<sub>2</sub>-SO<sub>2</sub> mixtures in geological formations for CO<sub>2</sub> storage. The quality of her PhD work was reflected by the different awards she received, including the E.ON Prize for outstanding students with innovative ideas and research into sustainable energy. Upon completion of her PhD, she was involved in a collaborative academic-industrial research project, which aimed at investigating and developing innovative CO<sub>2</sub> compression system technologies for commercial utility scale Carbon Capture and Storage (CCS). After that, she moved to the Spanish National Coal Research Institute (INCAR-CSIC), located in Oviedo (Spain), as a Post-doctoral Research Member. Her research work there was mainly focused on the development and testing of carbon-based solid sorbent materials for different CO<sub>2</sub> capture applications.

In May 2014, Dr. Susana García joined Heriot-Watt University as an Assistant Professor, where she is conducting research in the following research areas: Advanced materials and separation processes for energy, industrial and environmental applications; Biogas upgrading systems; Process intensification to reduce energy demands of different separation/capture systems; Process integration and techno-economic analyses of advanced separation processes; Integrity of CO<sub>2</sub> geological sequestration systems, and; Understanding and establishing links between geochemistry and geomechanics of geological formations for CO<sub>2</sub> storage applications.

## Dr Eleanor Gilroy

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I have researched molecular plant microbe interactions for over 15 years. My PhD (2001-2006) was a joint project between University of Edinburgh and the Scottish Crop Research Institute linking three plant pathogen interaction groups examining defense responses to viruses, bacteria and oomycetes in both the model plant *Arabidopsis thaliana* and the crop plant, Potato. I developed the first virus-based silencing system to allow functional genomics in Potato. I then utilised this technique to characterise the role of an *Arabidopsis* and *Solanum* protease (Cathepsin B) involved in the execution of programmed cell death as part of an inducible plant defense response. My first PDRA position (05-06) involved the study of host defence responses examining the interplay between two distinct inducible plant defense responses and investigated the role of several type three effectors from the

bacterial potato pathogen, *Pectobacterium atrosepticum*. Over the following ten years (2007-present) I have made significant scientific contributions in the functional characterisation of the molecular interplay between *Phytophthora infestans*/potato. I contributed to the first characterisation of a motif present in secreted proteins from *P. infestans* that now typifies the most important group of oomycete effectors. I was involved in the early research and publication of two diverse *P. infestans* isolates that led to significant scientific progress through identification of the “core” set of effectors expressed during a infection. I have had an instrumental role in determining the host signalling pathways that are manipulated by “core” effectors with expertise in examining the regulation of Programmed Cell Death through characterisation of the role of both effectors and their host targets.

Since 2013, I have been setting up a team to follow my passion for deciphering complex interactions and molecular interplay that shape whether pathogens can successfully infect a host plant. To date, my team has focused on dissecting the function of one effector, PiAVR2 and its impact on the plant Brassinosteroid (BR) pathway and subsequently its crosstalk with plant immunity. I have recently applied for funding from the Marie Skłodowska-Curie Actions Innovative Training Networks application, a Horizon 2020 ERC consolidator grant and from the Agriculture and Horticulture Development Board.

## Dr Natalie Gorenkova

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I have two degrees - in music and in neuroscience (PhD), also I used to spend time for dance classes/teaching also, so I was intensively involved in different sort of competitions/performances. But education in Moscow State University of Lomonosov and obtaining MS degree in Physiology led to a conclusion that science will be my way. Those time I was involved in quantum program about development of nootropic drug Semax<sup>®</sup>, ("Peptogen"), and I decided that during my PhD I want to continue in the area and transfer these knowledge a problem of post-stroke disabilities. I started to work on global ischemia model and follow up motor and memory disabilities, developing the new combinational therapy - with antioxidants and bioregulatory peptides. Becoming more intrigued by mental disturbances and possible ways of its modulation, I decided to moved to Germany, where I found the group developing a novel depression model, searching for behavioural and genetic correlates of anhedonia.

