**GCRF Growing research capability to meet the challenges faced by developing countries call**

**Cohort Workshop 16 May 2017**

**Applicants Biographies and Project Summaries**



**Name:** Dr Barbara Adolph

**Organisation:** International Institute for Env and Dev

**Email:** Barbara.adolph@iied.org

**Project Title:** GCRF: Social and Environmental Trade-offs in African Agriculture

**Attendee Bio: Expertise:** Agricultural knowledge systems, research uptake and use, research and advisory services management, aid effectiveness and donor harmonisation for agricultural research and rural development, monitoring and evaluation of agricultural projects and programmes, organisational development support to agricultural research organisations.

**Current work:**Setting up of a “food and agriculture” forum in IIED; research on agricultural knowledge systems and research uptake

**Before IIED:**Senior consultant in Triple Line Consulting Ltd; senior scientist at the Natural Resources Institute; research fellow at the University of Hohenheim, Germany and ICRISAT, India.

Education: MBA, Open University, UK; PhD, Hohenheim University, Germany; MSc Geography, University of Bonn, Germany.

**Project Summary:** This proposal addresses the challenge of achieving Sustainable Development Goal (SDG) 2 (zero hunger), SDG 10 (reduced inequalities), and SDG 15 (ecosystem conservation) in Sub-Saharan Africa. Conflicts and trade-offs between these goals are rapidly intensifying because of ongoing population growth and economic development, while decision makers in government and the private sector continue to base their actions on an insufficient understanding of possible socio-economic and environmental impacts of different agricultural development pathways. The proposed programme aims to enhance the capacity of UK and African organisations to investigate these impacts and trade-offs through a participatory process that combines state-of-the-art research with effective engagement with research users. Its vision is for key government and private sector actors to adjust their policies, strategies and investments to take more account of the impacts, risks and trade-offs within and between socio-economic and environmental dimensions of different agricultural development pathways, and for civil society organisations to have a greater role in shaping the national discourse on agricultural development.  
  
The research process will involve a context analysis of each country as a whole, followed by analyses to determine: (i) drivers of current agricultural landscapes, (ii) impacts of different agricultural development pathways on socio-economic factors, biodiversity and the capacity of ecosystems to provide services to people over the long term, (iii) the role of institutions and policies in shaping agricultural systems; and (iv) the political and economic barriers to more joined-up policy and planning. This will inform the building, with key stakeholders, of scenarios for agriculture and land use change, taking into account climate change, predicted rates of human population growth and urbanization, and ultimately leading to an improved understanding of the impacts, risks and trade-offs of different agricultural developmental scenarios. The programme will support stakeholders in 'making sense' of, and using, the refined scenarios to inform policies, investments and advocacy at sub-national and national level.  
   
Our interdisciplinary research process will be accompanied by activities to assess and develop both the technical and 'process oriented' capacities of participating researchers and stakeholders (policy-makers, investors, civil society actors / NGOs), with the aim of strengthening their ability to co-develop relevant research and to assess and use the outcomes for decision making and advocacy. New partnerships will be developed between researchers in Africa and the UK, between different disciplines, and between different stakeholder groups in the three countries via National Learning Alliances.  
  
The ultimate beneficiaries of this process will be poor rural and urban households who would benefit from more coherent policies supporting the long-term sustainability and resilience of farming systems and local ecosystems. These make up a large proportion of the human population in sub-Saharan Africa and include (a) the poor in rural areas whose food security is based on subsistence agriculture and using income from agricultural labour and cash crops to purchase food to cover gaps, and (b) poor rural and urban populations who produce little or no food themselves, but who are highly dependent on food purchase and thus exposed to food price risk resulting from failure to balance food supply and demand.

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**Name:** Dr Bayard Roberts

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**Project Title:** GCRF: RECAP - Research capacity building and knowledge generation to support preparedness and response to humanitarian crises and epidemics

**Attendee Bio:** I am the Director of [ECOHOST - The Centre for Health and Social Change](http://ecohost.lshtm.ac.uk/). My research addresses the health determinants, policies and systems of countries in transition such as conflict-affected and fragile states or those in the former Soviet Union. This research has focused particularly on mental health, other non-communicable diseases, and harmful health behaviours - particularly tobacco and harmful alcohol use.

Prior to joining LSHTM I was involved in supporting reproductive health and HIV/AIDS programmes in Afghanistan, Nepal, Pakistan, and Uganda amongst others.

I am an Editor-in-Chief of the BMC journal [Conflict and Health](http://www.conflictandhealth.com/) and jointly established the LSHTM [Health in Humanitarian Crises Centre](http://crises.lshtm.ac.uk/).

**Project Summary:** RECAP will focus on acute and protracted humanitarian crises related to armed conflict, natural disasters, forced migration, and epidemics. Humanitarian crises and their impact on health and related sectors can pose major obstacles to international development and the achieving the SDGs. Effective decision-making by humanitarian actors is essential in humanitarian response. Accurate and timely information and evidence is essential in achieving effective decision-making. For example, through setting evidence-based standards and performance measurement against those standards, assessing needs and effectiveness in meeting those needs, ensuring value for money, and supporting accountability to recipients of humanitarian programmes and those programmes. Yet current interventions are impeded by limited data, capacity, guidance, and ethical preparedness with consequent implications for accountability. Work on protection is central to supporting accountability through seeking to ensure authorities and other humanitarian actors respect their obligations and the rights of individuals and vulnerable populations.  
  
RECAP's vision is to strengthen research capacity and capability to generate knowledge on how to improve decision-making and accountability to help support preparedness and response to humanitarian crises. RECAP will focus on the sectors of health and protection through overlapping research and capacity building activities. For the research, there are 6 interconnected, interdisciplinary research Objectives/work-packages. These research objectives will also act as platforms for capacity building through applied research methods training. The capacity building activities will be realised through 4 capacity building Objectives on: training on specific research methods linked to the RECAP research; building institutional capacity for a sustainable and supportive research environment; supporting individual researcher capability and career progression; and building UK capability in multi-disciplinary research on health and protection in humanitarian crises. It will be a four year programme.  
  
RECAP's strategy to grow research capacity and capability is to establish a unique network of leading academic and non-governmental organisations (NGOs) working on health and protection in the context of humanitarian crises. RECAP will be led by the London School of Hygiene and Tropical Medicine (LSHTM) and includes the University of Sierra Leone (USL), the American University of Beirut (AUB), the Refugee Law Initiative at the School of Advanced Study (SAS) in London University, Oxford University, and the London School of Economics and Political Science (LSE). NGOs are the front line actors in humanitarian preparedness and response and so are vital to RECAP. The RECAP NGO partners are Médecins Sans Frontières (MSF), the International Rescue Committee (IRC), Save the Children UK, and BRAC. They will assist through logistics, technical and other forms of support in the RECAP countries.  
  
RECAP will use a hub-and-spoke model; with hubs of the UK, Sierra Leone, and Lebanon for capacity building and research; and spokes of further research sites in NGO partner programmes in ODA countries affected by humanitarian crises (most likely to be Myanmar, South Sudan, Uganda, Democratic Republic of Congo, subject to security and logistical issues).  
  
The expected outcomes of RECAP will be: strengthened research capacity and capability among university and NGO partners; the development of a new research network through regional hubs of research and training excellence in the UK, Sierra Leone and Lebanon; research and capacity-building outputs (including open access software platforms and research and training guidelines); and impact through contributions to humanitarian guidelines, programmes and policies. These will strengthen decision-making and accountability in humanitarian crises to improve health, protection and broader development outcomes.

**Name:** Dr Catherine Brooksbank

**Organisation:** EMBL - European Bioinformatics Institute

**Email:** cath@ebi.ac.uk

**Project Title:** Capacity building for bioinformatics in Latin America

**Attendee Bio:**  Before joining EMBL-EBI in 2002, Cath spent a decade as an editor of scientific review journals, cutting her teeth with the Elsevier Trends Journals before launching Nature Reviews Cancer. A brief dalliance with medicine at the University of Oxford led her to seek solace in molecules in Cambridge, where she completed her PhD in biochemistry under the guidance of Robin Irvine. Cath joined EMBL-EBI to develop the outreach programme, and extended her responsibilities to include user training in 2006. Her team now coordinates a wide-ranging portfolio of training and scientific outreach activities reaching tens of thousands of individuals each year. She contributes to a number of pan-European projects including RItrain, CORBEL, BioExcel and ENLIGHT\_TEN, and is co-chair of the curriculum and competencies taskforce of the International Society of Computational Biology.

**Project Summary:** Data-driven biology promises to have a major impact on health, agriculture and environmental management. However, in Latin America uptake of data-driven biology has lagged behind despite a clear need. For example, Analysis of human genome data submitted to public databases shows that populations of African and Latin American descent, Hispanics, and indigenous people are barely represented in genomics studies[1]. Given the need to have genome data from those populations for the development of precision medicine in clinical practice, it is necessary to boost the collection of genomics data in Latin American populations. A similar scenario is found for biodiversity in the region, where there is a gap in the knowledge of the majority of the living organisms, which represents over 60% of the total number of terrestrial species on the biosphere[2]. Only by understanding the impact on biodiversity of human-driven activities such as intensive farming and urbanisation can we find a balance between economic development and the preservation and sustainable use of natural resources.   
We propose a capacity-building programme, led by EMBL-EBI in close collaboration with new and existing collaborators in Latin American countries, including Argentina, Brazil, Colombia, Costa Rica, Mexico, Peru and Venezuela - all countries on the ODA development list. Through a combination of secondments, training workshops, eLearning resources and 'train-the-trainer' activities, we will sustainably build expertise in the fundamental skills required to generate, store, visualise, analyse and interpret biomolecular data. We will focus on three use cases: (1) Food security; (2) Data-driven monitoring and management of communicable disease; and (3) monitoring biodiversity.  
Biological data can be used to track pandemics in humans and livestock (the recent Zikavirus outbreak, for example), understand and mitigate the causes of crop failure, and monitor biodiversity. Our top priority area in the ODA development strategy is therefore strengthening resilience and response to crises.  
Latin America is a major producer and exporter of meat, fruit, vegetables and coffee. Biofuel production is also growing. These industries are crucial for the development of the region, and yet put huge pressure on Latin America's unparalleled biodiversity, which is not only of enormous importance in its own right but also contributes to economic prosperity through ecotourism. Data-driven biology can facilitate the production of crops and livestock that are more resilient to environmental challenges and enables sophisticated monitoring of an area's biodiversity. Our second priority area in the ODA development strategy is therefore promoting global prosperity.   
By incorporating training on how to manage bioinformatics research infrastructure, and by involving local funders and policymakers in these workshops, we hope to contribute to the professionalisation of bioinformatics services throughout the region. This will enhance Latin America's ability to provide a significant contribution to international research projects such as the Global Alliance for Genomics and Health.   
Expected outcomes of the project include:  
Increased use of bioinformatics tools and resources to solve research problems of direct relevance to the ODA development strategy  
Increased use of bioinformatics to solve applied research problems  
A sustainable network of skilled bioinformaticians who are also motivated and talented trainers of other researchers  
Enduring collaborations and mentorships that encourage women and other underrepresented groups in the research community to develop successful careers in bioinformatics and related subjects.  
[1] Popejoy, A.B., & Fullerton, S.M. (2016) Genomics is failing on diversity. Nature, 538(7624), 161  
[2] UNEP-WCMC (2016) The State of Biodiversity in Latin America and the Caribbean: A mid-term review of progress towards the Aichi Biodiversity Targets. UNEP-WCMC, UK

**Name:** Dr Elizabeth Cottier-Cook

**Organisation:** Scottish Association For Marine Science

**Email:** Elizabeth.Cottier-Cook@sams.ac.uk

**Project Title:** GCRF GlobalSeaweed\* - Safeguarding the future of seaweed aquaculture in developing countries

**Attendee Bio:** Head of SAMS-United Nations University Associate Institute and Senior Lecturer in Marine Invasives

**Scientific interests**

* Biosecurity for invasive non-native species
* Biofouling of artificial structures (including vessels, offshore renewable energy structures, marinas, ports and aquaculture installations)
* Integrated Aquaculture: Use of nutrient extracting organisms to mitigate the impacts of aquaculture.

At SAMS I am a member of the...

* [Ecology Department](http://www.sams.ac.uk/ecology)
* [Education Department](http://www.sams.ac.uk/education), leading the Erasmus Mundus Joint [Master in Aquaculture, Environment and Society](http://www.emm-aces.org/)

**Education**

* BSc (Hons) Biology - Bristol University
* MSc Marine Resource Management - Heriot Watt University
* PhD (NERC) - Sea urchin aquaculture - SAMS & Napier University

**Project Summary:** The seaweed cultivation industry is the fastest-growing of all aquaculture sectors, with an annual growth rate of 10% and a value in excess of $5bn. 95% of this cultivation is undertaken by developing countries. Worldwide, seaweed farming provides income to 'millions of families' in rural coastal communities and has enabled women to become economically active for the first time, in areas where few opportunities exist. Yet outbreaks of seaweed disease and pests are threatening this industry, leading to dramatic (>15%) declines in yield, notably in three major seaweed-producing developing countries - the Philippines, Tanzania and Indonesia and is having catastrophic socio-economic impacts on the communities reliant on seaweed production. In the Philippines alone, losses over US$ 100 million a year were attributed to disease, representing 15% of their farmed seaweed production and similar reductions have been seen in Tanzania and Indonesia.   
  
OUR VISION for the Global Challenge Research Fund (GCRF) GlobalSeaweed\* programme, therefore, is to grow the research and innovation capability of developing countries engaged in seaweed farming. The GCRF GlobalSeaweed\* team will consist of international experts in algal biology, aquatic pathology, disease and pest identification, biosecurity and policy development. It will be a 4-year programme, primarily collaborating with senior seaweed specialists in the Philippines, Indonesia and Tanzania, but we envisage working with many other seaweed producing developing countries through the establishment of a GCRF GlobalSeaweed\* Fund, enabling rapid action to emerging crises in the seaweed industry & fostering further international cooperation.   
  
GCRF GlobalSeaweed\* aims to address three key 'Development Challenges' directly linked to the United Nations Sustainability Development Goals and these include:  
   
Challenge #1: Secure and resilient food systems supported by sustainable aquaculture - develop innovative new detection methods for key yield-limiting seaweed diseases and pests on cultivation sites and in the wider environment and legislation/ biosecurity measures to prevent their introduction and spread: We will focus on identification of emergent diseases and pests and the development of early warning, risk-based detection protocols and robust national and international policies to ensure the security and resilience of this industry in developing countries.  
  
Challenge #2: Resilience and action on short term environmental shock and long term environmental change - mitigate the sensitivity of seaweeds to fluctuating environmental conditions and climate change: We will empower our overseas partners to develop and test new commercial strains for increased resistance to the key yield-limiting diseases and pests under conditions of environmental change and embed the knowledge gained into practical farm management protocols to ensure maximum yield at the farm sites.  
  
Challenge #3: Sustainable livelihoods supported by strong foundations, infrastructure and gender equality for sustainable economic growth and innovation - understand the socio-, political and institutional landscapes in our overseas partners regarding biosecurity, gender equality and risk management: We will work closely with local communities and national governments to develop a robust approach to policy development to promote sustainable economic growth of the seaweed industry in these countries.  
   
Through addressing these challenges, GCRF GlobalSeaweed\* will not only produce excellent scientific research, but train 24+ early career researchers, develop open access training materials and an unprecedented digital Atlas of Seaweed Disease and Pests, protocols, international technical and policy papers in collaboration with the FAO and United Nations University and organise special sessions at international conferences and sharing best practice events in collaboration with our overseas partners.

**Name:** Dr Mark Johnson

**Organisation:** Goldsmiths College

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**Project Title:** GCRF GlobalGRACE (Global Gender and Cultures of Equality)

**Attendee Bio:** Dr Mark Johnson is Reader in Anthropology at Goldsmith, University of London. He was a Visiting Scholar in the Department of Anthropology at Stockholm University, Autumn 2014, funded by the Forum for Asian Studies and was Visiting Professor in the Graduate School of Space and Gender, Universities of Gottingen-Kassel in April, 2011.  He was CI and now chair of the international expert advisory board for the EU funded Horizon 2020 Marie Curie ITN GRACE (Gender and Cultures of Equality in Europe) project which is directed by Dr Suzanne Clisby at the University of Hull. He is PI of the AHRC funded project, Curating Development: Filipino Migrants’ Investment in Philippine Futures which combines community arts based workshop and exhibitions to raise and address questions about the welfare of Filipino migrants and their contributions to national development in their home country. He is also PI of a British Academy funded project Big Data, Live Methods and Surveillance Subjectivities among Transnational Migrants in Hong Kong.

**Project Summary:** In recent years there have been significant advances made internationally to raise awareness about gender inequalities. International organisations including the United Nations have also sought to ensure that the creation of more equitable futures for women and men are at the heart of global change and sustainable development. Despite those advances, gender inequalities persist in myriad forms and negatively affect the health and wellbeing of people the world over in a variety of ways, from constraining access to opportunities and resources to fostering gender based violence. We recognise the importance of both international bodies and national states and governments in agenda setting, enacting progressive legislation and adopting gender positive policies, as well as the work of those political activists who are at the forefront of pressing for these changes. However, this project is focused on the way that cultures of equality are being built and created from the ground up. We do so by investigating the creative ways that people and organisations in developing countries respond to and seek to address existing inequalities and enhance the wellbeing of people marginalised as a result of those. Our aim is disclose the ways that those everyday responses not only address harms, but also become opportunities for broader societal impact through creating new and alternative cultures of equality.  
   
How and in what ways does the proposed research use art, curation, literature and performance to address these challenges? Our answer, following the novelist Jeanette Winterson, is that, 'Everything starts as a story we tell ourselves about ourselves'. By that Winterson means that so long as we remain capable of telling different stories about our own and other lives, there is the possibility of creating more equitable and sustainable futures for all of us. That is our understanding of what cultures of equality are about: working with and alongside people both to disclose the situations of inequality and the bodily and mental impacts of that on them and the people they care for, and to begin to tell different stories about what their lives ought and could be. As scholars working across the humanities and social sciences we think there are considerable advantages to using different arts based practice including creative writing, dance, exhibitions, music, theatre, performance or social media in this process. These different multisensory methods enable people to share things about their lives that may be too sensitive and threatening to talk about directly. They also create opportunities not just to tell different stories but also to tell them in new and different sorts of ways. Our project draws together and creates new partnerships between people and organisations from across the world in and beyond the academy. In so doing we will share expertise and learn from each other about how we can best use these arts based research practices, both to enable us to better hear and understand the stories people tell, and to find better ways of using those stories to create the conditions that underpin and will enhance the economic development and welfare of all people.