Then, back to my main subject, ischemia, I had amazing time in KCL, London, where I have been involved in optimisation of the post-stroke therapy with stem cells and biomaterials. I had several parallel international collaborative projects, using multi-functional techniques: neurological & behavioural analysis, intracranial surgeries, tissue engineering, MRI imaging, immunohistochemical and microscopy analysis. I enjoyed very much our often brainstormings, where people from many labs (USA/UK) were discussing the tissue engineering problem of neurovascular niche recreation for stroke.

After having a short project about inflammatory profiles in chronically obese mice after stroke in Faculty of Life Sciences in Manchester University, I had a career break for maternity. I was very lucky to found the project in my area of research in Glasgow Strathclyde. So I applied for Daphne Jackson fellowship and got my third (first two was in Germany) personal funding from MRS. I now work on investigating silk biomaterials in the stroke brain and its potential to serve as a stem cell matrix for transplantation. I intend to publish my new promising results soon and obtain some extensive grants, aiming at establishing myself as independent researcher, as feel like I found my home place now.

## **Dr Silvia Gratz**

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I have completed my undergraduate and MSc studies in Human Nutrition at the University of Vienna, Austria and my PhD in Food Toxicology at the University of Kuopio, Finland. In 2007 I have joined the Rowett Institute as a post-doctoral research fellow and have been promoted to research fellow in 2013.

As an independent principal investigator I now lead an internationally recognised research programme into food toxicology, novel to the University of Aberdeen. Specifically, I investigate the carry-over of agricultural contaminants into the food chain, assess human exposure to these contaminants and investigate resulting toxicity. Furthermore, I study the role of the gut microbiome in toxin metabolism within the large intestine and have published numerous articles, reviews and book chapters related to my work. My research team includes a permanent research

assistant and currently one PhD student and one MSc student.

In addition to my main role as researcher, I also coordinate an MSc course in Human Nutrition within the University of Aberdeen. This rewarding role allows me to directly interact with students and shape and improve the way we teach nutrition.

## **Dr Abigail Hird**

Design Manufacture and Engineering Management  
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Dr Abigail Hird has recently been appointed as lecturer in Engineering Management within the Department of Design, Manufacture and Engineering Management at the University of Strathclyde. Abi gained an EngD in Systems Engineering (with DePuy Orthopaedics and Strathclyde) and has an MEng in Product Design Engineering. A post-doc carried out in partnership with BAE Systems set the foundations for a growing body of collaborative research and knowledge exchange with industry. Abi is interested in how data, information and knowledge can be captured, modelled and managed in ways that enhance productivity and increase value for manufacturing-based organisations. She currently takes a leading role in several research and knowledge exchange projects with a focus on information management for through-life product development including KTP projects with Alexander Dennis Ltd, Long Lane Deliveries, Spirt Aero systems and Johnstones of Elgin and research projects with the High Speed Sustainable Manufacturing Institute and the High Value Manufacturing Catapult. Abi also re-launched and runs the Strathclyde Institute for Operations Management (a partnership between the Engineering Faculty and Strathclyde Business School which creates a forum for industry, academics, intermediaries and policy makers to discuss best practice Operations Management and lead thinking in the area). As well as a range of Engineering management related postgraduate and undergraduate teaching, responsibilities for supporting the Department include a coordinating Knowledge Exchange Activity and championing REF impact case development.

Outside work Abi volunteers with Glasgow Winter Night Shelter and enjoys long-distance hiking.

## **Dr Louise Hoyle**

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I am a Lecturer of Nursing at Edinburgh Napier University. I have a nursing degree with Honours from the University of Liverpool, which allowed me to qualify as a registered Adult Nurse in 2004. Post qualifying, I have practiced as a registered nurse within emergency medicine. I returned to academia in 2007 and undertook two MSc's – one in applied social research and one in criminology before going on to complete a PhD at The University of Stirling in 2011. My research interests include: the working conditions of nurses, the nursing workforce, street-level bureaucracy, nurse's use of discretion and health reporting in the media. I have methodological expertise in both quantitative and qualitative methods, using a range of research designs including: thematic qualitative analysis secondary analysis of both qualitative and quantitative data and media analysis. I currently lead the 'Bullying and Workplace Violence' work-stream of the Nurses' Lives Research Programme in the School of Health & Social Care at Edinburgh Napier University. The Nurses' Lives Research Programme does research to better understand nurses' health and careers. I have completed a postgraduate certificate in teaching learning in higher education and I am a recognised teacher with the Nursing and Midwifery Council and a Fellow of the Higher Education Academy. I am involved in research-led teaching delivered across both undergraduate and postgraduate programmes at home and internationally, specifically around research methods/evidence-based practice, clinical research, academic argument/writing, clinical skills and health & social care integration.

## Dr Robin Ince

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I am a Research Fellow in the Institute of Neuroscience and Psychology at the University of Glasgow where I develop statistical methods for the analysis of neuroimaging data.

I studied Mathematics at the University of Warwick, Audio Acoustics at the University of Salford, spent a semester in North Carolina and 18 months working in the software industry before returning to academia to study Computational Neuroscience at the University of Manchester. During my PhD I used information theory to study neural coding in the rodent whisker system. My first postdoc was in Tübingen, Germany at the Max Planck Institute for Biological Cybernetics, where I continued to investigate neural population coding with information theory as well as tools from machine learning.

I then moved to the Institute of Neuroscience and Psychology at the University of Glasgow where I switched to analysing non-invasive neuroimaging signals recorded from human subjects with techniques like EEG, MEG and fMRI. In Glasgow, I have developed new statistical methods that measure representational interactions. These methods provide ways gain a better understanding of brain function by combining and relating the neural activity recorded with different modalities (for example, combining EEG which has good temporal precision but poor spatial precision, with fMRI which has the opposite characteristics), and they allow us to directly quantify the relationship between neural representations and the behavioural choices of a subject. I am also interested in exploring potential applications of these methods in other areas of experimental science.

## **Dr Catherine Jones**

Electronic and Electrical Engineering  
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Dr Catherine Jones received the MEng degree in Electronics and Electrical Engineering from the University of Glasgow and PhD in Electrical Engineering from the University of Manchester. She is currently a core researcher within the Rolls-Royce University Technology Centre for Electrical Power Systems within the Institute for Energy and Environment at the University of Strathclyde.

Her current research interests centre on the design and development of electrical power systems for both more-electric and hybrid electric aircraft including the interdependent areas of electrical protection, power system architectures and choice of enabling technologies, such as type of power electronic converters or superconducting power systems for larger hybrid electric aircraft applications, and the collective impact on overall aircraft performance (weight, efficiency). More recently her research has included the consideration of external influences such as structural materials, and how these influence the aero-electrical power system design. Her other research interests include power system architectures and protection systems for land-based microgrids and marine applications.



## **Dr Asimina Kazakidi**

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Dr Asimina Kazakidi is a Lecturer in Biofluid Mechanics at the University of Strathclyde, UK, and, as of January 2017, an awarded Marie Skłodowska-Curie Fellow. As a Research Associate and Research Fellow, she worked at Imperial College London, UK, and the Foundation for Research & Technology Hellas, Greece, participating in highly-innovative UK and EU projects and leading an individual Fellowship. She has a PhD from the Department of Aeronautics at Imperial College London and an MSc from the Department of Bioengineering, also at Imperial College. Her BSc was in Physics. Asimina has an extended experience in Computational Fluid Dynamics (CFD), focusing on complex biofluid mechanics problems and utilising a range of CFD methods and numerical analysis approaches. She has specialized knowledge in all aspects of numerical simulation

technology processes and she is passionate about problem solving in the fields of biofluid mechanics, aquatic propulsion, and cardiovascular hemodynamics.