**Name:** Professor Caren Levy

**Organisation:** University College London

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**Project Title:** Knowledge in Action for Urban Equality (KNOW)

**Attendee Bio: Caren Levy** is Professor of Transformative Urban Planning at The Bartlett Development Planning Unit (DPU), University College London. She has 30 years’ experience of teaching, research, capacity building and consultancy, exploring innovatory approaches to planning methodology, planning education and organizational development, with an emphasis on mainstreaming equality and social justice in the theory and practice of urban planning and international development policy.  Her research focuses on the institutionalization of socio-environmental justice in governance and planned action, particularly related to the crosscutting issues of diversity (in particular the intersection of class, gender, age, and race) and the environment. Taking a community-led approach, she has explored these issues in the planning of infrastructure and transport, housing and land in cities of the Global South. She works both in London and abroad with communities, governments and international organizations, and has worked in a range of countries in Africa, Asia, Latin America and the Middle East. She was the Director of the DPU (2005-2012) and is currently Vice Dean International in the UCL Bartlett Faculty of the Built Environment. She is the PI of KNOW.

**Project Summary:** Urban equality refers to the possibility of attaining an even distribution of access to resources, services and opportunities, as well as recognition of social diversity and inclusion in decisions that affects urban citizens' lives. Increasing rates of urban inequality since the 1990s affect directly prosperity and resilience outcomes in urban areas. Increasing rates of urban inequality hold back economic, social and political progress and can contribute to conflicts and extreme poverty. In the age of urbanisation, with more than half of the World's population living in urban areas, achieving urban equality is a major global challenge. Three quarters of the World's urban areas are more unequal today than they were 20 years ago. Close to 1 billion people worldwide live in informal settlements, deprived of basic services and livelihood opportunities. The challenge of urban inequality has inspired a new global discourse on the future of cities and urban areas. The Sustainable Development Goal (SDG) 11, the 'urban' goal, emphasise the need to deliver inclusive cities. The New Urban Agenda (NUA) adopted by national governments in Quito, October 2016, asks for urban policies for a city that leave 'no one behind'.   
The project 'Knowledge in Action for Urban Equality' (henceforth KNOW) seeks to develop research capacities in developing countries and in UK institutions that deliver ODA research, to deliver on the SDG11 and the NUA. KNOW focuses on the major knowledge gap in global policy agendas: delivering urban equality for inclusive cities of opportunities for all. The work programme focuses on three key challenges: achieving prosperity; building resilience to disasters and a changing climate; and addressing the persistent problem of extreme poverty.   
The work programme is divided in six work packages. Three work packages focus on learning-by-doing, that is, doing research as a means to build capacity. Work Package 1 will deliver city-relevant research in several countries including Perú, Colombia, Costa Rica, Cuba, Tanzania, Uganda, Sierra Leona, India, and Sri Lanka. In each case, KNOW will support the formation of a network of overseas and local academics, and stakeholders who will work together to identify the specific challenges associated with urban inequality that emerge in each city. Work Package 2 will use different case-based experiences to develop a comparative programme of research across cities, exploring the challenges of prosperity, resilience, and extreme poverty. Work Package 3 will focus on develop an 'Ethics of Practice' for urban research, within the framework of the Global Challenges Research Fund.  
Three work packages will focus on delivering capacities to maximise the impact of research. Work Package 4 will focus on how to translate research into practice, working with key policy makers, intermediaries, and activists to explore the development of urban policy following the programme of research in each city. Work Package 5 will focus on how to maximise the impact of research in education, particularly focusing on the education of planners in the Global South. Finally, Work Package 6 will examine the UK-based capacities to deliver ODA-research for urban equality, seeking to strength current areas of work and develop a new transdisciplinary field of research practice.   
KNOW will be coordinated by the Bartlett Development Planning Unit, a recognised institution with a track record of 60+ years of applied research to deliver socially and environmentally just cities in the global south. KNOW also build on a consolidated network of partners in urban areas, capable to deliver an ambitions, international, and interdisciplinary urban research. These partners constitute the locus for a worldwide network of Urban Hubs that, strengthen by the experience in KNOW, will deliver a long-term agenda of research for urban equality.

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**Name**: Professor Richard Sullivan

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**Project title:** GCRF RESEARCH FOR HEALTH IN CONFLICT (R4HC-MENA): developing capability, partnerships and research in the Middle and Near East (MENA)

**PI Bio:** Professor Richard Sullivan is Director of the Institute of Cancer Policy and KHP Integrated Cancer Centre global health work. He also teaches on the conflict and security module of the Global Health iBSc and is the cancer lead for the King’s Sierra Leone Partnership. Richard’s research programmes extend from the public policy of global cancer, to the development of care and research systems in emerging economies and the development of public health systems, particularly NCDs, in high-risk conflict areas focusing on DR Congo, Afghanistan & Libya.

 Richard is a Visiting Professor (Faculty of Medicine) at Universidad Catolica, Santiago de Chile, Washington University and a senior fellow at the International Prevention Research Institute, Lyon. He was formally Clinical Director of Cancer Research UK, including leading their global health policy research and was past UK Director of the Council for Emerging National Security Affairs (CENSA) a Washington-based national security think-tank where he specialised in the security implications of global health and bioweapons.

**Project Summary:** Two billion people currently live in areas of conflict and fragility, reflecting a rapid increase in wars, ethnic strife and other man-made disasters since 2010. The world is also experiencing the greatest forced migration crisis since the Second World War with 65.3 million forcibly displaced persons, 40.8 million internally displaced persons (IDPs), 21.3 million refugees and a further 10 million stateless people. Across the Middle East and North Africa (MENA) region protracted conflicts in countries such as Syria and Libya, as well as Afghanistan, Iraq and Yemen, have led to dramatic increases of refugee populations in Turkey, Lebanon, the Occupied Palestinian Territories and Jordan. War affected populations from these countries have undergone the epidemiological transition and therefore present new health challenges. In particular, the diagnosis, management and treatment of non-communicable diseases (NCDs) present new challenges for domestic health systems, as well as for humanitarian and development aid providers. These challenges also threaten domestic health commitments to Universal Health Coverage (UHC) and the Sustainable Development Goals (SDGs). This new humanitarian-development-health nexus demands a unique research agenda radically different from traditional approaches that address health challenges in low-income countries with weak governments, institutions and a mainly communicable disease burden.  
  
Without proper research capacity to generate crucial evidence to inform health policy and care, it will be impossible for countries in the MENA region to plan for rational and affordable health systems, sound economic policy and more effective aid effectiveness. The vision for our R4HC (Research for Health in Conflict)-MENA partnership is to build sustainable research capacity in this region to address major health challenges arising from conflict, specifically cancer and mental health as key NCDs.   
R4HC-MENA will build research capacity in four distinct areas: (1) conflict and health; (2) the political economy of health in conflict; (3) cancer; and (4) mental health research in regions of conflict. This research capacity will focus on training staff in a variety of theoretical and practical methods for studying these areas, as well as conducting and publishing research projects to build further capability and disseminate findings. R4HC-MENA will enable lead countries in this region to grow and sustain research capacity that can critically inform aspects of health development that relate to armed conflict in the region. This will inform not only regional and international policy-makers, but also the development of affordable and equitable clinical models of care and pathways in complex NCDs such as cancer and mental health. R4HC-MENA will also link together regional ministries and academic centres, and key international partners, to widen the research to policy translation, and critically inform the health development agenda in other regions affected by conflict.



**Attendee Bio** (attending in place of Professor Richard Sullivan)

Dr Preeti Patel

**Email**: preeti.patel@kcl.ac.uk

I am Senior Lecturer in Global Health & Security in the Department of War Studies since 2008. I am a member of the Global Health Advisory Board and am Co-Director of  the [Conflict and Health Research Group](http://www.kcl.ac.uk/lsm/research/divisions/global-health/research/conflict/index.aspx) at KCL. Prior to joining King’s College, I worked as a Lecturer in Global Health Policy at the London School of Hygiene & Tropical Medicine. I have a PhD in Political Science (The Politics of Health in Kenya, 1989-2000) from the University of London, a MA in International Relations and a BSc in Economics.

**Name:** Robert J Wilkinson, BM BCh, PhD, FRCP

**Organisation:** The Francis Crick Institute

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**Project Title:** GCRF-Crick African Network

**Attendee Bio:** Robert J Wilkinson, BM BCh, PhD, FRCP is a Wellcome Trust Senior Fellow in Clinical Science held as Professor in Infectious Diseases at Imperial College London. He is also a Senior group Leader at the Francis Crick Institute London where he directs that institution’s Crick Africa Network. Both substantive positions are partially seconded to the University of Cape Town South Africa where Wilkinson directs that institution’s Wellcome Center for Infectious Diseases Research in Africa. He has researched tuberculosis for 24 years and is the author of over 270 peer-reviewed publications dealing with the clinical features, diagnosis, pathogenesis and management of tuberculosis and HIV-associated tuberculosis.

Apart from Wellcome support, Wilkinson is South African site PI for an National Institute for Allergy and Infectious Diseases (NIAID) U19 contract which supports the tuberculosis research unit and co-PI on an NIAID U01 collaborative program with Alan Sher to support work on inflammatory and cellular determinants of Inflammatory and cellular determinants of disease severity and treatment outcome in South African TB patients. He is also South African PI of an FNIH award to support the Predict-TB trial. Wilkinson serves the editorial boards of tuberculosis, the international journal of tuberculosis and lung disease and European Journal of Immunology. He is A1 rated by the National research Foundation of South Africa and a recipient of the Gold medal of the Medical Research Council of South Africa.

**Project Summary:** The extreme poverty faced by many people in Sub-Saharan Africa contributes to very high rates of infectious diseases, as well as to chronic diseases linked to these. Scientific research is needed to address these challenges, however, Africa also faces a shortage of knowledge, skills and research facilities, which compounds the problem. Our strategy to tackle this problem is to identify a group of African scientists who already have PhDs and show outstanding talent, and intensively develop their careers via targeted, high-level training and mentorship. The idea is to foster the next generation of leadership at key African research institutions that are well-positioned to advance science on the continent. The ultimate aim is to improve the health of the people of Africa and beyond.  
  
To achieve this, we will establish a new initiative, the 'Crick African Network' (CAN), which involves collaboration between the UK and Africa. The network's goal will be to help build capacity in African institutions to conduct research into infectious diseases that occur in poverty-stricken areas. The network will formally link the Francis Crick Institute (Crick) in the UK with a select group of African-based research organisations, namely: the Universities of Stellenbosch and Cape Town, South Africa, MRC Uganda Virus Research Institute (UVRI), the University of Ghana, and the West African Global Health Alliance (WAGHA) that includes MRC Gambia and University Cheikh Anta Diop, Sénégal.  
  
These partners will together provide an 'African Career Accelerator' programme that provides high-level training for talented African scientists. The programme will offer competitive fellowships that allow the scientists to spend time at Crick in the UK, receiving advanced training, with access to state-of-the-art Science Technology Platform (STP) facilities and expertise. It will then help them to re-establish their research portfolios back at their African institutions. We envisage ongoing mentorship of, and collaboration with, these future research leaders to encourage lasting, mutually beneficial, scientific partnerships. In conjunction with this, the network will host introductory workshops in key African locations, to inform and inspire infectious diseases researchers from those regions. It will also hold annual scientific meetings for the four-year duration of the programme to encourage exchange of scientific learning, grow collaborations and engage with relevant health sector stakeholders.  
  
By intensively developing this select group of up-and-coming researchers, connecting them internationally, supporting them with world-class expertise and positioning them in strong African institutions that can serve as hubs of scientific excellence within the continent, we hope they will become a powerful cadre of internationally connected research professionals with the expertise and experience needed to tackle Africa's infectious disease challenges. The UK-African network formed will also be well positioned to respond, through biomedical research, to pressing poverty-related health needs affecting the welfare and economic development of Africa.

**Name:** Professor Adele Jones

**Organisation:** University of Huddersfield

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**Project Title:** The DARE Centre: the Centre for the Development, Application, Research and Evaluation of Prosocial Games for the Prevention of Gender-based Violence.

**PI Bio:** Professor Adele Jones PhD has previously worked at the University of The West Indies, Republic of Trinidad and Tobago; Manchester Metropolitan University and Royal Holloway, University of London. Her professional social work background spans statutory, non-governmental and international agencies and includes several years as a Consultant with the former National Institute for Social Work.

Professor Jones has extensive experience as a social work practitioner, researcher and social work educator specialising in the field of children’s rights and issues affecting vulnerable children and marginalised childhoods. She has conducted studies and published work on child abuse, children’s rights, residential childcare, adoption, child asylum seekers, HIV-AIDS and children of parents who have migrated. Professor Jones has professional experience of programme development in many of these areas and was a founder of The Bibini Centre for Young People (a UK-based NGO that achieved prominence for its work with black children and families); she is also the architect of the Sondai Project, a “flagship” project based at UWI, Trinidad which links research, practice, postgraduate study and international exchange to produce interventions to address the psychosocial implications of HIV-AIDS and has recently completed a six-country study for UNICEF in collaboration with Action for Children aimed at addressing child sexual abuse in the Eastern Caribbean.

Professor Jones has contributed to programme development (children’s rights, social work, counselling, capacity-building) in St. Kitts & Nevis, St. Vincent & The Grenadines, Trinidad & Tobago and Grenada. She has also worked with several international organisations (for example, work with the OAS on the implementation of the Declaration of Mar Del Plata to improve the social and economic circumstances of disadvantaged youth in the region; work with ILO – piloting of teaching materials on child labour; work with UNDP – the social work implications of HIV and ECLAC – gender violence & socialization).

Professor Jones has a keen interest in developing work on global issues affecting children and has established a vibrant home and international PhD student group exploring topics such as:

* The reintegration of formerly abducted girl soldiers in Northern Uganda
* HIV/AIDS and STI – risks and vulnerabilities for street children in Nepal
* Childhood outcomes and grandparent-headed households in Uganda
* Adolescents and HIV treatment in South Africa
* Psychosocial issues and perinatal HIV transmission in Trinidad and Tobago
* Professional decision-making and child sexual abuse in Barbados
* Children of prisoners in the UK
* Childhood in Taiwan
* Child abuse in Saudi Arabia
* Impact of domestic violence on children in the UK
* Lessons from Serious Case Reviews
* The experience of UK asylum for young mothers and children

**Project Summary:** VISION - To create a global research centre dedicated to research and serious gaming interventions designed to prioritise the rights of girls and women to live a life free from violence and to prevent violence against those most vulnerable (UN Sustainable Development Goal no. 5; UK Aid Strategy obj.4). The inter-disciplinary, cross-cultural, trans-continental research and partnership platform we will establish will result in a cadre of social scientists and game developers from four ODA-listed countries and the UK, skilled in the development of frontier technologies, advanced research methodologies and policy formulation focused on changing the social and cultural drivers of gender-based violence. This will be known as The DARE Centre: the Centre for the Development, Application, Research and Evaluation of Prosocial Games for the Prevention of Gender-based Violence.   
  
International women rights agreements and domestic laws on gender-based violence (GBV) constitute an important step towards its prevention and elimination. However, there is an implementation gap between policy directives and what happens on the ground and unless people understand why regulations should be observed, they can be ineffective. Furthermore policy-led approaches do little to address the underlying cultural attitudes and values that drive GBV. Therefore, key to reducing violence against women and girls are innovative educational and social strategies which recognize the changing world we live within and challenge GBV related attitudes while they are being formed. Targeting children and youths seems crucial for transforming societies and creating a lasting change to the situation of women worldwide. Based on a unique partnership between institutions in the UK, China, Jamaica, Pakistan and Uganda, (the DARE countries) the Centre will build on the University of Huddersfield's existing domestic violence prevention project 'None in Three' (www.noneinthree.org), to expand the social/cultural impact of prosocial games for the prevention of GBV globally. As evidenced by a growing body of research, the development of game technologies has created new outlets for the perpetration of GBV. However, given the appeal of novel technologies to younger generations, technological advancements may also be utilised for prosocial purposes to empower victims and catalyze action against violence. In recent years, researchers and educators have become increasingly aware of the potential benefits of prosocial video games. Unlike other media, video games scaffold children's experience using narrative and audio-visual content, as well as rules and objectives regulating players' behaviour. A recent meta-analytic study revealed a significant association between playing a prosocial video game and positive social outcomes (Greitemeyer & Mügge, 2014). Violent video games, in turn, lead to a bias in the perception of what counts as aggressive, which evokes aggressive behaviour. Importantly, appropriately designed prosocial video games can enhance moral reasoning and foster empathy in a way that the mere presentation of facts through other media outlets cannot accomplish. Empathy reduces aggression and leads to prosocial actions, which strengthen social bonds and integrates societies. Indicative areas of work for the DARE Centre include: China - promoting a culture of protection against sexual abuse and prevention of trafficking; Jamaica - challenging the commoditization of sex and its relationship to the commercial sexual exploitation of children and promoting a culture of personal accountability among men and boys; Pakistan-improving child protection systems in relation to child marriage and honour killings, Uganda-domestic violence, the prohibition of Female Genital Mutilation and child marriage and, the UK-interpersonal violence within adolescent relationships. These activities all seek to prevent gender based violence and elevate the status of women and girls.

****Attendee Bio (attending in place of professor Adele Jones)

Professor Minhua Eunice Ma

**Organisation:** University of Huddersfield**Email:** [M.Ma@hud.ac.uk](mailto:M.Ma@hud.ac.uk)

**Attendee Bio:** Professor Minhua Eunice Ma is a Professor in Digital Media & Games and Associate Dean of the School of Art, Design and Architecture at University of Huddersfield. Professor Ma is a world-leading academic developing the emerging field of serious games. She has published widely in the fields of serious games for education and healthcare, Virtual and Augmented Reality and Natural Language Processing, in over 100 peer-reviewed publications, including 9 books on serious games with Springer. Eunice has received grants from RCUK, EU, NHS, NESTA, UK government and charities for her research on serious games for stroke rehabilitation, cystic fibrosis, autism, medical education, Holocaust education and domestic violence education & prevention.

Professor Ma is the Editor-in-Chief responsible for the Serious Games section of the Elsevier journal *Entertainment Computing*. She is the Founding Chair of the annual Conference on Serious Games Development and Applications, now called Joint Conference on Serious Games (JCSG), which has been running for 8 years in Derby, Lisbon, Bremen, Trondheim, Berlin, Huddersfield, Brisbane, and Valencia. She gave a number of keynotes at Jury Symposium Visual Evidence 2010, the Anatomical Society Meeting 2012, CultureTech 2013, International Workshop on Waiting for Artificial Intelligence 2013, UK-US Serious Games for Health Workshop 2016 etc. Professor Ma was an Expert Judge for the International Loebner Prize Contest in Artificial Intelligence (the Turing Test) to find the world's best conversational chatbot computer program.