## Dr Kirsty Loudon

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Health Professionals Research Unit  
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Dr Kirsty Loudon is an Impact Fellow at the University of Stirling, in the Nursing Midwifery & Allied Health Professions Research Unit and School of Health Sciences and Sport. She is a mature post-doctoral health researcher, with a broad spectrum of experience, including working as a community nurse with current Nursing & Midwifery Council registration. She is keen to produce relevant research that can make a difference to the people in Scotland and the world.

Her key areas of research expertise are in the design of randomised trials, trial methodology, clinical guidelines and systematic reviews (qualitative and quantitative). She is particularly interested in the methodological issues of designing pragmatic trials, in particular making it easier for researchers to design trials to test interventions that have a direct impact on patients, health professionals and policymakers.

During her PhD at the University of Dundee she led the collaboration to develop the trial design tool PRECIS-2 which has a website and database [www.PRECIS-2.org](http://www.PRECIS-2.org). She was actively involved in the EU 7th Framework DECIDE (Developing and Evaluating Communication Strategies to Support Informed Decisions and Practice Based on Evidence) project Work Package 3 Patient and public focussed strategies for communicating evidence-based recommendations.

Kirsty has a degree in nursing from the University of Glasgow, and worked in the Glasgow Spinal Injuries Unit before moving to live in Atlanta, USA (2 years) studying for a MPH at Emory University and working as an Oakridge Fellow with the Centers for Disease Control and Prevention. She then worked at the Norwegian Branch of the Nordic Cochrane Collaboration in Oslo, Norway (7 years) focussing on the Methodology of undertaking Cochrane systematic reviews of interventions. On return to the UK, she joined the UK Cochrane Centre for 2 years researching the methodology for updating Cochrane reviews.

## **Dr Issie MacPhail**

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Issie is a Postdoctoral Researcher at The UHI Division of Health Research, Rural Health & Wellbeing. She has just completed 3 years work on the AHRC funded Representing Communities project, exploring how one might use creative descriptions and representations of emplaced communities as new forms of 'evidence' for the development of health and wellbeing policy. She completed her PhD titled 'Land, Crofting and The Assynt Crofters Trust: A Post-colonial Geography?', with University of Wales, Lampeter. Issie has a significant track record in 'action research' methods and was a Scottish Community Action Fund (SCARF) Mentor throughout the life of this programme (2002 – 2009). Through her croft-based consultancy business, Assynt Research & Consultancy (ARC), she delivered numerous community projects and achieved significant capacity building for small business and voluntary sector growth in the rural Highlands, 2002 - 2014. In 2005, she enabled community co-writing of the book 'At Home in Mackay Country: a history and profile of the communities of north west Sutherland'. She has been an Honorary Research Fellow at The School of Geographical and Earth Sciences, University of Glasgow, since 2001. Issie has worked extensively with artists and craftworkers in the past decade and has created, curated and co-produced a number of ground-breaking cultural events in the Scottish Highlands and Islands. Her principal research interests are

- Histories of regional and rural medicine, drawing on histories of Highlands & Islands development industry
- Outdoor environment and health linkages
- Community asset ownership as a means of action for wellbeing
- Cultural amnesia; emergent neurological framing of lives lived; ontology in life sciences
- The production of historical knowledge, and contemporary and historical representations, of the Highlands and Highlanders
- Methods and material practices in social science and humanities research
- Arts, craft and performance in practices of community engagement, co-production, co-creation
- Rural health humanities

## Dr Marianna Markantoni

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Marianna is a Rural Society Researcher and a Rural Policy Associate at Scotland's Rural College (Edinburgh, UK). As a social geographer, her interests are in social innovation, community resilience, empowerment, participatory governance, transitions towards Enabling States and social inequalities. As an energy social scientist, her research interests include energy democracy, the role of communities in low carbon transitions, community renewables, human and socio-centred approach to energy transitions, renewable energy policy/politics, sustainable development, social, environmental and climate justice. Recently her work has included the interconnectedness of inequality, poverty and health.

Dr Markantoni is the co-investigator of three Research Deliverables in the new RESAS programme (2016-2021) on: 'Place-based policy and its implications for policy and service delivery', 'Local assets, local decisions and community resilience' and 'Resilience of rural economies to key external drivers'. She was the WP 4.2 coordinator of the RESAS Research Programme: 'Rural Economy Resilient to Global and Local Change: Developing a low carbon rural economy', investigating low carbon and evolutionary governance structures in rural locations and benefits arising for community driven development and growth, including implications for local democracy, community participation, inclusive and just governance (Research funded by the Scottish Government's Rural and Environment Science and Analytical Services Division, 2011-2016). Dr Markantoni is a member of a European collaboration network called: Researching the Interface between Policy and Practice for Local Environmental Sustainability (RIPPLES) aiming to provide more informed research outputs and advance theoretical lenses on Energy Democracy and distributed governance for addressing energy inequalities.

## **Dr Jose Marques-Hueso**

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He received his MSc in physics from the University of Valencia (Spain). From 2002 to 2005, he worked in the Soft-Matter Group at the Johannes Gutenberg Universität Mainz (Germany) on the fabrication of 3-D colloidal crystals. In 2005-2006 he completed a PG Cert on photonics. In 2011, he completed his PhD in the Optoelectronic Materials and Devices Group (Materials Institute, Uni. Valencia). He has worked on the development of new metallic nanocomposite materials with lithographic properties, and active and passive photonic crystal-based devices, focusing mainly on nanofabrication processes. In 2011, he joined Heriot Watt University as research associate to apply photon-managing technologies based on nanophotonic concepts for third-generation solar cells. In 2015 he commenced a position as research fellow on the use of metallic nanocomposite materials in additive manufacturing. He has published over 40 journals and conferences papers,

2 book chapters and holds an international patent on nanofabrication. He has more than 50 participations in conferences and scientific events, including symposium and conference organisation and several invited oral presentations. He has been active in promoting science amongst the general public and outreach campaigns, such as the organisation of a national micrograph contest. Since Feb 2017 he has been a lecturer at Heriot-Watt University and his research focuses on the use of functional materials for optoelectronic devices, sensors and additive manufacturing.

## Dr Craig McKenzie

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I am a bio-analytical chemist working in the area of forensic and environmental chemistry and toxicology and on the application of chemometrics (the study of large multivariate datasets including pattern recognition). I have a particular interest in multi-disciplinary projects on the culture, use and harms of new psychoactive substances (NPS) and study their chemical analysis, metabolism and biological activity. I have ongoing projects in environmental toxicology with Marine Scotland Science, the James Hutton Institute and Scottish Government.

On a more personal note, I love travelling , normally to wild and remote high places or islands, sea-kayaking and arts and culture, with a particular passion for theatre, film and live music.

I completed my PhD in environmental toxicology at Marine Scotland Science continuing with applied research whilst working in industry (Scottish Water). I was a court reporting forensic scientist (Scottish Police Authority Forensic Services) specialising in forensic analysis, quality management and the evaluation and presentation of scientific evidence until 2007. My first academic teaching post followed moving from lecturer to Programme Leader of a successful MSc closely linked with business and research institutions. To accelerate and increase the impact of my research, I joined the University of Dundee in late 2016 and now work in multi-disciplinary projects with the Centre for Anatomy and Human Identification and the Leverhulme Centre for Forensic Science Research and other internal and external partners.

I hope to bring a breadth of atypical industry and academic experience to the Scottish Crucible and a willingness to listen, develop, learn, share and create new collaborations and networks. I love that I get paid to do what I love to do and most of all enjoy collaboration across disciplines and learning new insights which feed my natural inquisitiveness and continually improves the impact of the research I am involved in.