She has been supervising 22 PhD students (6 completions) in games technologies and computer science. With her team she has been developing VR, AR and serious games for healthcare and education with broad impact in creative technology and its application domains.

**Name:** Professor Alan Blyth

**Organisation:** National Centre for Atmospheric Science

**Email:** a.m.blyth@leeds.ac.uk

**Project Title:** GCRF African Science for Weather Information and Forecasting Techniques (African SWIFT)

**PI Bio:** I am currently Director of Atmospheric Physics, National Centre for Atmospheric Science (NCAS) and Professor of Atmospheric Science, University of Leeds, UK. The main research activities of my research group are in the field of convective clouds, including microphysics, entrainment, convective initiation, flash flooding and, most recently, the cloud and aerosol processes on the time and space scales that dominate weather and climate. A particular focus is on explaining the interacting physical processes controlling the behaviour of convective clouds using novel observations and high-resolution modelling.

I have led several large international research projects using research aircraft and ground-based facilities and instruments. The Convective Storm Initiation Project was held in the summer of 2005 in the south of England, centred on the Chilbolton radar. It was part of two larger projects on convective initiation in the USA and Germany. I also led the UK part of the Rain In Cumulus over the Ocean (RICO) project in 2004/5 to study the warm rain process in trade-wind cumulus clouds and the UK-based ICE and Precipitation Initiation in Cumulus (ICEPIC) project in 2005/6 to study the initiation of ice particles in convective clouds. I also led a project to participate in COPS (Convective Orographically-induced Precipitation Study) which was held in the summer of 2007 in the Black Forest mountains of Germany.

I have also been part of several UK consortia and directed programmes, leading the University of Leeds parts of the projects. Most recently, I have led the COnvective Precipitation Experiment (COPE) to improve forecasts of flash flooding, particularly in the SW of England, by studying the interactions of the dynamics and microphysics and the entire life cycle of the clouds with radars, aircraft and other ground-based instruments. The particular focus is on improving the forecast of the quantity of precipitation which is a source of large uncertainty in NWP models.

I am the PI on UK-ICED, a project to study the influence of desert dust on the initiation of ice particles in convective clouds off the coast of Cape Verde. I am the Leeds PI on CLoud-Aerosol- Radiation Interactions and Forcing (CLARIFY-2016), to study the influence of dust on the properties of the stratocumulus clouds in the South-East Atlantic. I am also Co-I on a project with Doug Parker to improve the representation of convection in Numerical Weather Prediction (NWP) and Global

Climate models.

**Summary:** The GCRF African Science for Weather Information and Forecasting Techniques (GCRF African-SWIFT) programme aims to develop a sustainable research capability in tropical weather forecasting which will enhance the livelihood of African populations and improve the economies of their countries. Improved forecasts will address key aspects of the UK Aid strategy. The results will be translatable beyond the partner countries to other nations of Africa and the developing world more widely. In order to improve African weather prediction, fundamental scientific research is needed, in the physics of tropical weather systems, evaluation and presentation of complex model and satellite data, and communication and exploitation of forecasts. The programme will develop research capability to yield ongoing forecasting improvements in the coming decades.  
  
The overall aims of the project are to:  
  
I. Make research advances needed for significant improvements in weather forecasts in Africa, and the tropics more generally, from the hourly to the seasonal timescale.  
II. Build capability among UK and African partners to improve, maintain and evaluate operational tropical forecasts in future.  
III. Assist African partners in developing capacity for sustained training of forecasters, in partnership with African academic institutions and international agencies.  
  
Our strategy to increase research capability with societal impact is to build upon existing partnerships between forecasting centres and universities within four partner countries (Senegal, Ghana, Nigeria and Kenya) and within the UK. In-country partnerships combine the strengths of academic and operational perspectives and provide sustainability. The project is embedded within the long-term structures and strategies for international coordination for the region. Specifically, our programme addresses the aims of the World Meteorological Organisation (WMO; project partner).  
  
The potential applications and benefits are:  
  
A. New research capability in observing, modelling and evaluating forecasts of tropical high-impact weather;  
B. Robust networks of African scientists with capability to advance the science in this field, and pull the science through into operational impact;  
C. Significant improvements in weather forecasts, as evaluated using tested methods;  
D. New forecasting tools used operationally for short-term (0-120h) and S2S prediction;  
E. Significant impact on the regional strategy for provision of user-focussed, quality-controlled weather forecasts, as overseen by the WMO;  
F. More effective use of weather forecasts to the benefit of African people and nations.

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**Attendee bio** (attending in place of professor Alan Blyth)

**Name**: Professor Doug Parker

**Organisation**: National Centre for Atmospheric Science

**Project Title:** GCRF African Science for Weather Information and Forecasting Techniques (African SWIFT)

**Attendee Bio:** I am a Meteorologist studying the physics and fluid dynamics of the atmosphere. My research group investigates the dynamics of weather systems such as cumulonimbus storms, cyclones and monsoons. We conduct observational and theoretical studies to develop new models of these weather patterns, and to explain their role in the climate system. Our work contributes to improving weather and climate predictions, and making these predictions more relevant to society. I have led and participated in a number of field campaigns, in the UK, Africa and India.

I joined the School in February 1997 as a lecturer. Since 2010 I have been responsible for the coordination of the University's formal partnership with the Met Office.

**Name:**  Professor Catherine Robinson

**Organisation:** Bangor University

**Email:**  c.a.robinson@bangor.ac.uk

**Project Title:** GCRF: South Asia Self Harm research capability building initiative (SASHI)

**Attendee Bio:** Catherine graduated with a psychology degree from Bangor University in 1987.  She spent a few years working in the NHS and returned to Bangor School of Social Sciences as a research associate in 1990.   She has followed a somewhat unconventional academic career ever since.

Catherine plays a leading role in social policy research and infrastructure developments to support research in Wales.   Her early research career was in the Centre for Social Policy Research and Development (CSPRD).  She was a founding member of the Institute of Medical and Social Care Research (IMSCaR).  Between 1999 and 2004 Catherine was responsible for the North Wales Research and Development Support Service (NWRDSS) and lead for a small social care research team.  In 2008, her research team joined the College of Business, Social Sciences and Law as part of a strategy to strengthen social care research in Bangor.  She is Co-Director of the [Centre for Mental Health and Society](http://www.cfmhas.org.uk/), which was formed in 2012.

Building research capacity has been a consistent feature in her profile. To be successful requires a combination of personal and academic qualities, including the abilities to work effectively with senior colleagues (local and national) and to inspire and encourage peers, early career researchers and postgraduate students.

As Co principal investigator in the National Centre for Mental Health (NCMH) she is Academic Lead for their Service User and Carer Research Partnership.  In North Wales she chairs the research development forum Methods and Research in Service Settings (MARSS) .

Since the formation of the Centre for Mental Health and Society her international research collaborations have broadened and she is part of an important research partnership between UK researchers and researchers and practitioners in South India.

**Project Summary:** Our vision is to bring together a critical mass of international expertise and research excellence to build capability and capacity to conduct research on Deliberate Self Harm (DSH).   
  
Our main aim is to produce new and robust information to inform the understanding of the nature of DSH in the context of profound social, political and economic challenges in low and middle-income countries (LMIC) such as India and Pakistan.   
  
Research leaders are thinly spread in LMICs, which limits capability building and restricts capacity. There are serious gaps in knowledge about DSH in South Asia. We will meet these challenges in two ways:   
- firstly by conducting research  
- secondly by providing training.   
  
Research that is collaboratively designed, culturally appropriate and rigorously implemented is one of the best learning tools for building capability. A trained and skilled workforce will continue to build capability and capacity for research. In this partnership, capability building is reciprocal and sustainable. We will share knowledge across the partnership.  
  
The programme of work will include training in different areas such as research methods, systematic reviews, data analysis and research governance. PhD students will benefit from the training. We will design some of the training ourselves and bring in other experts to help. We will draw on the expertise of people with lived experience to develop our work programme.   
  
A lot of different academic disciplines are involved in the programme. We will work together and share our knowledge to support post-doctoral researchers and PhD students who will become the research leaders of the future.   
  
Our research programme will develop new evidence and strengthen our understanding of DSH. We will carry out research using quantitative and qualitative methods.   
  
We will develop a flexible and trained research workforce in India and Pakistan to carry out fieldwork safely, efficiently and rigorously in challenging environments. We will work closely with Non-Governmental Organisation (NGO) partners in Pakistan and India.  
  
We will share our findings widely with a range of stakeholders including the local community, international forums and in high impact scientific journals. Our work will inform the development of culturally relevant community and primary-care responses to DSH and suicide in LMIC. Our work will also inform the development of suicide prevention policies, including public health messages and measures.  
  
We will document and evaluate the development of the partnership and knowledge exchange processes, and disseminate the findings on conducting this work.   
  
Our three core datasets (household survey sample, stakeholder sample, and DSH Register) will help us to examine and describe DSH in local context, explore substantive areas of interest in rich detail, answer a number of research questions and inform policy development and community and health service responses. We will find out more about differences and similarities between India and Pakistan and the differences and similarities between South Asia and other regions of the world.

**Name:** Professor Colin Robinson

**Organisation:** University of Kent

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**Project Title**: GCRF establishment of biopharmaceutical and animal vaccine production capacity in Thailand and neighbouring South East Asian countries

**Attendee Bio:** Professor Colin Robinson joined the School of Biosciences in 2013. He studied Biochemistry as an undergraduate at the University of Edinburgh and went on to carry out a PhD studying chloroplast protein targeting with John Ellis at the University of Warwick. This generated a long-standing interest in protein targeting systems which has remained a dominant interest in the research group.  After completing his PhD he spent 2 years at the University of Munich studying mitochondrial protein targeting with Professor Walter Neupert. He then returned to Warwick as a lecturer in 1985 and spent the next 27 years at Warwick as Lecturer, Senior lecturer and finally Professor.  His work initially focused on chloroplast protein targeting pathways, particularly those located in thylakoid membranes, but the group’s focus shifted to bacterial systems in more recent years. Colin is a member of the [Industrial Biotechnology and Synthetic Biology Group](https://www.kent.ac.uk/bio/research/groups/biotechnology.html) and the [Industrial Biotechnology Cenre](http://www.kent.ac.uk/stms/cmp/index.html)

**Project Summary**: The overall objective is to bring about a permanent step-change in the ability of Thailand, and eventually other South East Asian countries, to produce a range of advanced medicines and vaccines for the treatment of major human and animal diseases. This will contribute significantly towards achieving a number of Sustainable Development Goals relating to Poverty (SDG1), Hunger (SDG2), Health and Wellbeing (SDG3) and Industry, Innovation & Infrastructure (SDG9). The initial stages will involve a bilateral collaboration with Thai groups while the later stages will engage neighbouring countries to achieve impact at a regional level. The project aims to achieve these aims through a sustained enhancement of Thailand's capacity to produce high value recombinant proteins, especially biopharmaceuticals and bespoke animal vaccines. The project brings together Thai groups at the forefront of the country's new programme to produce recombinant proteins, UK groups that have developed state of the art E. coli- and Chinese Hamster Ovary (CHO) cell-based expression systems, and Bangkok-based UK specialists in SE Asian healthcare, economic policies and dissemination tools.   
  
The specific objectives are as follows:  
  
1. To produce a range of specific biopharmaceuticals, particularly recombinant antibodies to treat cancers and auto-immune diseases, at high levels in the newly-established National Biopharmaceutical Facility (NBF) in Thailand. The biopharmaceuticals will be produced to CGMP (Current Good Manufacturing Practice) standards required for human use.  
2. To produce a range of subunit vaccines against porcine circovirus (PCV) and porcine epidemic diarrhoea virus (PEDV) to prevent major swine diseases, and to produce the key veterinary biotherapeutic porcine interferon (IFN).  
3. To develop downstream processing protocols that will enable the expressed proteins to be extracted and purified in an efficient, cost-effective manner, thereby reducing costs and achieving greater patient accessibility.   
4. To apply industry-standard analyses in order to characterise biopharmaceuticals at the level of detail required by the Thai Food and Drug Administration (FDA).  
5. To work with a range of companies and government ministries in Thailand and ensure that the biopharmaceuticals are produced, marketed and distributed by the most effective means.  
6. To work with a range of ministries, farms and veterinary product distributors to ensure that the animal vaccines are correctly designed from the outset and produced rapidly to combat new outbreaks, with the final products reaching the end users.  
7. To develop a sustained partnership with Institutions in other SE Asian countries that will inform them of progress in the programme and enable them to initiate similar production programmes.  
  
The projected outcomes are:  
  
(i). Biopharmaceuticals on the World Health Organisation list of 'minimum medicine needs for a basic health-care system', currently available to under 2% of Thai patients, will be produced in Thailand for the first time at a cost that allows wide access to patients. The net results will be a major reduction in cancer-related deaths, especially in earlier age groups.  
(ii). A suite of veterinary vaccines against major porcine diseases will be produced, fully tested and made available to farms in Thailand. This will result in a sustained reduction in the livestock and food losses that are routinely incurred in this country.  
(iii). The Thai groups will possess state of the art technical capacity for recombinant protein production, with a level of capability that will facilitate expansion and consolidation, as part of a long-term partnership that incorporates a properly-resourced 'follow on' programme in years 5-7.  
(iv). Neighbouring SE Asian countries will have full access to the programme's technology and expertise in order to effectively plan similar ventures.

**Name:** Professor David Hulme

**Organisation:** The University of Manchester

**Email:** david.hulme@manchester.ac.uk

**Project Title:** GCRF: DAMS 2.0: Design and assessment of resilient and sustainable interventions in water-energy-food-environment Mega-Systems

**Attendee Bio:**  David Hulme is Professor of Development Studies at the University of Manchester where he is Executive Director of the Global Development Institute and CEO of the Effective States and Inclusive Development Research Centre. He has worked on rural development, poverty and poverty reduction, microfinance, the role of NGOs in conflict/peace and development, environmental management, social protection and the political economy of global poverty for more than 30 years. His main focus has been on Bangladesh but he has worked extensively across South Asia, East Africa and the Pacific.

**Summary:** The world is moving into an unprecedented era of dam-building with more than 3700 large dams currently planned or under construction, much of which are in DAC list countries. These projects have the potential to contribute significantly to the economic and social changes that underpin global Sustainable Development Goals (SDGs). However, past experiences show that poorly designed and planned dam projects conversely may have large negative impacts on the poor, and exacerbate political instability and environmental degradation. This proposal seeks to create the knowledge base, capacity and capability for a 'Dams 2.0' future, in which dams built in DAC list countries are selected, designed and operated to support resilient and sustainable national, regional and global development in a 2.0 degC world. This will be achieved by understanding and assessing dams as interdependent human-nexus (water-energy-food-environment) system interventions and enabling stakeholders to negotiate economic, social, political and ecological impacts despite future uncertainty.  
  
Our proposal will address this ambitious goal through unique cross- and inter-disciplinary research and capacity development partnerships between three sets of key actors. First, our project will stimulate collaboration between several UK centres of research excellence in development, water-energy engineering, economics, food security, climate change, finance and ecology (the universities of Manchester (UM), Cambridge, University College London (UCL), Surrey, Newcastle and Southampton, the International Institute for Environment and Development (IIED), and the International Water Management Institute (IWMI). Second, we will consolidate links with a carefully selected network of researchers and policy-makers in 4 countries/regions (The Centre for Science and Industrial (CSIR) - Water in Ghana, Technological University of Yangon in Myanmar, Jordanian Institute of Science and Technology in the Middle East region, Institute of Economic Growth in Delhi, India). Thirdly, we will seek to work collaboratively with some of the world's most influential development organisations such as The World Bank (WB), International Union for the Conservation of Nature (IUCN), the International Finance Corporation (IFC), The Nature Conservancy (TNC), the International Hydropower Association (IHA), and the Climate Bond Initiative (CBI).  
  
Dams 2.0 is led by a team with a proven track record in successfully managing large consortium grants across multiple countries and disciplines that focus on applied development and policy impact challenges. Our work will provide tailored guidance and build capacity for water-energy-food systems management in each of our case studies regions. In addition, our project will create a framework and accompanying software toolkit for dam system design and training worldwide. This online software will link several open access water, energy, food, and ecological simulation models to state-of-the-art decision-making under uncertainty approaches. This software will be made accessible via an associated suite of online training materials (games & modules we plan to develop with IWMI and the World Bank) for use by dam selection/design/operation teams globally in a range of settings.

****Name:** Professor David Worsley

**Organisation**: Swansea University

**Email**: d.a.worsley@swansea.ac.uk

**Project Title:** Strategic University Network to Revolutionise Indian Solar Energy (SUNRISE)

A**ttendee Bio:**Professor Worsley is author and co-author of 124 refereed scientific publications on coated product development. He has worked closely with the coatings industry since being appointed to the Materials Research Centre in the mid 1990’s, following an industry sponsored PhD (Johnson Matthey), an Industrial Fellowship (Astra Zeneca) and a British Steel Fellowship.

He is the current Deputy Head, College of Engineering, Swansea University as well as being the College’s Director of Research overseeing the REF 2021 submission.

Professor Worsley is also Research Director of SPECIFIC IKC (Sustainable Product Engineering Centre for Innovative Functional Industrial Coatings) which now encompasses in excess of £50m research and delivery portfolio for transforming ‘buildings into powerstations’ by harnessing the power of solar energy. Primarily funded by ERDF, EPSRC and Innovate UK, this collaboration is supported by 32 companies with international presence but a footprint in UK including Tata Steel, NSG Pilkington, Akzo Nobel and Vale INCO. A major focus is in the application of building integrated photovoltaics (BIPV) to provide an aesthetically pleasing and low cost solution to integrating renewable energy into the building fabric. This work is supported by strategic collaborations with Imperial College London (Sêr Cymru Sêr Solar), Oxford and Cambridge universities plus numerous partner projects with a further 12 UK and international universities. Professor Worsley has been instrumental in enabling the spin out from Swansea University of a company, BIPV Co to enable commercialisation of building integrated PV products.

Research interests span coatings used for corrosion protection to renewable energy generation.

Areas of Expertise:

* solution processed perovskite solar cells
* building integrated photovoltaics
* coating applications and development
* corrosion science and engineering
* construction steel

In 2015, Professor Dave Worsley was awarded the prestigious Hadfield Medal and Prize by the Institute of Materials, Minerals and Mining (IOM3), in recognition of his distinguished work in the field of materials science and engineering; in particular, his achievements connected with the iron and steel industries.