## Dr Giuseppe Paladini

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I am a Lecturer in Aquatic Parasitology at the University of Stirling and I have acquired experience on a wide variety of parasite groups for the last 17 years, exploring alternative strategies to control parasitic diseases in farmed and wild fish (including sea lice and amoebic gill disease, two major challenges for the Scottish industry), taxonomy and systematics, and the use of microarrays in host gene expression following infection. I have completed my B.Sc. (Hons) in 2005 and M.Sc. in 2008, both at the University of Bologna (Italy), and the Ph.D. in 2012 at the University of Stirling (UK). The research conducted throughout the years helped UK government bodies to develop diagnostic protocols for use during a suspected outbreak and for routine

surveillance for OIE notifiable diseases, particularly for the monogenean parasite *Gyrodactylus salaris*. As part of my independent research, I have published 26 scientific peer-reviewed articles, 1 book chapter, 4 international magazine articles in two languages (Spanish/English), and presented more than 50 collaborative projects at international conferences, including invitations as a keynote speaker. Currently, I have supervised and mentored 19 undergraduate and postgraduate student research projects, I have hosted 3 Erasmus+ placements and 1 Nuffield Research pupil. I have designed the official logo and helped to organise the last two “PhD Research Conferences” at Stirling, where participants can showcase the impact of their projects to the Scottish industry and government. My new role involves the expansion of research and teaching in the parasitology area in order to tackle important problems that are plaguing the national and international aquaculture and fishery industries.

## **Dr Yong Sung Park**

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I am a Senior Lecturer in Civil Engineering at the University of Dundee and Royal Society of Edinburgh/Scottish Government Personal Research Fellow. Ever since I studied at Seoul National University (BS 1999, MS 2001) in South Korea and Cornell University (PhD 2009) in the United States, I was always interested in fluid mechanics. Now I am a theoretical and experimental fluid mechanist and particularly interested in long coastal waves and their interaction with environments through the boundary conditions. I came to Dundee as a Newton International Fellow in 2011 working on the long-wave-induced flows in muddy seabed. I found Scotland has beautiful waves all around the country and observations made in my frequent visits to coastal areas along the east coast of Scotland led to current research on how to generate more realistic model tsunamis in laboratory.



## Dr Brian Patton

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I am a physicist by training; my PhD was in the optics of semiconductors. Subsequently I moved to quantum-information processing then to super-resolution microscopy development and now work in neural imaging using nano-diamond. I have worked closely with physicists, chemists, engineers and biologists. I am currently developing collaborations with clinical researchers and the nuclear industry. My research aim for the coming decade is to transform the state of the art in diamond-based sensing. I want to extend techniques, originally developed for quantum information processing, into a robust and flexible tool that will offer a platform for researchers in fields beyond physics and engineering. For example, we will be able to

measure magnetic fields, generated by biological processes, in materials such as live tissue. Such imaging techniques will provide opportunities for forming interdisciplinary collaborations across a wide range of disciplines. The resulting collaborations will generate knowledge and technical ability to access physical, chemical and biological phenomena that are currently unobservable.

## **Dr Matthieu Poyade**

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Dr. Matthieu Poyade is a research fellow at the school of Simulation and Visualisation, a member of the executive committee of European Association of Virtual Reality EuroVR, a lecturer in Motion Capture, Human Computer Interaction, Virtual and Augmented Reality, and Volumetric Visualisation, and the pathway leader of the MSc. Programme in Medical Visualisation and Human Anatomy.

He completed his PhD in Human Computer Interaction at the University of Malaga, Spain (2013). His PhD thesis investigated the development of fine motor skills using haptic force feedback devices for industrial maintenance tasks. He obtained a MSc in Networking, Telecommunications and Services at the University of Lyon 1, France (2005), and graduated in Information Technology from the University of Applied Sciences in Mikkeli, Finland (2004).

His research explores the combined use of interactive technologies, visualisation techniques and digital learning methods to support the development of cognitive, procedural and motor skills at all level of the curriculum.