**Project Summary:** In November 2016 the UK Government mounted a technical trade mission to India. During this visit the delegation witnessed some of the worst aerial pollution in Delhi's history. At times the air quality was contaminated with 999 mg per cubic metre of particulates almost five times the emission consent of an iron making coke oven! India will be the World's largest economy potentially as early as 2030 requiring a total transformation in energy generation. At the Trade summit Prime Minister Modi detailed a vision for India to leapfrog other countries reliance on fossil fuels harnessing global science implemented locally. As such the timing of SUNRISE could not be better.   
SUNRISE is an ambitious programme to rapidly accelerate and prove low cost printed PV and tandem solar cells for use in off grid Indian communities within the lifetime of the project. SUNRISE will combine world leading UK research teams from Imperial (Durrant/Nelson), Cambridge (Friend), Oxford (Snaith) a key Indo UK research leader (Uppadaya at Brunel) with an internationally leading photovoltaic scaling activity (SPECIFIC IKC at Swansea University (Worsley/Watson)) and key Indian institutions notably IIT Delhi (Dutta/Pathak), NPL Delhi (Chand, Gupta), CSIR Hydrabad (Giribabu, Narayan), IISER Pune (Ogale), IIT Kanpur (Garg, Gupta). The research impact of scaleable and stable low cost metal mounted PV products will be supported by technology demonstration at five off grid village communities (each of up to 20000 people). The EPSRC JUICE consortium will support the systems integration and electrical storage elements to create real technology demonstrators using local manufacturing supply chains (Tata Cleantech Capital and Tata Trust). In addition to electrical infrastructure the SUNRISE partnership includes activity on gasification of farming/crop wastes (a major cause of the incredible pollution in Delhi in November 2016) and the SPECIFIC IKC will support the practical on site demonstration of photocatalytic water purification using a linked programme with the Gates' Foundation. A key driver for this project is not only demonstration of technology in real demonstration sites but the creation of a legacy of better Indian Industry/Institution collaboration through the creation of an Industrial Doctorate programme modelled on the success of the UK EngD programme started by EPSRC in 1992 and pioneered at Swansea.

**Name:** Professor Elena Korosteleva

**Organisation:** University of Kent

**Email:** E.Korosteleva@kent.ac.uk

**Project Title:** GCRF Comprehensive Capacity-building in Eastern Neighbourhood and Central Asia: research integration, impact governance and sustainable communities

**Attendee Bio:** Elena Korosteleva is Professor of International Politics and Jean Monnet Chair in European Politics which she received twice in recognition of her research and teaching excellence. Before joining the School in 2012, Elena was Director of the Centre for European Studies at Aberystwyth University. This experience contributed to the successful launch and leadership of the [Global Europe Centre](http://www.kent.ac.uk/politics/gec/) (GEC) at Kent, in partnership with Professor Richard Whitman. Elena is Deputy Head of School with responsibility for Internationalisation. Her remit includes strengthening existing and developing new [international partnerships](https://www.kent.ac.uk/politics/studying/international/index.html)and student recruitment opportunities.  
  
Elena received her Doctoral Degree in European Politics from the University of Bath (2001), and a PhD equivalent in Political Sociology from the Belarusian State University (1997). Thereafter she served as a British Academy Postdoctoral Research Fellow at the University of Glasgow, and is currently a visiting Professor at the Belarusian State University, College of Europe (Natolin, 2015-16), and Azerbaijan Diplomatic Academy (2016+). Elena is member of the International Advisory Board for the [GLOBSEC](http://www.globsec.org/globsec2015)and Central European Strategy Council; Professorial Fellow of the [Dahrendorf Forum](http://www.lse.ac.uk/IDEAS/Projects/Dahrendorf-Symposium/Dahrendorf-Symposium.aspx) at LSE, and member of executive committees for BASEES and CEELBAS. Elena works closely with the European Commission, EEAS, and national governments of the EaP region; and is a regular media commentator for BBC, ITV, France24 and Sky News.

Elena's research interests include EU foreign policies including European Neighbourhood and Eastern Partnership Initiative (EaP); EU governance; EU relations with Russia and the Eastern region and Central Asia, democracy and democracy promotion. In 2011 Elena completed a large ESRC-funded project (RES-061-25-0001) titled 'Europeanising or securitising the outsiders: Assessing the EU's partnership-building with Eastern Europe' (2008-2011), which findings contributed towards revising EU policies in the eastern neighbourhood. She is currently a CO-I to the [H2020 UPTAKE](http://www.uptake.ut.ee/) (EU 691818) project ‘Building Research Excellence in Russian and East European Studies’ in partnership with the Universities of Tartu and Uppsala. For more information visit the [project site](https://blogs.kent.ac.uk/uptake/).

**Project Summary:** Global trajectories of development embedded in core Western notions of 'good governance', economic progress and democracy promotion, are being increasingly challenged by the rise of smaller states, emergent new orders and their counter geopolitical configurations. In their perception, the western approach still remains essentially 'unilateral', predicated on the 'universalism' of western norms and their seeming 'exceptionalism' rooted in a historic success and post-colonial discourses of Europe (Nikolaidis 2015). Therefore it comes as no surprise that 'good governance' as a way to structure external relations, encounters defiance and resistance from a non-European outside, who feel that their way of being, belonging and believing is ignored, excluded and even 'threatened'. COMPASS advocates for a new conceptual and practical approach to 'good governance', which would place more emphasis on local 'peoplehood' by way of capacity-building, on 'othering' as a way to de-centre and prioritise the needs of local communities, and on connectivity with all-level stakeholders, to ensure lasting and legitimate transformative effect, and dialogue.  
   
The project thus seeks to set up the 'hubs of excellence' at the leading HEIs in Azerbaijan, Belarus, Tajikistan and Uzbekistan. The chosen countries are former Soviet Republics, who share the legacies of the past including unreformed and heavily bureaucratised public sector, autocratic governance, outdated and inequitable education. Furthermore, they remain relatively inaccessible to the international community, and suffer from economic hardship, ongoing ethnic conflicts and Russia's geopolitical pressure.  
  
COMPASS does not only aim to address the societal challenges of facilitating sustainable governance, equitable education and resilient and conflict-free communities in the developing countries. It also sets to develop lasting research partnerships with hitherto closed regimes, seeking to bring about change by way of inter-disciplinary research integration in the UK and European research frameworks.  
  
In particular, drawing fully on our long-established contacts with the scholars of the region we seek to achieve 3 specific objectives:  
- promote internationally recognisable specialist excellence capacity for each partner  
- develop research synergies and joint projects  
- integrate and disseminate output activities to scholarly, policy and public communities, regionally and internationally  
  
To do so, we will establish knowledge platforms in the chosen countries, selected on the basis of their inter-disciplinarity, high research potential, specialist subject niche and connectivity with all-level stakeholders. They include:  
- Azerbaijan Diplomatic Academy, Centre of Excellence for European Studies, specialising in European Studies, regional security and energy diplomacy  
- Belarusian State University, specialising in peace-building straddling History, Sociology, Economics and IR  
- Tajikistan International Shahidi Foundation, specialising in Cultural Anthropology, Identity and Social Psychology  
- Uzbek University of World Economy and Diplomacy, specialising in Eurasian economic relations and diplomacy practice  
  
By conducting a wide range of research workshops, pilot projects, learning and training activities, policy forums, and public events, we would seek to positively impact on the welfare provisions in the developing countries. Looking prospectively, established strategic partnerships and research networks would also greatly enhance the UK academia and the work of the consortium with a long-standing interest in the eastern region and Central Asia. This will be achieved by providing direct and privileged access into hitherto closed autocratic regimes, and insightful research opportunities and synergies. Additionally, it would greatly contribute to the UK and EU policy sectors, offering first-hand evidence on regional security, economic, cultural and diplomatic cooperation.

**Name:** Professor Federica Di Palma

**Organisation:** Earlham Institute

**Email:** Federica.Di-Palma@earlham.ac.uk

**Project Title:** Preserving, Restoring and Managing Colombian Biodiversity Through Responsible Innovation

**Attendee Bio:**  Prof Federica Di Palma (PI) is the Director of Science at the Earlham Institute (EI), (and director of the BRIDGE Colombia network of researchers across the UK and Colombia).

Prof Di Palma leads a number of research programmes aimed at understanding the evolution of complex traits and the regulatory processes underlying evolutionary change. Her research spans a wide variety of vertebrate species including mammals and cichlids. She is also interested in using this genomic information for understanding keys organisms important for food security as well as the conservation of threatened and endangered species.

She has also implemented several research programmes for countries on the DAC list aimed at building partnerships, generating genomic resources and delivering technical training events in genomics and informatics.

Prof Di Palma received her Ph.D. in Immunogenetics from the Institute for Animal Health and the University of Reading, and was subsequently awarded a Fogarty Fellowship from the National Institute of Deafness and Communication Disorders (NIH). She was at the Hubbard Centre for Genome Studies, University of New Hampshire, where she was a research scientist and manager of the genome centre with a focus on environmentally important species.  Before moving to Norwich, she was at the Broad Institute of MIT and Harvard where she served as Assistant Director of Vertebrate Genome Biology, and remains a visiting scientist. Prof Di Palma holds honorary Professorship positions at the School of Biological Science and Norwich Medical School, University of East Anglia.

**Project Summary:** The proposal targets the country of Colombia, at a very important time in history following the peace agreement between the government and the FARC. Colombia is one of the 17 countries considered as "megadiverse" by United Nations Environment Programme (UNEP). Colombia's biodiversity is not only important for the country's natural heritage and the preservation of unique species in the world, it is also essential for the improvement of human welfare, social equality and economic development.  
  
The proposal has been built on a foundation of existing research activities, with the involvement of additional stakeholders, business, government, and third sector organisations, promoting cross-disciplinary expertise to tackle three developmental challenges, and ensuring that impact extents beyond the length of the project.  
  
Our short-term goals are to build research capacity, partnerships and knowledge, with the longer-term goals of stimulating economic and social growth around biodiversity. We have established an alliance of institutions in the UK and Colombia in order to (1) gather information on changes in distribution, diversity, and conservation status of the natural diversity of Colombia, (2) characterise and manage agricultural genetic biodiversity to make breeding and farming more efficient, and (3) assess the challenges and impacts associated with the biodiversity challenges outlined in the other two work programmes to develop key relevant policies and programmes.  
  
In addition we will build research capability by developing researchers' skills, as well their access to research information and resources through group meetings, workshops, networking events and training courses, that will be delivered in collaboration with Colombian partners and in alignment with the activities of the proposal. We will also improve the technological self-sufficiency of the Colombian research community by facilitating the adoption of innovative technologies. Furthermore, we will ensure we raise awareness of the challenges among the public and inform them of how our outcomes are likely to benefit them. Our proposal on Colombian Biodiversity is timely and will allow the targeted country to reach higher scientific level in the proposed activities as well as applying science to inform decision-making and business investments in sustainable agriculture. Ultimately its outcomes will contribute to a long lasting impact by promoting peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels (UN SDG 16).

**Name:** Professor Graham Sandford

**Organisation:** Durham University

**Email:** graham.sandford@durham.ac.uk

**Project Title:** A Global Network for Neglected Tropical Diseases

**Attendee Bio:** Research Interests - Organofluorine Chemistry**.** The introduction of a fluorine atom or a fluorinated group into an organic substrate can have a profound effect on its physical, chemical and biological properties. For example, the enhanced biological activity of many substrates containing one fluorine atom has been applied very successfully to the development of a number of fluorine containing pharmaceuticals and plant protection agents, while structures containing many fluorine atoms find a wide variety of uses as, for example, polymers which possess unique and valuable properties.1 Our work is concerned with the synthesis and fundamental chemistry of many classes of partially and fully fluorinated molecules. In particular, we are interested in developing new methodology for the construction of carbon-fluorine bonds and gaining a greater understanding of the role that fluorine plays on the nature of reactive intermediates in organic synthesis. A typical Ph.D. project involves the use of all the techniques appropriate to synthetic organic chemistry as well as use of specialist equipment for work using gases under high pressure, γ-ray irradiation and/or elemental fluorine, all of which is available in Durham. We interact extensively with industry and recent research projects in the group have been funded by Asahi Glass Co. (Japan), GlaxoSmithKline, SONY (Germany), AWE, DSTL, Pfizer, Solvay (Belgium) and International Paint. A spin-out company, Brock Fine Chemicals ([www.brockfinechemicals.com](http://www.brockfinechemicals.com/)) has recently been established to commercialize various aspects of the fluorine group's expertise.

**Project Summary:** It is estimated that ~1 in 6 of the world's population suffer from a Neglected Tropical Disease (NTD) representing a significant challenge to global human health and well-being and this has been recognised by the United Nations (UN). One of the primary aims of the UN's Sustainable Development Goal on "Health and Well-Being" is to "ensure health and well-being for all" and with 1.7 billion people in 185 countries requiring treatment for at least one NTD in 2014, advances in the development of new medicines for NTDs is critical. Indeed, the target set by the UN is "By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases." Supporting the delivery of this goal are many world-wide ventures directed towards the treatment of AIDs (e.g. The Global Fund), tuberculosis (e.g. The Global Fund) and malaria (e.g. Medicines for Malaria Venture) but there is currently no corresponding world-wide sustained effort for NTDs. It is this gap that our global NTD network will fill and, in doing so, will contribute to the delivery of the UN's goal on "Health and Well-Being".  
  
Within the spectrum of NTD pathogens, insect-borne parasites represent a major threat to human health across the developing world. In particular, leishmaniasis and Chagas disease represent a significant challenge for developing nations with lower levels of research investment and infrastructure exacerbated by a lack of suitably trained personnel capable of developing much needed solutions. With over 350 million people world-wide considered at risk, more than 1.7M new cases each year, 12 million people currently infected and an economic cost that can be estimated in terms of 2.4 million Disability Adjusted Life Years (DALYs), the health challenge of leishmaniasis is undeniable. A similar situation exists for Chagas disease where there are currently 10M people infected and, in Latin America alone, Chagas disease leads to approx.700,000 (DALYs), nearly six times the socioeconomic toll of malaria in the region. Globally, the total annual economic effect of Chagas disease is estimated at over $7 billion. The challenge presented by these disease states is heightened by the fact that the few efficacious drugs currently available often exhibit serious, potentially fatal, side-effects, and have difficult and prolonged modes of administration leading to poor patient compliance within developing nations. Moreover, reports of resistance to even the most modern drugs are beginning to emerge.   
  
We will establish a "Global Network For Neglected Tropical Diseases" which will bring together over 50 academics and more that 500 researchers at 14 institutes around the world all working towards the common goals of delivering scientific advances that will help to combat Leishmaniasis and Chagas disease

**Name:**  Professor Hilary Ranson

**Organisation:** Liverpool School of Tropical Medicine

**Email:** Hilary.Ranson@lstmed.ac.uk

**Project Title:** GCRF Partnership for Increasing the Impact of Vector Control (PIIVeC)

**PI Bio:** Hilary obtained a BSc in Biology from the University of York (1991), an MSc in Medical Parasitology from the London School of Hygiene and Tropical Medicine (1992), and a PhD in Molecular Entomology from Cardiff University (1996).  A Wellcome Trust International Travelling Fellowship took Hilary to the University of Notre Dame, USA for two years.  This was followed by a Royal Society Dorothy Hodgkin Fellowship, held at Cardiff University and subsequently transferred to the Liverpool School of Tropical Medicine in 2001. Hilary spent a brief period at Imperial College London from 2005 to 2006 and then returned to the Vector Group at LSTM in 2007.

Hilary has been Head of the Department of Vector Biology since 2010 and was awarded a Royal Society Wolfson Research Merit Award in 2013.

**Teaching**

Hilary participates in the teaching of the Masters programmes in Biology and Control of Parasites and Disease Vectors and Molecular Biology of Parasites and Disease Vectors, and the Diploma in Tropical Medicine and Hygiene at LSTM and acts as an occasional guest lecturer at London School of Hygiene and Tropical Medicine.

**Research**

Hilary's research activities encompass various aspects related to the control of mosquito vectors of human disease.  She has a particular interest in the causes and consequences of insecticide resistance and her group has been using a variety of molecular approaches to study the mechanisms of insecticide resistance in Anopheles and Aedes mosquitoes.

Hilary is the coordinator of a European Union FP7 collaborative project, [AvecNet](http://www.lstmed.ac.uk/research/collaborations/avecnet), involving 16 partner institutes in Africa and Europe.  This project is  developing and evaluating new tools for malaria vector control, focusing on strategies that will help combat insecticide resistance.

 Liverpool Insect Testing Establishment (LITE)

Hilary established the Liverpool Insect Testing Establishment (LITE), in 2011 in response to a call from IVCC for a facility to screen new insecticide products produced by commercial partners against insecticide resistant populations of mosquitoes.  The unit, managed by Mrs Helen Williams now employs 9 staff.  It maintains a range of insecticide susceptible and resistant colonies of mosquitoes, many unique to LSTM, and offers a number of alternative protocols for insecticide efficacy testing.  For further information, please see the website ([http://www.lite-testing-facility.com(link is external)](http://www.lite-testing-facility.com/))

**Project Summary:** Vector-borne diseases are pervasive, causing massive morbidity and mortality and severely retarding economic development across the developing world. Many of our current tools are inadequate in twenty first century urban environments or failing due to insecticide resistance, and the evidence base for newer interventions remains weak. Selecting the most cost effective, affordable and acceptable tools to reduce the burden of vector borne disease requires an integrated approach involving vector biologists, economists and anthropologists, working in partnership with national ministries of health, planning and finance. In reality, most disease endemic countries lack the capacity to develop evidence based strategies to control these diseases. There is a particularly acute shortage of vector biologists but also an urgent need to attract leading scientists from other disciplines to tackle this major public health crisis.



**Attendee Bio** (attending in place of Professor Hilary Ranson)

**Name:** Dr Eve Worrall

**Organisation:** Liverpool School of Tropical Medicine

**Email:** Eve.Worrall@lstmed.ac.uk

Eve has a background in economics (BA Hons. Economics, University of Liverpool, 1997) and a PhD on the economic benefits of climate based malaria early warning systems and the cost effectiveness of indoor residual spraying (IRS) for malaria control (LSTM, 2001). After her PhD she was a research fellow in the Economics of Malaria at the London School of Hygiene where she worked on various projects including extensive work on insecticide treated net (ITN) delivery in Tanzania. Eve then spent a year working as an adviser in a charity which aimed to improve philanthropic giving before joining LATH, the consultancy company of LSTM. Eve worked at LATH for five years as a technical advisor, consultant and project manager. The portfolio of projects she worked on at LATH included costing the health sector strategic plan for Mozambique, designing the five year strategy, annual work plan and overall performance monitoring framework for GAVI (Global Alliance on Vaccines and Immunisations) as well as costing larval source management activities for malaria control.

Eve is an expert in the economic evaluation of vector control interventions including insecticide treated nets, larval source management and indoor residual spraying. She is also working on evaluating novel vector control interventions (eaves tubes and spatial repellents) and the economics of insecticide resistance.

She has a keen interest in vector control, influencing policy and capacity strengthening through collaborative partnership.

**Currently supervising PhD student**[Kemi Tesfazghi](http://www.lstmed.ac.uk/about/people/mrs-oluwakemi-tesfazghi): “Maximising the translation potential of new malaria control tools through application of health economics and policy analysis.” Kemi’s research involves key informant interviews with malaria vector control policy makers in Nigeria, Burkina Faso and at various global institutions. The aim is to identify challenges and opportunities for scale up of new vector control tools across sub-Saharan Africa.

**Name:** Professor Howard Griffiths

**Organisation:** University of Cambridge

**Email:** hg230@cam.ac.uk

**Project Title:** Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies

**Attendee Bio:** What is your subject and specific area of study?

Plants really matter. Plant productivity is the basis for life on earth, and my interests and enthusiasm for fundamental plant processes informs research and teaching: from providing food and sustainable bioenergy sources, to sequestering carbon, using water and maintaining diversity.

As a physiological ecologist, I am intrigued by the photosynthetic physiology of the organismal awkward squad, and the selection pressures which have lead to a variety of carbon dioxide concentrating mechanisms (CCM), which enhance the operating efficiency of Rubisco (the only enzyme capable of net CO2 fixation). These include the biochemical C4 pathway (in maize, miscanthus and sugar cane), crassulacean acid metabolism, (CAM, in succulents such as Agave, Orchids and Bromeliads), or the biophysical CCM (in algae, cyanobacteria and hornworts).

Using stable isotopes (13C and 18O) as markers of photosynthetic gas exchanges, we can compare processes which have shaped the evolution of photosynthesis in terrestrial and aquatic plants. We are currently working on the structure, function and molecular determinants of the chloroplast pyrenoid, associated with the activity of a biophysical CCM in aquatic organisms and hornworts. We also use the isotope signatures to characterise water use and niche differentiation in plants (biomass crops, vascular epiphytes, mosses in Peru and Antarctica) and now insects! Having led several expeditions to Trinidad, Venezuela and Panama to study forest canopies and epiphytes, we continue to “put plants in their place” - sustaining diversity, responding to a changing climate and providing fascinating molecular and ecological insights.

**Project Summary:** TIGR2ESS: Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies  
  
The record grain outputs of India's Green Revolution in the 1970's established India as one of the world's largest agricultural producers, transforming the country from a starving nation to a food exporter, creating jobs and boosting the economy. However, behind this extraordinary achievement were varying levels of success across different Indian regions, and overuse of water, fertilisers, pesticides and other chemicals on an unsustainable scale. In terms of agricultural productivity, the technologies of the Green Revolution plateaued in the 1980s, yet the continued adherence to a strategy of intensive agriculture has led to increasing pressure on water and nutrient resources.  
  
The proposed project (TIGR2ESS) will develop and strengthen alliances across a carefully selected network of UK and Indian experts in crop science, hydrology, social science and policy, allowing two-way knowledge exchange partnership to define the requirements for a second Green Revolution in India, set the necessary policy agenda, and define a collaborative research programme focused on sustainable crop production and sustainable resource use (with a focus on water use from farmer to consumer in a changing monsoon climate).  
  
Working together will enable us to contextualise the challenge in terms of the widespread changes taking place in Indian society today, including: urbanisation, drawing many away from rural work, particularly men; and technological developments transforming the employment opportunities within food sector away from primary production. Choices about modern agricultural practices in India must reflect societal needs, and our understanding of these needs will help us orientate the subsequent research programme and its translation towards an outcome that is both technically and socially acceptable - and possible - for today's India.  
  
The target for this programme is India, but relevance is in other developing countries, which in moving beyond the first Green Revolution of the 1960's, face unprecedented change due to societal and environmental pressures. The TIGR2ESS consortium will combine two innovative approaches to tackle these issues in India:  
Firstly, a series of Flagship Research projects will address fundamental research issues, and integrate their delivery and impact via a translational programme of outreach, education and entrepreneurial stimuli; secondly, a series of capacity building academic exchanges will support leading researchers from India and UK to frame collaborative research questions, and allow extensive training of more junior researchers to deliver these advances. At the heart of the TIGR2ESS proposal, the Flagship Projects will tackle fundamental research questions, with the first providing an overarching analysis to define the requirements for a 'second' Green Revolution in India.   
  
Secondly, a programme of research capacity exchanges will allow over 40 senior and young researchers to work in India or the UK, providing training and skills enhancement opportunities in research areas across the programme. Additional field-based community surveys and workshops will promote rural community engagement and empowerment.   
  
Overall, the programme will address the associated demographic and equality issues facing farmers in the context of increasing urbanisation. Two core Flagship Projects will use fundamental scientific approaches to address key issues in Crop Sciences (broadening the production potential of dietary staples and providing lessons for orphan crops) and Sustainable Resources (with a focus on water sources and sustainable use, from farmer to consumer, in a changing monsoon climate). The final Flagship project will translate these findings in order to promote equal opportunities, stimulate entrepreneurship and develop educational programmes for nutrition across rural communities.

**Name:**  Professor John Byrne

**Organisation:** University of Ulster

**Email:**  j.byrne@ulster.ac.uk

**Project Title:** GCRF - Low cost technologies for safe drinking water in developing regions (SAFEWATER)

**Attendee Bio:** John Anthony (Tony) Byrne is a Professor of Photocatalysis in the School of Engineering.  He leads the Clean Technology research theme within the Nanotechnology and Integrated BioEngineering Centre (NIBEC).  Tony's teaching and research focuses on nanotechnology for environmental and energy applications. Tony is a Fellow of the Higher Education Academy.

Tony studied biology and chemistry at Ulster at undergraduate level, obtaining a 1st class honours degree and studied his DPhil in chemistry at Ulster under the supervision of Dr Brian Eggins.  He continued his research career at Ulster and was appointed as a lecturer in the School of Engineering in 2005.  He was rapidly promoted and made Professor in 2012. Tony's research is focused on photocatalytic nanomaterials for use in environmental remediation and renewable energy applications.  He also has an interest the fabrication and characterisation of nanomaterials, focusing mainly on metal oxides.  Tony leads the Photocatalysis Research team at Ulster.

He is a Fellow of the Royal Society of Chemistry, and serves on the committee of the RSC Northern Ireland Section Committee, the RSC Photochemistry interest group and the Chemical Nanoscience and Nanotechnology interest group.  He is the Chair of the Professional Bodies Forum in support of the All Party Group on Science and Technology (NI Assembly) and a Board Member of the Northern Ireland Science Festival.

**Project Summary:** At least 1.8 billion people globally use a source of drinking water that is faecally contaminated and thus likely to lead to diarrheal illness: nearly 1,000 children die each day due to water and sanitation-related diarrhoeal diseases. Safe drinking-water is required for all usual domestic purposes, including drinking, food preparation and personal hygiene. Diseases related to the consumption of contaminated drinking-water place a major burden on human health. In 2015 663 million people still lacked access to an improved drinking water source, and these are mostly the poor and marginalized. Almost a quarter of those people rely on surface water which is untreated and over 90% live in rural areas. Many people are forced to rely on sources that are microbiologically unsafe, leading to a higher risk of contracting waterborne diseases, including typhoid, hepatitis A and E, polio and cholera.  
  
This proposal aims to develop and assess low cost technologies for safe drinking water which can help address the significant socioeconomic impact of water borne diseases in developing regions. We will establish a centre which will involve a range of different expertise collaborating with universities in Brazil and Colombia and two not-for-profit organisations from Colombia and Mexico. The objectives are to develop low cost technologies to give clean water to the poor people in rural Brazil, Colombia and Mexico, and to develop devices which can be used to assess drinking water quality in remote regions without access to high tech laboratories. These water technologies will be tested under real conditions with the cooperation of the rural communities. We shall also assess any health benefits in the communities following the use of the technologies to give safe water.  
  
The main benefit of this research will be a reduced incidence of water borne diseases in developing regions. This will result in less illness and fewer deaths for children. This will also lead to improved quality of life for families. Females are normally responsible for water in the home and user-friendly, safe water systems will result in less pressure on females. Reduced illness means that children are more able to attend school and there will be less absence from employment for adults. If local communities can get involved in the manufacture, deployment and/or maintenance of water treatment systems, then this may lead to economic development in the communities.

**Name:** Professor John Danesh

**Organisation:** University of Cambridge

**Email:** jd292@medschl.cam.ac.uk

**Project Title:** Cambridge Alliance to Protect Bangladesh from Long-term Environmental Hazards (CAPABLE)

**Attendee Bio:**

**Background**

Professor Danesh trained in medicine at the University of Otago in New Zealand and at the Royal Melbourne Hospital in Australia. During his time as a Rhodes scholar, he received an MSc in Epidemiology at the London School of Hygiene and Tropical Medicine and a DPhil in Epidemiology at the University of Oxford. He was elected a Fellow of the Royal College of Physicians in 2007.

**Current roles**

Since 2001, Danesh has been the Professor of Epidemiology and Medicine at the University of Cambridge. He holds a British Heart Foundation Professorship, a European Research Council Advanced Investigator Award, and an NIHR Senior Investigator Award.

He has the following additional roles:

– Head of the University’s 400-person Department of Public Health and Primary Care

– Director of the Strangeways Research Laboratory

– Director of the Cardiovascular Epidemiology Unit

– Associate Faculty Member at the Wellcome Trust Sanger Institute

– Honorary Consultant at the Cambridge University Hospital NHS Foundation Trust.

**Research interests**

Professor Danesh is the founder and director of the [Cardiovascular Epidemiology Unit](http://ceu.phpc.cam.ac.uk/research/erfc/) (CEU), a multi-disciplinary Unit of over 60 staff and students that aims to advance understanding and prevention of cardiovascular disease through population health research.

He has published more than 150 papers, which have attracted >15,000 citations. His interests are reflected in the CEU’s main research themes

1) Screening and risk prediction

2) Medicines development

3) International vascular health

4) Gene-lifestyle interplay

5) Systems genomics

6) Blood donor health

7) Quantitative methods

**Project Summary:**

In recent decades, Bangladesh has been in the midst of a rapid transition: disease burden has shifted markedly from a profile dominated by infectious diseases, under-nutrition and conditions of childbirth to one increasingly characterised by chronic disease ("non-communicable diseases") such as heart attacks, strokes, diabetes, lung diseases, and cancer. Estimates suggest that at least 60% of adult deaths in Bangladesh today are due to such chronic diseases.   
  
As well as producing profound disabilities and cutting short millions of lives each year, the rise of chronic disease in Bangladesh has created major societal problems, limiting economic advancement, reducing human welfare, and skewing scarce resources toward costly treatments and away from social progress. This situation is unsustainable, especially as Bangladesh's population ages and continues to grow.  
  
The causes of chronic disease in Bangladesh include distinctive social, environmental, and behavioural factors. For example, Bangladesh has one of the world's worst environmental and lifestyle risk profiles, characterised by:  
  
Severe water and air pollution: According to the World Health Organisation (WHO), arsenic-contaminated water in Bangladesh, which affects ~100M people, is "the largest mass poisoning of a human population in history". A 2016 WHO report on ambient air pollution judged Bangladesh to be the fourth worst polluted country worldwide.  
  
Nutritional disorders: Deficiencies of elements (such as iron) required for normal growth and development are widespread. An evolving and complex background of persisting undernutrition and emerging obesity also increase disease risks.  
  
Risk behaviours: "Western" lifestyles (eg, unhealthy diets, physical inactivity) are increasing, and may amplify adverse effects of traditional risk behaviours, augmenting disease risk.   
  
These social, environmental, and behavioural risk factors tend to cluster in households, share antecedents and causes, amplify each other's effects, and depend on one another in complex (and non-obvious) ways. Importantly, they can also exert importantly different effects in differing contexts such as across rural, urban, and slum settings. Hence, approaches that could tackle such chronic disease risk factors in combination rather than in isolation are likely to be more powerful, as well as approaches that can take account of the context in which they occur.   
  
Yet, Bangladesh's research infrastructure is not configured to evaluate the country's multiple risks and multiple settings, perhaps preventing the emergence of evidence that could suggest "joined up" solutions. Our proposal aims to address this grand challenge.   
  
We will mobilise a multidisciplinary team of about 25 leading investigators from seven organisations in Bangladesh and the UK that have a substantial track-record of working together. We will adopt a wide-angle approach, focusing on intertwined risk factors for chronic disease that have not previously been considered in an integrated framework. The plan offers a fundamentally new approach to address this problem because it combines four innovative and inter-linked components:  
  
1) Creation of a 100,000-participant study ("cohort") in urban, rural, and slum areas to enable study of the social, environmental, and behavioural risk factors for chronic diseases.  
  
2) Conduct of cross-disciplinary research projects that will use the new cohort help understand the interplay of risk factors, and how to combat them, drawing on the complementary strengths of sociologists, engineers, behavioural scientists, chemists, biostatisticians, public health scientists and others.  
  
3) Delivery of an integrated programme of research capacity strengthening that targets three inter-linked levels of activity: individual, organisational, and institutional.  
  
4) Mobilisation and deepening of partnerships between Bangladesh and UK centres of excellence.



**Name:** Professor Jonathan Goodhand

**Organisation:** School of Oriental & African Studies

**Email:** jg27@soas.ac.uk

**Project Title:** GCRF - Drugs and (dis)order: Building sustainable peacetime economies in the aftermath of war

**Attendee Bio**: Jonathan Goodhand studied at the Universities of Birmingham and Manchester, with qualifications in education as well as development -BA PGCE(Birmingham) MSc (Manchester) and PhD (Manchester). He worked for some years managing humanitarian and development programmes in conflict situations in Afghanistan/Pakistan and Sri Lanka, and has extensive experience as a researcher and advisor in South and Central Asia for a range of NGOs and aid agencies, including DFID, SDC, ILO and UNDP. His research interests include the political economy of aid and conflict, NGOs and peacebuilding and ‘post conflict’ reconstruction.

**Project Summary:** First, the project will engage scholars working on the political economy of conflict and war to peace transitions. This includes researchers working on issues of violence (e.g. Christopher Cramer, Stathis Kalyvas, Teo Ballve), resources, statebuilding and political settlements (e.g. Jonathan Di John, James Putzel, Philippe Le Billon, Douglass North and Mushtaq Khan), and hybrid political orders (e.g. Volker Boege, Kate Meagher). The research will contribute to this literature by providing a comparative evidence base regarding the perpetuation of criminalised economies in peacetime and the complex dilemmas and trade-offs that exist between peacebuilding, development and counter narcotics efforts to tackle illicit economies. The research will be disseminated through publication in leading development and politics journals, through engagement with existing research networks (such as the Political Settlements Research Programme) and UK and international conferences.  
  
Second, the research will benefit scholars working on drugs and other illicit economies, including Pierre-Arnaud Chouvy, Carolyn Nordstrom, Richard Snyder, Ko-Lin Chin, Francisco Thoumi. The research aims to redefine the field of drugs and development by generating an innovative, interdisciplinary framework for conceptualising the dynamics surrounding drug economies that combines political economy, livelihoods, gender, and public health analysis to understand the tensions that exist between counter-narcotics policies and concurrent efforts to address state fragility and poverty. The project is well-placed to disseminate research to audiences across different disciplines through the SOAS Violence, Conflict and Development research cluster, the new SOAS Corruption Centre, the LSE IDEAS International Drug Policy Project, the Centre for Research on Drugs and Health Behaviour (CRDHB) and The Centre for Health and Social Change (ECOHOST) (both hosted by the LSHTM).  
  
Third, the research will strengthen recent borderland studies scholarship focused on how state margins are not simply reflective of power relations at the centre, but are often constitutive of new political and economic orders (e.g. Hastings Donnan, Thomas Wilson, Benedikt Korf, Timothy Raeymaekers, Paul Nugent, James Scott and Willem van Schendel). Research will strengthen this growing body of literature by demonstrating how a borderlands perspective can address the lack of sensitivity to space in much of the literature on war to peace transitions and statebuilding, which focuses predominantly on national-level political settlements. The research will engage beneficiaries by submitting publications to targeted journals including Geoforum and Journal of Borderland Studies, and through interacting with the Asian Borderlands Research Network, the Association for Borderland Studies and the African Borderlands Research Network.  
  
Fourth, the project will provide an important contribution to the literature engaged with developing new research approaches for working in insecure terrain (e.g. Gutierrez-Sanin, Mansfield, Ko-Lin Chin). The research's integration of in-depth fieldwork, GIS spatial imagery and public health analysis will showcase methodological innovation that may then be adapted to other research initiatives in drugs and conflict-affected environments. These findings will be disseminated through the project's workshops and capacity building initiatives with UK-based and southern researchers.  
  
The project aims to strengthen the links between UK and southern researchers in Afghanistan, Colombia and Myanmar across all of these areas of knowledge by establishing an extensive research network through the project's proposed Policy Lab and subsequent Research Consortium for Transforming Illicit Economies

**Name:** Professor Justin Sheffield

**Organisation:** University of Southampton

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**Project Title:** GCRF - Building REearch Capacity for sustainable water and food security In drylands of sub-saharan Africa (BRECcIA)"

**Attendee Bio:** Professor Justin Sheffield is a Professor of Hydrology and Remote Sensing in the Faculty of Geography at the University of Southampton.

**Work History**

* 2016-present: Professor of Hydrology and Remote Sensing, Geography and Environment, University of Southampton
* 2000-2016: Research Scholar, in Department of Civil and Environmental Engineering at Princeton University, USA.
* 1992-2000: Senior Research Associate, in Department of Civil Engineering at University of Newcastle, UK.

**Research Overview**

Justin’s research is centred on large-scale hydrology and its interactions with climate variability and change. He has published extensively on hydrological extremes, climate change, and hydrological processes from catchment to global scale, and on the application of fundamental research to natural hazards impacts reduction, and water and food security particularly in developing regions, including monitoring and prediction systems.

Personal Webpage: <http://hydrology.princeton.edu/~justin>

Google Scholar: <https://scholar.google.com/citations?user=Uv1sQxYAAAAJ&hl=en>

**Project Summary:** The overall aim of this proposal is to develop research capacity and strengthen existing research capabilities in three sub-Saharan countries (Kenya, Malawi, and Ghana) in the related areas of water and food security. Climate variability has an enormous impact on livelihoods across much of SSA, where rain-fed agricultural production characterizes local subsistence and is the mainstay of most national economies. Coupled with rising demand from growing populations, urbanization, and rising incomes, climate change is projected to lead to cuts in GDP of up to 6%, setting the stage for migration and conflict. For these reasons, water security is considered one of the top global risks to development. Water security is also fundamental to attaining many of the Sustainable Development Goals, being a constraint on meeting a range of challenges including food security, access to clean water, and resilience to hydrological hazards. At the same time, attaining food security is a priority of national policy in SSA countries and is a key building block of development.   
  