He is currently involved in the U-Project, a European Space Agency funded project to support digital learning via satellite. He has participated in major national and EU research projects, among which the AHRC funded Transforming Transformation, the NES funded 3D Definitive Human and 3D Head and Neck, the EU funded FP7 ManuVAR, and the EU Network of Excellence INTUITION. He has expertise in technical development for research. He has presented his research in several journal papers and international conferences. Some of his achievements have been presented recently in prestigious technological exhibition showcases such as Top Coder Open 2014 in San Francisco and Consumer Electronic Show CES 2015 in Las Vegas.

## **Dr Lucas Richert**

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Lucas joined the Centre for the Social History of Health and Healthcare at the University of Strathclyde in September, 2016. His research has focused on the social, scientific, and medical history of the United States and Canada during the 19th-20th centuries. In 2014, he published a monograph called *Conservatism, Consumer Choice, and the FDA during the Reagan Era: A Prescription for Scandal*, which examined the politicisation of pharmaceutical regulation in the 1970s-1980s and was awarded the 2015 British Association for American Studies Arthur Miller Centre First Book Prize. He's currently at work on a monograph for McGill-Queen's University Press, and it is tentatively called *Contested Medicines: From Radical Drugs to Big Pharma*.

## **Dr Alice Toniolo**

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Dr Alice Toniolo has joined the School of Computer Science at the University of St Andrews as a lecturer in October 2016. Previously, Alice was a Research Fellow in the Agent, Reasoning and Knowledge group in the Computing Science Department at the University of Aberdeen, where she was also awarded her PhD. Currently, Alice also holds an Honorary Fellow position at the University of Aberdeen. Her research interests are within multi-agent systems to support human reasoning and decision-making. In particular, she is interested in computational argumentation-based models of reasoning with recent applications in intelligence analysis, social media and the built environment. Alice has also worked with researchers within Philosophy to investigate rich forms of deliberation dialogue.

## Dr Stephen Wallace

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Hello! I'm Stephen Wallace and I am a recently appointed Lecturer in Biotechnology in the School of Biological Sciences. I am originally from Thornhill in bonnie Dumfries and Galloway. I am an alumnus of the University of Edinburgh, where I graduated from the School of Chemistry with a MChem. in 2008. I then pursued a DPhil. in organic chemistry at the University of Oxford, where my doctoral thesis was focussed on the total synthesis of a family of poison dart frog defence alkaloids. After this, I spent my postdoctoral years studying various aspects of chemical and synthetic biology at the MRC Laboratory of Molecular Biology, Harvard University, MIT and the University of Cambridge. As a result of my own training background, my lab here in Edinburgh is highly multidisciplinary, focussing on exploring opportunities at the interface of chemistry and biology. I have always believed that scientific advances occur when scientists think outside of traditional research paradigms. It is this belief that drives my lab's scientific curiosity and research trajectory. We are currently working on building designer microbial cells that can perform new whole-cell biotransformations and engineering bacterial exopolysaccharide slimes. I'm looking forward to participating in this year's Scottish Crucible!

## Dr Liu Yang

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Dr Liu Yang is an established member of academic staff in the Mechanical and Aerospace Engineering Department at University of Strathclyde and has been leading the Advanced Composites Group since 2013. He has a multidisciplinary background with BEng in Materials, MSc in Organic Chemistry, and PhD in Mechanical Engineering. His research career has been tailored around the inherent interdisciplinary nature of complex materials (e.g. composite materials, nanoporous solids, and smart materials) for a variety of applications (e.g. load bearing structures, thermal insulation, water purification, and prosthetic). Yang's work has been reported in over 35 articles (20 peer reviewed journal papers and 1 book chapter) and 2 patents in material recycling technology. He currently supervises 1 PDRA and 5 PhD students and is PI of a number of projects funded by both public (e.g. Innovation Centres) and private sectors (e.g. Blueshift International Materials Ltd, US). Prior to his academic appointment he worked as EPSRC research fellow on many aspects of composite materials recycling on the EPSRC funded TARF-LCV project where he cooperated with 8 other UK universities.