The reasons for insufficient progress in attaining water and food security are complex, but requires fine-scale, locally relevant research and solutions that are best developed and tested by local researchers and practitioners. Although capacity to carry out research in this area in SSA countries is variable, there are a number of fundamental gaps in the required skills and resources. To address these, our project will develop and implement a comprehensive and flexible programme of activities aimed at strengthening research capacity between the UK and SSA countries while addressing the grand challenges around water and food security. We will develop a pipeline of activities that is guided by a set of key research questions and implemented in the context of a collaborative network of researchers and practitioners that can sustain and propagate capacity and knowledge more broadly.  
   
Our focus is on three countries in SSA: Kenya, Malawi, and Ghana. These are representative of different geographical, climate, socio-economic, cultural and institutional settings and challenges that will allow for comparative research and exchange of ideas, and the development of a richer collaborative network. These countries are also where we have complementary, ongoing university-level research projects and collaborations focused on various aspects of water/food security with institutions at different levels of capacity development. The programme of capacity building activities will be tailored to each institution and its goals through a process of co-evaluation of needs, co-development of activities and co-implementation, including south-south capacity building and knowledge exchange.

**Name:** Professor Linda Bauld

**Organisation:**  University of Stirling

**Email:** linda.bauld@stir.ac.uk

**Project Title:** GCRF: Building capacity for applied research to reduce tobacco-related harm in low and middle income countries

**Attendee Bio:** Linda Bauld is Professor of Health Policy, Director of the Institute for Social Marketing and Dean of Research (Impact) at the University of Stirling. She is also Deputy Director of the UK Centre for Tobacco and Alcohol Studies, a UKCRC Centre for Public Health Excellence covering 13 Universities. Since August 2014 she has also held the post of Cancer Research UK's cancer prevention champion (the CRUK/BUPA Chair in Behavioural Research for Cancer Prevention). This involves a part-time secondment to CRUK - the world's largest independent cancer charity - to lead their cancer prevention initiative.

Linda is a behavioural scientist with a PhD in social policy. Her research focuses on two main areas: the evaluation of complex public health interventions; and the use of evidence to inform health policy. She has conducted studies on drug and alcohol use, inequalities in health and, most notably, on smoking cessation and tobacco control. She undertook the first study of the UK's national (NHS) stop smoking services when they were established in 1999. She has also played a significant role in the monitoring and evaluation of a range of tobacco control policies, and served as the UK government's scientific adviser on tobacco control from 2006 to 2010. Examples of recent work include: authoring the 3 year review of smokefree legislation in England (published by the Department of Health in 2011); playing a key role in developing smoking cessation in pregnancy guidance in England (2010) and for the World Health Organisation (2013-14); coordinating the development of an independent alcohol strategy for the UK ('Health First', published in March 2013); leading a national review of smoking cessation services for the Scottish government (2013-2014); chairing the NICE programme development group on tobacco harm reduction (2011-2013), and acting as spokesperson for CRUK's obesity policy work in Scotland through the charity's 'Scale Down Cancer' campaign. She chairs, or is a member of, a significant number of policy and research funding committees in Europe, England and Scotland. Her work with the media is extensive, and a particular current focus is contributing to the ongoing debate on electronic cigarettes and tobacco harm reduction. In 2017 she was elected a Fellow of the Royal College of Physicians of Edinburgh for her contribution to cancer prevention and public health.

**Project Summary:** Tobacco use is the leading cause of preventable death in the world. Globally, smoking kills more people every year than HIV, tuberculosis and malaria combined. By 2030, more than 80% of the world's tobacco-related deaths will occur in low and middle income countries (LMICs). Preventing people from starting to use tobacco, and encouraging users to stop, is a global priority. The World Health Organisation is addressing this through an international treaty, the Framework Convention on Tobacco Control (FCTC), which has been signed by 181 countries and sets out the policies countries should adopt to prevent smoking. The United Nations (UN) sees the FCTC as so important that when it set up 'Sustainable Development Goals' it included the FCTC in Goal 3, which is about improving health and wellbeing for all the world's people. Goal 3.10 says that the implementation of the FCTC should be strengthened in all countries.   
  
However, while a number of high income countries (HICs) have made good progress in FCTC implementation, this is not the case in all LMICs. Signing the treaty is not enough: governments need to be helped to introduce good policies and enforce them. However, few LMICs have the capacity, or in some cases the staff with the right skills, to carry out the research and advocacy necessary to design, implement and achieve compliance with good tobacco control policies. Also, most existing research on tobacco has been conducted in HICs, and is not always relevant to LMICs. Thus we need to train and support researchers in tobacco prevention in LMICs, with skills in economics, clinical medicine, public health and the social sciences, for example.   
  
This proposal is about filling these gaps, building on some good work already under way. Our proposed programme will be undertaken in two parts of the world (South Asia and Sub-Saharan Africa) where progress on tobacco control has not always been good, and where the tobacco industry is active in attempting to undermine measures that work. We propose to build research capacity in several LMICs, thought a programme of research designed to address local priorities in each country, supported by a programme of training in research and impact. It will focus in particular on three issues relevant to UN SDG 3 but also other UN goals on peace, justice and strong institutions (SDG 16) and partnerships (SDG 17). These are: tobacco taxation (which helps reduce tobacco use and provides money for governments to build the economy); preventing illicit trade in tobacco (by protecting tax revenue, reducing corruption and helping to reduce crime) and preventing tobacco industry interference (which aims to prevent or undermine national implementation of FCTC measures). Studies will be conducted on these topics as well as additional priorities chosen by countries (like building evidence for 'smokefree' clean air policies, putting health warnings on tobacco packets and services to help people stop smoking).   
  
To do this work we have put together a team including UK academics, researchers in LMICs, and charities working to reduce harm from tobacco. The programme will be led by the UK Centre for Tobacco and Alcohol Studies, a UK Centre for Public Health Excellence. The team also includes research organisations in Bangladesh, Ethiopia, The Gambia, Ghana, India, South Africa and Uganda, and can be expanded to include other LMICs if resources allow. Support is included from Cancer Research UK, the world's largest independent cancer charity. Additional help will come from other supporters including the FCTC's Framework Convention Alliance and the American Cancer Society. Funding will be used to support a network of early career (post-doctoral) researchers and teams in LMICs and the UK. Extensive training opportunities and support to carry out high quality research on policy and practice in each country and internationally, and to establish strong research partnerships for the future, will be provided.

**Name:** Professor Mark Sculpher

**Organisation:** University of York

**Email:** mark.sculpher@york.ac.uk

**Project Title:** GCRF:Thanzi la Onse (Health of All): Frameworks and analysis to ensure value for money health care - developing theory, changing practice

**Attendee Bio:** Mark Sculpher is Professor of Health Economics and is Director of the Programme on [Economic Evaluation and Health Technology Assessment](https://www.york.ac.uk/che/research/teehta/). He is also Deputy Director of the [Policy Research Unit in Economic Evaluation of Health and Care Interventions (EEPRU)](http://www.eepru.org.uk/). He has been based at York University since 1997.   
  
Between 1988 and 1997, he worked at the Health Economics Research Group at Brunel University; during 1998 he was a visitor in the Department of Clinical Epidemiology and Biostatistics at McMaster University in Canada.   
  
Mark has worked on economic evaluations of a range of technologies including heart disease and various cancers.  He has also contributed to methods in the field, in particular relating to decision analytic modelling and handling uncertainty.  He has over 200 peer-reviewed publications and is a co-author of two major text books in the area: *Methods for the economic evaluation of health care programmes* (OUP, 2005 with Drummond, Torrance, O’Brien and Stoddart) and *Decision modelling for health economic evaluation* (OUP, 2006 with Briggs and Claxton).    
  
Mark was a member of the National Institute for Health and Care Excellence (NICE) Technology Appraisal Committee between 2004 and 2008, the NICE [Public Health Interventions Advisory Committee](https://www.nice.org.uk/get-involved/meetings-in-public/public-health-advisory-committees) between 2006 and 2009 and currently sits on the NICE [Diagnostics Advisory Committee](https://www.nice.org.uk/get-involved/meetings-in-public/diagnostics-advisory-committee).  He chaired NICE's 2004 Task Group on methods guidance for economic evaluation and was a member of the Methods Working Party for the 2008 update of this guidance.  He was a member of the [Commissioning Board](http://www.nets.nihr.ac.uk/programmes/hta/our-people) for the UK NHS Health Technology Assessment Programme between 2007 and 2010, and the UK [NIHR/Medical Research Council’s Methodology Panel](http://www.mrc.ac.uk/about/our-structure/research-boards-panels/methodology-research-programme-panel/) between 2008 and 2011.  He is currently a member of the Policy Research Programme’s Commissioning Panel.  Mark is a [National Institute for Health Research Senior Investigator](http://www.nihr.ac.uk/our-faculty/senior-investigators/) and is a former President of the [International Society of Pharmacoeconomics and Outcomes Research](http://www.ispor.org/).

**Project Summary:** In all countries, difficult decisions are needed on how health care is financed, organised and provided for the benefit of populations. Decisions include how to determine and to secure appropriate levels of funding for health care; which interventions to fund; how to pool and distribute resources between geographical localities; and when to invest resources in strengthening key components of the health care system to improve the quality and coverage of existing interventions versus introducing new effective interventions. All health care systems face the reality that the cost of the available opportunities to enhance benefits always exceeds the available funding. The decisions made affect the kinds of interventions provided, who receives health care, who goes without and, ultimately, the magnitude of benefits to populations. Resources are particularly scarce in low-income countries.  
  
For example, total health care spending is US$39 per capita in Malawi, a country that is also highly dependent on aid, representing about 62% of that funding, resulting in local preferences regarding how resources are used having to be balanced against donors' priorities. In sub-Saharan African countries (such as Malawi), the opportunities for improving population benefits are great, but the consequences of getting these decisions wrong are potentially severe in terms of forgone benefits.   
  
Thanzi la Onse (TLO) provides an integrated programme of multi-disciplinary research to inform decisions in low-income settings on health care resource allocation. This challenging policy area lies at the intersection of health, economics and politics. The structure of this proposed research reflects that reality. The centrality of 'value for money' in determining domestic and international development activities is now widely accepted, particularly so in low-income countries, but tackling the challenges of policy formulation and resource allocation decisions, given the evidential and institutional constraints faced by health care systems in poor countries, remains an urgent research priority. This work will build research capability to address this need by evaluating alternative policy options in terms of locally-realised health benefits achieved through alternative spending commitments. This requires evaluating the benefits of any commitments and also what is foregone as a result of resource constraints prevailing in health care systems. Understanding the magnitude and distribution of such outcomes is key to ensuring value for money for spending on health.  
  
The value of specific interventions needs to be understood within the context of the health care system in which it is delivered. TLO will study the inter-relationships between the impact of different interventions and policies on population benefits and the range of characteristics of the system in terms of how it funds and delivers care, its weakness and constraints. Research to support decision-making also needs to recognise the potential barriers to its acceptance and implementation, requiring close links with policy-makers. Themes of research in epidemiology and health economics will be complemented by a third theme on politics and governance; realising inter-disciplinary complementarities which hitherto have not been fully exploited.  
  
The initial focus of TLO will be working with policy-makers and informing resource allocation decisions in Malawi and Uganda. This will include modelling the whole health system in Malawi to fully reflect its limited resources, the needs and characteristics of the population and the value of competing claims upon resources. Activities will receive international attention and inform the priorities of international organizations. Over the longer term, the programme is expected to work closely with policy-makers across the east, southern Africa region and beyond to ensure health care delivery is as fully informed as possible by leading research methods.

**Name:**  Professor Martin Knapp

**Organisation:**  London School of Economics & Pol Sci

**Email:** M.Knapp@lse.ac.uk

**Project Title:**  STRiDE: Strengthening responses to dementia in developing countries (GCRF)

**PI Bio**: Martin Knapp is Professor of Social Policy and Director of the Personal Social Services Research Unit at the London School of Economics and Political Science (LSE). He has also been Director of the NIHR School for Social Care Research since 2009. His current research emphases are primarily dementia, child and adult mental health, autism and long-term social care; much of his work has an economic focus, and in all of it he seeks to tease out the policy implications. He has published almost 500 peer-review journal papers and 15 books. His work has had numerous impacts on policy and practice in these areas. He is a member of the World Dementia Council.

**Media experience:**

Radio; TV

**Project Summary:** Dementia is not a "developed world" condition: there are already more people with dementia in LAMICs than in high-income economies, yet LAMICs are typically less equipped to respond to the high and increasing prevalence. By 2050, there will be 90 million people with dementia in LAMICs (Prince et al 2015).   
People with dementia, particularly at more severe stages, require intensive care and support, which is very costly. These costs are mostly borne by unpaid family carers, primarily women, who often have to leave paid work, risking personal impoverishment and societal productivity losses. LAMICs face rapid growth in numbers of people with dementia without well-developed or well-funded health and care systems. Family care availability is decreasing as a result of demographic, societal and economic changes.   
We will build research capability using economics, epidemiology and policy analyses to help LAMICs respond to the needs of the growing numbers of people with dementia in an ethical and sustainable way. The co-applicants, from the UK and South Africa, have strong track-records in dementia research in high-income countries (HICs) and LAMICs, research on health and long-term (social) care in LAMICs. We will partner Alzheimer's Disease International (ADI), a federation of 85 national Alzheimer/dementia associations.   
We will work with local researchers and NGOs in 7 LAMICs: Brazil, India, Indonesia, Kenya, Jamaica, Mexico, South Africa. To build capability we will offer formal training in research methods, application of those methods to generate new evidence and tools, and training and practice in use of evidence to inform policy. We will apply the best methodological approaches and publish our results in peer-reviewed journals, but more importantly we will ensure that our research generates practical tools for use directly by stakeholders to develop services and improve practice, or to influence policy.  
We will use systematic reviewing and meta-analysis to review evidence on what works in LAMICs and what can be delivered in particular contexts, but also make that research available online and in DVDs as evidence summaries written in plain (dementia-friendly) language and translated to relevant local languages.  
We will use Theory of Change (ToC) to co-develop with local partners (researchers/NGOs) and stakeholders (including people with dementia and carers) the research and training agenda for the project to ensure that our activities achieve maximum impact. ToC will also help us develop indicators to evaluate the project's impact.   
Our research programme will involve development and evaluation of an intervention to increase dementia awareness and reduce stigma, a qualitative study of costs and other impacts of providing family care to people with dementia in different contexts, generation of quantitative evidence on impacts and costs of dementia on individuals and families, and instruments to collect these data.  
We will use the evidence generated to develop, for each country, credible estimates of the costs and impacts of dementia, and use simulation modelling to project future dementia care needs, the health and social services required to meet those needs, their costs, and the impacts of implementing evidence-informed dementia care pathways and better coverage. Models for each country will be simple to update and adapt.   
We will assess the policy implications of our projections, consider the barriers presented by current organisation and financing systems and the availability of trained workers, and outline reform opportunities to improve dementia, considering the wider health and social care systems.  
Finally, we will work with ADI and other policy partners to produce local recommendations to support the implementation of National Dementia Plans. We will organise stakeholder workshops in each country to present project outcomes, and high level stakeholder meetings in each of the regions, in collaboration with WHO.

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**Attendee bio** (attending in place of Professor Martin Knapp)

**Name:** Ms Adelina Comas-Herrera

**Organisation:** London School of Economics & Pol Sci

**Email:** a.comas@lse.ac.uk

Adelina Comas-Herrera is Assistant Professorial Research Fellow at the Personal Social Services Research Unit at the London School of Economics and Political Science. Her main research interests are economic aspects of the care, treatment and support of people with dementia, and long-term care financing. She has recently completed a project estimating the costs of improved dementia health care pathways in low, middle and high income countries, which has been published as part of Alzheimer International’s World Alzheimer Report 2016, and a review of the key issues and challenges in long-term care organisation and financing in countries with diverse ageing and economic contexts. She is currently working on the “Modelling Dementia” (MODEM) research project which aims to estimate the impact, in terms of costs and quality of life, of making interventions that are known to work for people with dementia and their carers more widely available by 2040. She co-led the Dementia Evidence Toolkit, a website that makes scientific evidence on what works on dementia care publicly available. She has previously worked on making projections of future long-term care expenditure for the UK and other countries, and also on evaluating the potential role of private insurance and private/public partnerships in long-term care financing. She volunteers as a Dementia Champion, providing information sessions for people who would like to become Dementia Friends in England.

**Sectors and industries to which research relates:**

Healthcare; Policy and Regulatory Bodies; Public Administration

**Countries and regions to which research relates:**

China; England; Europe; Germany; Indonesia; Mexico; South Africa; South Korea; Spain;Switzerland; UK

**Languages:**

Catalan [Spoken: Fluent, Written: Fluent]; French [Spoken: Basic, Written: Basic]; Spanish [Spoken: Fluent, Written: Fluent]

**Media experience:**

TV

**Name:** Professor Matthew Baylis

**Organisation:** University of Liverpool

**Email:** Matthew.Baylis@liverpool.ac.uk

**Project Title:** GCRF: One Health Regional Network for the Horn of Africa (HORN)

**Attendee Bio:**  I studied Zoology at Oxford University (1982-85), and then stayed on to undertake a PhD on the ecological interactions of lycaenid (blue) butterflies and ants (1985-89). This work was undertaken in Australia and Princeton University in the US. My first postdoctoral post was at the Tsetse Research Laboratory, University of Bristol, but I was permanently seconded to Kenya, where I spent 4 years in the wilderness of Galana Ranch near Malindi (1989-93). In 1993 I joined the Institute for Animal Health (IAH), Pirbright Laboratory, to study African horse sickness in Morocco and, later, southern Africa. In 1998, now at the Compton Laboratory, I started to work on TSEs (scrapie) in sheep in the UK. In 2003 I became the head of IAH's Division of Epidemiology. In 2005 I took up the Chair in Veterinary Epidemiology at the University of Liverpool. With fellowship funding from the Leverhulme Trust, in 2007 I established the Liverpool University Climate and Infectious Diseases of Animals group (LUCINDA). In 2010 I became head of the Department of Epidemiology and Population Health in the Institute of Infection and Global Health (IGH). In 2015 I stepped down from being head of department to become the IGH Research Strategy lead.

**Project Summary:** Title: One Health Research Network for the Horn of Africa (HORN).  
  
HORN'S mission is to improve the health and wealth of the people of the Horn of Africa (Kenya, Ethiopia, Eritrea and Somalia) by increasing the local capacity to undertake high quality research in the interactions between people, animals and the environment - One Health.   
  
HORN's aim is to build a regional network of individuals and institutions able to deliver high quality research into the linkage of the health and wealth of people to livestock and the environment, in the context of how people interact now and how they interacted in the past.  
  
It addresses three development challenges:  
  
(i). Disease and disease control: Increasing the health and productivity of livestock to provide better nutrition and reduced zoonotic disease transmission to people in the Horn of Africa  
  
(ii) Agriculture, livelihoods and economics: Improving agricultural systems in the Horn to reduce animal and human disease, improve local economies and increase financial resilience  
  
(iii) Health in changing world: Human and animal health under conditions of societal, climate and environmental change  
  
HORN has the following 5 objectives.  
  
1. Undertaking of research capability assessments (RCAs) of partner institutions in the Horn of Africa. A UK team will assess the current and target research capabilities of partner institutions, propose plans to reach the target, implementing them and monitor progress. A reflective Learning and Evaluation Project will assess the success of the RCAs from a research perspective.  
  
2. Provision of training to non-research staff from these institutions. Depending on the outcome of Objective 1, non-research staff in roles that underpin research will be trained. This includes leadership training, placements/shadowing in research support, and training in laboratory skills.  
  
3. Advancing the knowledge and research skills of researchers from these institutions in generic, laboratory and subject-specific skills. Research staff from partner institutions will take part in 2-5 day workshops/short courses, 4-8 week masterclasses, and attend summer schools in aspects of One Health. An e-learning platform will be developed.   
  
4. Undertaking of basic and applied research in the area of One Health. Researchers from partner institutions will undertake 3-12 month research projects (totalling 50 person-years) in 'research clusters' in Kenya and Ethiopia; alongside and mentored by UK researchers and with the supervision by UK and local academic partners. The research projects will be co-created at 'sandpit' events, themed according to the development challenges.  
   
5. Creation of the One Health Regional Network - HORN. The proposed partnership, training of non-research and research staff, and research placements with mobility between countries will develop a regional network. This network will grow during the programme, as more institutions join, supported by project partners and NGOs.

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**Name: Professor** Melanie Austen

**Organisation:** Plymouth Marine Laboratory

**Email:**  MCVA@pml.ac.uk

**Project Title:** GCRF Building capacity for sustainable interactions with marine ecosystems for health, wellbeing, food and livelihoods of coastal communities

**Attendee Bio:** Professor Melanie Austen is Head of Science at PML leading the Sea and Society area of science. She has recently completed a 3 year term as the Chief Scientific Advisor to the UK's Marine Management Organisation. In PML, Mel leads a broad spectrum of interdisciplinary research projects from the socio-economics of marine ecosystems and their services through to environment and human health, and marine biodiscovery. Mel has led and participated in several EU projects including the scientific co-ordinator of the interdisciplinary EU FP7 project VECTORS - Vectors of Change in Oceans and Seas Marine Life, Impact on Economic Sectors.  
  
Mel was originally a benthic ecologist specialising in meiofauna research, but in the last fifteen years she has been developing and leading UK and EU funded collaborative marine research that directly interfaces marine ecology and ecosystem modelling with environmental economics to support policy development and management for sustainable ecosystems. This research encompasses the environmental benefits and costs of a diversity of human activity in the seas such as renewable energy extraction, shipping, tourism and recreation, fishing and conservation.  
  
Mel’s wide-ranging research interests include: links between marine biodiversity, ecosystem function and ecosystem services and the socio-economic value of the services; natural and human impacts on provision of marine ecosystem goods and services and their socio-economic values; impact of renewable energy, aquaculture and fishing on marine ecosystem processes, biodiversity and goods and services; benthic-pelagic coupling; field and experimental benthic ecology in coastal habitats and nematode taxonomy using traditional, molecular and computer-based techniques. Professor Melanie Austen has written over 80 peer reviewed research papers and book chapters.

**Project Summary:**  Seas and coasts and the nature that lives in them provide multiple services (e.g. farmed and wild capture protein-rich seafood for local consumption and sale, coastal flood and storm defences, tourism, leisure, marine renewable energy, transport and climate regulation) that can be exploited or are passively used to support local economies and the health and well-being of coastal communities. Yet, there is an increasing demand for ocean space resulting from expanding use of the marine environment, and a growing awareness that much of the marine environment is deteriorating. In response a need for marine planning (MP) has grown globally to ensure sustainable use of marine space and extraction of its resources. This is particularly evident in E and SE Asia, where conflicts over marine space and resources are growing, added to by pressures of population growth  
The capacity to implement MP throughout E and SE Asia is largely lacking and presents an overarching challenge: to improve the integrated management of marine and coastal environments to reduce conflict between users, mitigate risks associated with expanded or new uses, and protect fragile ecosystems while supporting livelihoods, food security, health and well-being of coastal communities. We will achieve this through collaborative international, interdisciplinary research, training and capacity building. Activities will focus on learning-by-doing among researchers, local stakeholders, and local communities to deliver research outcomes with potential for impact. We have five sub-challenges to address, aligning with three UN Sustainable Development Goals (SDG1 no poverty; SDG2 zero hunger; and SDG3 good health and well-being):  
Challenge 1: Promote sustainable harvesting by reducing overexploitation of seafood and degradation of the environments, and promoting sustainable management of wild capture seafood and production of seafood through aquaculture.   
Challenge 2: Prepare for climate change by understanding its direct and indirect effects on coastal communities and anticipating and mitigating the impacts e.g. coastal wetlands, reefs and mangroves dampen the effects of flooding, storms and tsunamis; their management plays a key role on human wellbeing beyond being sources of food.   
Challenge 3: Promote good health: we aim to show how improved management of marine ecosystems may promote health and wellbeing benefits, including but not limited to food and nutrition, and reduce the health risks that arise from degraded and overexploited ecosystems.   
Challenge 4: Identify opportunities for future growth: improved management can provide additional, sustainable, opportunities for growth via technologies such as marine renewable energy. We will need to recognise and account for synergies and trade-offs among uses of the marine environment under MP.  
Challenge 5: Co-development and implementation of MP: marine plans need to be culturally-acceptable, facilitate growth of, and reduce risks to and conflicts among users of the marine environment, and simultaneously contribute to improving livelihoods, health and wellbeing and ensuring sustainable use of marine ecosystems.  
We will focus research, (and learning-by-doing), on case studies in UNESCO Biosphere Reserves in Indonesia, Vietnam, Philippines and China and marine protected areas in Malaysia.   
Ultimately this project will deliver economic, social, health and wellbeing and environmental benefits to coastal communities in SE Asia via co-development of local research capacity, stakeholder engagement, and application of contextually relevant tools for MP that will endure well beyond the four-year programme. We anticipate a future where people can rely on restored and more resilient marine ecosystems that can be used sustainably to support and improve livelihoods. Delivery of that objective will in turn create durable collaborations between academic and non-academic partners to deliver research with transformative impact.

**Name:** Professor Michael John Roberts

**Organisation:** National Oceanography Centre

**Email:** mike.roberts@noc.ac.uk

**Project Title:** Sustainable Oceans, Livelihoods and food Security Through Increased Capacity in Ecosystem research in the Western Indian Ocean (SOLSTICE-WIO)

**Attendee Bio:** Prof Michael Roberts holds a Bilateral Research Chair between the University of Southampton (UoS), the National Oceanography Centre (NOC-UK) and the Nelson Mandela University (NMU) in Port Elizabeth, South Africa. The Chair is funded through the UK Newton Fund and is focused on Ocean Science and Food Security in the Western Indian Ocean (WIO). A fundamental task of the Chair is to grow research capacity in the WIO region using an Innovation Bridge approach between NMU, UoS, and NOC. This in turn is networked to all major research institutions in the WIO.

**Project Summary:** Ten percent of the world's population depend on the ocean for a readily accessible source of protein and employment, with the majority (95%) living in developing countries. Poor coastal communities are at the frontier for climate change impacts, compounded by population growth and food demand, but are among the least resilient to the challenges of the future.  
  
SOLSTICE-WIO will focus on coastal communities in nine developing countries and island states in eastern Africa, interlinked culturally and ecologically and collectively known as the Western Indian Ocean (WIO) region. All nine (South Africa, Mauritius, Seychelles, Kenya, Tanzania, Mozambique, Somalia, Madagascar, Comoros) are on the list of Official Development Aid recipients, with five identified as Least Developed Countries.  
  
In the WIO over 100 million people live within 100 km of the ocean, with a significant proportion employed in local fisheries. This leaves the region highly dependent on the ocean for economic stability, food security, and social cohesion. These coastal communities have limited adaptive capacity to cope with dramatic reductions in fish stocks caused by overfishing, habitat destruction, and increasing environmental pressures - all aggravated by climate change. The decline of WIO fisheries has had profound socio-political ramifications, from the rise of piracy to general political instability.   
  
A clear example of the devastating effect of a fish stock reduction is the collapse of the Chokka Squid fishery in South Africa. SOLSTICE-WIO will use this as a case study to demonstrate the strengths of a holistic approach to human-ecosystem-fisheries research and the potential solutions this can offer. The squid fishery was the 4th most valuable fishery in South Africa, bringing foreign currency into one of the poorest provinces. It was directly employing 5000 fishermen with 30,000 dependents. The 2013 crash had a devastating effect on the Eastern Cape, yet the underlying reasons are unknown: local fishermen believe the collapse was caused by environmental change. Until the mechanisms behind the collapse are understood, there is little potential for aiding recovery or guiding adaptation. SOLSTICE-WIO will provide this urgently needed understanding to help inform the fishery and Government as to the fate of the local ecosystem, whether it will recover, and whether the crash could have been predicted or prevented.   
  
How will SOLSTICE achieve this?  
The key to stability of living marine resources lies in an ecosystem approach to fisheries (EAF), which sees human-natural systems as a whole, integrated entity rather than separately considering individual target species. Simply put: you cannot manage something you don't understand, nor can you adapt to change through management improvements unless you can describe, measure and understand the changes. The core strength of SOLSTICE-WIO lies in its integral approach to food security, drawing on UK expertise in physical oceanography, marine ecology, autonomous observations, environmental economics and the human dimension,and WIO expertise in fisheries, the marine economy and regional policy development.  
  
SOLSTICE will provide the region with the state-of-the-art technology to deliver cost-effective marine research and provide the information needed to achieve maximum potential from the region's living marine resources. In the UK marine robotics, ocean models and novel data products from satellite observations have developed rapidly in the last decade, and now underpin Blue Economies and Ocean Governance in Europe. These technologies are highly agile and ready to be applied in the developing world as cost-effective ways to maximise understanding and sustainable exploitation of living marine resources. Such "technology leapfrogging" can overcome the severe lack of research ships in the WIO and save decades of effort in developing predictive modelling systems from scratch.

 **Name:** Professor Michael Keith

**Organisation:** University of Oxford

**Email:** michael.keith@compas.ox.ac.uk

**Project Title: GCRF:** Building capacity for the future city in developing countries (PEAK)

**Attendee Bio:** Michael Keith is Director of COMPAS,  Co-ordinator of [Urban Transformations](http://www.urbantransformations.ox.ac.uk/)(The ESRC portfolio of investments and research on cities), and Co-Director of the University of Oxford [Future of Cities programme](http://www.futureofcities.ox.ac.uk/).

His research focuses on migration related processes of urban change. His most recent work is the monograph [China Constructing Capitalism: Economic Life and Urban Change](http://www.compas.ox.ac.uk/2014/keith-etal_china_capitalism_2014/) (2014). His next will be a book for Cambridge University Press, entitled: Power, Identity and Representation: Race, Governance and Mobilisation in British Society.

He has experience outside the academy as a politician for twenty years in the east end of London, serving in the 1990s and early 2000s for five years as leader of a London local authority, Chair of the Thames Gateway London Partnership and a commissioner on the Blair government’s response to the 2005 London bombings, the Commission on Integration and Cohesion.

**Project Summary:** We propose to generate a step change in the capacity of a network of cities in developing countries to address development dilemmas and advance the new 'urban' Sustainable Development Goal (11), linking cutting edge research to governance challenges of the emerging metropolis.   
  
The contemporary city presents a major development challenge. The majority of the world now lives in cities and the proportion is set to increase rapidly. All SDGs will need to be achieved in emergent cities and through understanding the combination of different development challenges, simultaneously realized. To recognize this and address the development challenges we need to combine the insights of traditionally discrete disciplinary expertise and link the humanities, natural sciences and social sciences in a new interdisciplinary configuration. We propose to 'grow' a new generation of urban researchers comfortable taking forward this new interdisciplinary field, working across an international partnership of research intensive universities renowned for their expertise in analyzing contemporary urbanisms.   
  
A global team of partners from China (Peking University), India (India Institute of Human Settlements), South Africa (UCT African Centre for Cities) and Colombia (EAFIT, Medellin) will work together with the University of Oxford. Researchers work across natural sciences (including mathematics, medicine, transport and engineering), the social sciences (including anthropology, development, migration) and humanities (including law, history). We leverage expertise across the University of Oxford and the Alan Turing Institute, building capacity internationally through a partnership networking strategic sites of urban interventions globally, working with a cohort of postdoctoral fellowships to develop a programme of excellent research. The focus is international and interdisciplinary. International networks build on existing collaborations, strong links to cities themselves and on track records of research excellence.   
  
Research proposed uses complex systems framing to synthesise our understanding of the development of future cities. Research addresses urban challenges that focus on data science opportunities of the city and socio-material systems that link built form, technology and behavioural pattern in complex interventions in public health, the nexus of water food and energy, informality, the city commons, mobility, land and the imperative to accommodate new populations. Research embedded in cities themselves will build new forms of learning, co-production and capacity building to promote sustainable urban development.   
  
To maximize the impact of our work the five centres of research will create a platform that will link regionally to linked research centres, urban labs and city observatories in Latin America, Africa, India and China. The opportunity to link the challenges of the global south to the city futures of the global north will be addressed through formal links to impact pathways in London government and European Urban Labs and centres, liaising with three of the Innovate UK funded Catapults (Satellite, Transport, Future of Cities).  
  
In order to meet the global goals of sustainable development cities will have to fundamentally shift developmental trajectories, implying a significant realignment in urban management practice. The knowledge base on which policy makers are expected to make such momentous decisions is fragmented but we will work with cities across the partnership to develop new models of co-production and knowledge exchange. All of the research partners have outstanding records of engagement and coproduction of knowledge with cities themselves, city regions, national bodies and emergent transnational organisations, including UN Habitat, the UN Sustainable Development Solutions Network (SDSN) and the World Bank/UN agency Cities Alliance.

**Name:** Neil Burgess

**Organisation**: World Conservation Monitoring Cen WCMC

**Email**: Neil.Burgess@unep-wcmc.org

**Project Title:** GCRF - Training for Development: East African Growth Corridors and the China to Africa connection

**Attendee** Bio: HEAD OF PROGRAMME | [SCIENCE](https://www.unep-wcmc.org/employees#12)

Neil oversees our work at the science-policy interface. This includes both novel and policy relevant science on: biodiversity; ecosystem services; human pressures; ecosystem modeling; international targets; and biological and social-science linkages. The Programme also supports the work of the entire Centre with inputs on scientific design, approach, application, and analysis. Neil’s role also entails cross programmatic project development and quality control of products as they are being produced.

**Previous experience & expertise**

Neil’s professional experience has covered academia; non-governmental organization science programmes; and field conservation project development, management and implementation in Africa. Over many years this work has sought to bridge the divide between academic science and practical field scientific needs. Increasingly this has also sought to bridge the gap between social and biological sciences in relation to conservation and societal questions, and the divide between academic science and policy-relevant science. Neil’s main expertise is in project management and development, and in providing a flow of relevant scientific ideas that have links to practical conservation or policy needs.

**Recent work by Neil Burgess**

Oversight of programme work |

As the Head of Science Neil provides an input into multiple projects on: indicators for global conventions; protected areas; climate change and impacts on species and habitats; ecosystem services mapping and valuation; training and capacity building; mapping threats; poverty and livelihood dimensions of conservation; community-based conservation; and measuring impacts of conservation.

Neil also supervises and examines Masters and PhD students in addition to providing technical input to field projects working on REDD+, protected area development, community-based conservation, and monitoring conservation impacts on the ground in Tanzania.

**Project Summary:** The concept of 'development corridors' is increasingly used to support economic growth in Africa, driven by international as well as national interests. Development corridors have tremendous development potential yet they face significant challenges. These include uneven development impacts, traversing so-called "underutilised" lands that are generally already populated and managed, and vulnerability to climate change. Such challenges result in a lack of appropriate research capacity in the region. This proposal aims to addresses these challenges through engagement with decision makers and by developing relevant capacity within research institutions and researchers in eastern Africa, China and the UK. The research is targeted to generate decision-relevant evidence and feed it into key decision making processes in order to improve the sustainable development outcomes of investments in development corridors.  
  
The proposal is focused on corridors in eastern Africa, particularly the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) and the Lamu Port and Lamu-Southern Sudan-Ethiopia Transport Corridor (LAPSSET) in Kenya. The consortium is led by the United Nations Environment Programme-World Conservation Monitoring Centre (UNEP-WCMC), who would be contracted as 'WCMC', and comprises five universities (Cambridge, London School of Economics, Nairobi, Sokoine University of Agriculture and York) and three boundary agents (World-Wide Fund for Nature (Tanzania), African Conservation Centre (ACC) and the China National Centre for Climate Change Strategy and International Cooperation (NCSC) of the National Development and Reform Commission (NDRC). The work is structured around three outcomes and six Work Packages, fully integrating research and capacity development, and significant policy engagement and outreach.

**Name:**  Professor Nigel Paul

Organisation: Lancaster University

Email: n.paul@lancaster.ac.uk

Project Title: RECIRCULATE: Driving eco-innovation in africa: capacity-building for a safe circular water economy

**Attendee Bio:** My research provides new understanding in fundamental plant science that finds application in sustainable crops production. My current priority is to improve understanding of plant responses to solar ultraviolet radiation (UV: 280-400nm). This research was originally stimulated by concerns over stratospheric ozone depletion which, without effective controls on ozone depleting substances, would have massively increased the intensity of short wavelength solar UV (UV-B radiation) reaching the biosphere. However, I realised that plant responses to UV-B could be exploited in sustainable crop production, improving crop quality and contributing to pest and disease control. I have worked closely with industry to deliver new commercial approaches, for example new types of cladding plastics for protected crop production (working with Arid Agritech (http://www.aridagritec.com/ ) and bpi-Visqueen (http://www.bpivisqueenhort.com/ ). I continue to investigate how better understanding of responses to solar UV can lead to new approaches and technologies for sustainable horticulture. Ozone depletion remains a significant environmental issue, despite the undoubted success of the Montreal Protocol, and I am co-chair (2010-) of the United Nations Environment Programme (UNEP) panel on the interactive effects of ozone depletion and climate change on health and the environment, which continues to provide up-to-date assessment of this topic for governments and policy makers (http://ozone.unep.org/).

As well as my UV research, I have a long-standing interest in the ecology of interactions between plants and their natural enemies, invertebrate herbivores or pathogenic microbes, in non-crop systems (e.g. Senecio vulgaris and its rust Puccinia lagenophorae; Rumex spp. and their Uromyces rumicis and herbivores (especially the beetle Gastrophysa viridula)). Those fundamental studies have led to a patented (WO 2008007100) new approach to crop control by treating seeds with jasmonates (a natural plant signalling compounds) to produce long-standing protection against pests (see http://www.lancaster.ac.uk/people/robertmr/impact.html and http://www.pbltechnology.com/cms.php?pageid=296 )

**Project Summary:** RECIRCULATE will support new partnership-based approaches to enable African researchers to grow transformational impact through working with, in and for their communities  
  
The vision, objectives and strategy for RECIRCULATE emerge from Lancaster's deep engagement with researchers and research users in sub-Saharan Africa. Africa is a strategic priority for Lancaster which is currently the only UK University to have a campus on the continent. With our partners Trans-National Education (TNE) we have invested in excess of £5M to establish our Ghana campus ("LU Ghana" opened in 2013 and now supports 450 students). Lancaster University is committed to grow LU Ghana as a research base, and are about to purchase an additional 6ha of land for a larger campus that will include laboratory facilities for engineering and environmental sciences.   
In addition to our long-standing partnership building in Ghana and Nigeria, Lancaster University has grown national leadership in eco-innovation - innovation supporting both business growth and the environment. It has the capacity to translate high quality research into "real world impacts" as demonstrated by Lancaster's double award-winning Centre for Global Eco-innovation (CGE) http://www.globalecoinnovation.org . CGE has demonstrated that eco-innovation can deliver positive benefits to both the economy and the environment and is fundamentally underpinned by the need for end-user driven research. At the heart of our eco-innovation vision for Africa is the needs to promote medium-to-long term economic growth that is both resilient to future climate and where possible able to mitigate the impact of environmental change.   
  
Informed by our experience and that of our core partners in Ghana and Nigeria, RESILIENCE focuses on the overarching need for a safer circular water economy that is research driven but community-led. Sustainable, equitable and community-appropriate management of water plays a key role in strengthening the resilience ofsocial, economic and environmental systems in the face of change. Equally, sustainable and equitable water management needs research that is fully engaged with communities to ensure that novel solutions are developed at the appropriate scale to meet specific needs, and so provides an excellent example of the need for research institutions to work with, in and for their communities.  
  
RECIRCULATE is underpinned by four interlinked research areas: (i) water for sanitation and health; (ii) water for food production; (iiii) water for energy production, and (iv) water, pathogens and health. A fifth area of work integrates each of these work packages areas and focusses specifically on microbiology and the need to create new ways to reduce the impact of water-borne disease on vulnerable populations.   
  
The RECIRCULATE work plan integrating both research and capacity building across environmental science, biomedicine, engineering, management and knowledge exchange with external stakeholders will support high quality research partnerships to establish the systems necessary to move from research to sustainable development solutions and in so doing support the long-term transition of Ghana and Nigeria from resource to knowledge economies.

**Name:** Professor Peter von Dadelszen

**Organisation:** St George's University of London

**Email:** pvondade@sgul.ac.uk

**Project Title:** GCRF: The PRECISE (PREgnancy Care Integrating translational Science, Everywhere) Network: a sub-Saharan network for placental disorders

**Attendee Bio:**  Professor von Dadelszen was previously at the University of British Columbia and BC Women’s Hospital, Vancouver Canada for 15 years.  He has received numerous international (Chesley Award), national (CIHR Knowledge Translation Award), and local (UBC Excellence in Clinical Research Award) awards, and has been editor of both Hypertension in Pregnancy and Pregnancy Hypertension (founding co-editor).

Professor von Dadelszen is a member of the WHO Maternal Morbidity Working Group and the WHO South East Asia Region Technical Advisory Group.  A Fellow of the Royal College of Obstetricians and Gynaecologists, the Royal College of Physicians and Surgeons of Canada (O&G), and the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, Professor von Dadelszen has qualified from both the University of Oxford (DPhil) and Otago, New Zealand (BMedSc, MBChB, DipObst) and has Canadian certification as a subspecialist in maternal-foetal medicine.  He is a dual citizen of New Zealand and Canada, and a lifelong All Blacks supporter.

**Project Summary:** The PRECISE Network is a new and broadly-based group of research scientists and health advocates mainly based in the UK and Africa, but also including the World Health Organization. We will establish this network through a shared project that will investigate three important complications of pregnancy, namely high blood pressure (hypertension), babies who are smaller than they should be before birth (fetal growth restriction) and babies who die before birth (stillbirth). We think that about 46,000 women and two-and-a-half million babies (both before and after birth) die due to these problems every year, and half of them die in Africa. In addition, about 50 million women and babies will have their short and long term health altered because of these complications. These numbers represent one of the great global inequalities of our time.  
In developed countries like the UK, we know that these three pregnancy complications are caused by problems with the afterbirth (placenta), and we know quite a lot about how they develop and complicate pregnancies.   
In contrast, in sub-Saharan Africa, we know very little about how and why these placental conditions occur. This is especially complex as women in Africa often have many other challenges: limited diets that change with the seasons, chronic infections such as HIV or malaria, acute infections like Ebola, limited power to make decisions for themselves, life in communities that are prone to either flooding or drought and are remote from health facilities. Therefore, the way that pregnancy complications arise are probably very different for these women in sub-Saharan Africa, compared with women living in the UK. Yet, these women and their babies bear most of the burden of death and illness related to pregnancy complications. We need to address this area of neglected global health research.   
In PRECISE, we will train and mentor junior investigators in how to do pregnancy research, and we will establish new databases related to pregnant and some non-pregnant women, the context of their lives, their pregnancy complications and what happens at the end of their pregnancies. We will save samples of blood, urine and placental tissue, and test them to increase our knowledge about how women's bodies cope with both normal and complicated pregnancies. All the samples and the data will remain in Africa for use primarily by Africans in collaboration with UK-based and other scientists.  
To have a sample of pregnancies that are typical of women in sub-Saharan Africa, we will invite about 12,000 women in The Gambia and Senegal (West Africa), Kenya (East Africa) and Mozambique (Southern Africa) to share their stories, the data related to their pregnancy and babies, and their blood, urine and placental samples with their regional team and the wider global research community, especially the PRECISE scientists. This large number of women will allow us to gain new and important insights into how and why women in sub-Saharan Africa develop these pregnancy complications, and how and why may of them and their babies die from these complications.   
Through these activities, we hope to improve the health and well-being of women and their families in Africa, to build resilience to environmental events such as flooding or infectious disease outbreaks, to advise about where infrastructure such as roads will improve pregnancy outcomes, and to reduce the inequality of maternal and child deaths that is visited on families in sub-Saharan Africa.

**Name:** Professor Richard Lark

**Organisation:** NERC British Geological Survey

**Email:** mlark@bgs.ac.uk

**Project Title**: GCRF: Strengthening Capacity in Environmental Physics, Hydrology and Statistics for Conservation Agriculture Research.

**Attendee Bio:** Murray Lark did his PhD in the Soil Science Laboratory, Department of Plant Sciences at Oxford University, working on problems in the multivariate and spatial analysis of remote sensor data. After two years on a University of Wales Fellowship, examining land cover mapping by remote sensing, he joined the Process Engineering Division at BBSRC's Silsoe Research Institute where he established the Environmetrics Research Group. This group worked on spatial statistical methodology for environmental monitoring, landscape-scale experimentation and biophysical modelling, most applications relating to soil management and nutrient cycling. The group was funded on a mixture of grants from BBSRC and research for Government, Environment Agency and industry/levy boards. The group was transferred to Rothamsted Research in 2004 where ML was deputy head of the Biomathematics and Bioinformatics Department. In 2011 ML moved to the British Geological Survey where he leads the Environmental Statistics team. He has an IMP personal research programme and works with colleagues across BGS, University of Nottingham and other institutions in research funded by, *inter alia*, NERC, BBSRC, BEIS, Dfid and EU. This covers soil science, geochemistry, volcanic hazards, seabed mapping, mineral resources and groundwater resources.

ML's particular interests are in the application of statistical modelling to problems in efficient sampling, experimental design, and environmental monitoring and survey. He has published over 170 peer reviewed papers and is coauthor of a textbook on sampling. He chairs the statistics advisory panel of European Journal of Soil Science. He has served as chair of the International Union of Soil Science's Pedometrics Commission (2006–2010) and the European Geosciences Union's Soil Informatics Subdivision (2013-2016).

**Project Summary:** Two recent El Niño-associated drought seasons in southern Africa have highlighted the vulnerability of agriculture there to climate change. One reason for this is the dependence of much production on the occurrence of sufficient rainfall at the start of the growing season. This is because little water is stored in the soil profile.   
  
One strategy for agricultural production, which is attracting a lot of interest in Africa, is "conservation agriculture" (CA). In CA farmers use minimum tillage of the soil and they mulch it with organic materials to reduce water loss. The use of appropriate crop rotations is also key to CA. However, CA cannot be offered as a panacea. Its adoption has different labour demands to those of traditional cultivation, and increased use of herbicides. There may also be competing uses for the mulching materials (animal feed, fuel). Furthermore, the success of CA varies between different soils, and so it may not be universally suitable. The evaluation of CA requires cross-disciplinary input. Part of this must be an evaluation of the extent to which CA can be expected to be more resilient than traditional cultivation under climate change.  
African members of our established research network run CA trials, some long-term, and engage with policy makers and extension services. They and others have shown that there can be yield benefits from CA, but little is known about how CA affects the behaviour of soil water. In particular, does it improve the soil water supply (and so make production more resilient to delayed rains)? Furthermore, how does CA and its impact on water in the rooting zone affect the recharge of groundwater? There may be synergies if CA improves infiltration of water into the soil, reducing runoff and associated flooding and erosion, but there may also be trade-offs if more water is taken up by plants and does not serve to recharge the groundwater.  
  
These gaps in knowlege about CA systems, critical to their full evaluation, arise from gaps in research capacity. This has been identified through critical reflection on CA research by the partnership proposing this project. Core members of the partnership in Africa (Zambia, Zimbabwe and Malawi) and the UK are already engaged together in research on the nutrient status of crops under CA. Collectively we have recognized that the African research centres have uneven experience in the cross-disciplinary science areas that are key to address the questions identified above (soil physics, shallow geophysics, geohydrology and spatial statistics). Partners also lack the equipment and experience needed to undertake observations with modern methods used in soil physics (e.g. in-situ measurement of soil water dynamics).   
  
In this project we will undertake learning-centred demonstration trials in all three African countries. At each site existing trials, with CA plots and controls, will be instrumented and sampled so that the fate and behaviour of water under the contrasting systems can be compared. In addition we will undertake statistically designed soil sampling to assess the variability of soils at experimental sites and to support statistical modelling for extrapolation from experimental farms to wider regions. The design of these activities will not reflect a conventional research project but rather will be focussed on capacity strengthening. Planning, execution and publication will be undertaken collaboratively by working groups with staff from all organizations, and the experiences of these groups will be recorded formally to provide a resource for future capacity strengthening at other centres. The activities will be integrated with formal training to develop relevant technical and research skills. The Capacity Research Unit at the Liverpool School of Tropical Medicine are partners and will contribute to development and monitoring of the programme as an exercise in research capacity strengthening.



**Name**: Professor Sobha Sivaprasad

**Organisation**: Moorfields Eye Hosp NHS Foundation Trust

**Email**: Sobha.Sivaprasad@moorfields.nhs.uk

**Project Title:** Increasing eye research capacity and capabilities to tackle the burden of blindness in India: a research-based UK-India Collaboration

**Attendee Bio**: Sobha Sivaprasad is the Professor of Retinal Clinical Studies in the Institute of Ophthalmology, University College London. She is a Consultant Ophthalmologist at Moorfields Eye Hospital specialising in Medical Retina. Her higher research degree was on age related macular degeneration. She obtained her Medical Retina Fellowship from Moorfields Eye Hospital.

Dr Sivaprasad has active clinical and laboratory research interests in AMD, diabetic retinopathy and retinal vascular disorders. Her research focuses on biomarkers and modeling of retinal morphology in retinal diseases. She oversees several multicentre clinical trials in these areas and has over 150 peer-reviewed publications to her credit. She is an Editor of two eye journals and peer reviewer of several ophthalmic journals.

**Project Summary:** India is home to over 15 million blind people. Diabetes is a global epidemic but India is one of the top 3 countries most affected with 69 million people diagnosed with diabetes. Diabetic retinopathy is the most common complication of diabetes, whereby blood vessels in the retina leak or die and, if left untreated, this leads to visual loss. Sight threatening diabetic retinopathy (STDR) is the leading cause of blindness in the working age group causing loss of productivity, affecting individual households and the national economy. Despite a fast growing economy, a billion people in India live below the poverty line. Diabetes may result in poverty and poverty is associated with diabetes. Therefore, unless the complications of diabetes are identified early and treated, the impact of blindness on the quality of life and productivity of the Indian population will continue to have a negative impact on the nation's economy. Annual screening of all people with diabetes with retinal photography and prompt treatment of STDR has been shown to decrease the rate of blindness in the UK. However, the technology involved is costly, requires trained manpower and is impractical as a method for screening 69 million people in India annually, when the major proportion of health expenses have to borne by the patients.

By increasing research capacity and capability through this programme, we aim to initiate systematic diabetic retinopathy screening in India through research and evaluate innovative technologies that can accurately identify patients at risk of blindness due to STDR close to home. These technologies can be applied in all DAC listed countries with prospects of reverse innovation in the UK.

The range of research capability activities (SDG Goal 4) and capacity building in India is aimed at better patient outcomes (SDG Goal 3), developing a workforce with quality education (SDG 4), enhancing sustainable livelihoods (SDG Goal 8) and contributing to India's and the UK's work towards an efficient value based healthcare. Firstly, we will introduce population based diabetic retinopathy screening in India and evaluate whether a hand-held camera with smartphone technology and automated grading is feasible in both India and the UK instead of the standard costly cameras and trained manpower employed in the UK currently. We expect more population coverage of retinal screening with this technology and more patients to be referred for treatment. The research capability at the referral hospitals will also improve from this programme with new quality standards being set for treatment.

Secondly, we will develop and validate a blood test of a panel of established markers that can detect STDR and other complications of diabetes with the aim to translate into clinical practice. This will allow patients to monitor their own blood tests for STDR. This has the potential to revolutionise the way people with diabetes are monitored for STDR and other complications globally, empower patients and health care workers with new knowledge, improve research capability in India and the UK, improve research capacity in India and improve the global economy in terms of sustained health, industry and innovation and decreasing inequality in terms of access to healthcare. The programme has the potential to change the landscape of diagnosing and triaging STDR globally. In addition, development of a diabetic retinopathy research network of researchers in India will ensure scalability and sustainability of world-class research in India. These research projects will have secondary benefits to the UK in terms of increasing research capability and reverse innovation. Moreover, the programme will also provide comparative cost-effectiveness data of current standard of care versus these newer technologies to inform national guidelines committees and policy makers globally.

**Name:** Professor Timothy Benton

**Organisation:** University of Leeds

**Email:** T.G.Benton@leeds.ac.uk

**Project Title:** GCRF-AFRICAP - Agricultural and Food-system Resilience: Increasing Capacity and Advising Policy

**Attendee Bio:** Professor Tim Benton is Dean of Strategic Research Initiatives at the University of Leeds and Distinguished Visiting Fellow at the Energy, Environment and Resources Department at the Royal Institute of International Affairs at Chatham House, UK. From 2011-2016 he was the “Champion” of the UK’s Global Food Security programme which was a multi-agency partnership of the UK’s public bodies (government departments, devolved governments and research councils) with an interest in the challenges around food. The key role of GFS was to undertake systemic analysis and horizon scanning, in order to identify research priorities to mitigate the challenges of providing sufficient, sustainable and nutritious diets for all. He has published over 150 academic papers, many on the topics of agriculture and its sustainability. His particular interest is currently on food system resilience in the face of climate change.

**Project Summary:** Agricultural development is fundamental to achieving many of the Sustainable Development Goals (SDGs) in Sub-Saharan Africa.   
  
Levels of undernourishment and malnutrition remain high across the region and current trends show a growing gap between the food needs of a growing population and agricultural productivity. Moreover, in a context of changing climates, and, in many areas, increased incidence of extreme and unprecedented events (notably drought and extreme heat, as well as increasingly extreme rainfall and crop pest infestations), the increased risk of crop failures is exacerbating this challenge. Across Africa, governments recognise that agricultural development and transformation needs to be an engine of economic growth and poverty alleviation, particularly where cycles of low productivity (and periodic crop failures), limited access to resources, and small land holdings lock rural households into cycles of poverty.   
Agricultural practice must also contribute to the sustaining of soil, water, biodiversity and more, and is increasingly being targeted as a sector within which we must reduce greenhouse gas emissions.   
  
Achieving sustainable and resilient transformations of agriculture and food systems in Africa is a complex and multi-faceted challenge, which requires novel approaches to research and evidence and new policy and institutional enabling environments. This project sets out to collaboratively build the capacities required across research and policy to tackle this multi-faceted challenge, and help avoid the policy paralysis that in some countries led to little or no progress towards the Millennium Development goals.   
  
The project team, which includes the University of Leeds, University of Aberdeen, the UK Met Office, the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) and Chatham House encompasses expertise in agriculture, climate, ecology, soils, water, post-harvest losses, land use, nutrition and health, rural livelihoods, and policy and institutional analysis. FANRPAN is a multi-stakeholder pan-African network whose mission is to build resilient food systems across Africa through the assessment and creation of food, agriculture and natural resources policies that are both evidence-based and developed in partnership with non-state actors.   
  
We will address research and capacity growth under 3 broad themes: (1) how to make agriculture (and food systems) productive as well as resilient to extreme weather whilst minimising impacts on the environment and maximising its contributions to livelihoods, and food and nutrition (2) as the economic and food-security demands on agriculture change over the next decades, and at the same time weather and climate risks change, what are the feasible ways that agriculture can develop to become more productive in order to meet future needs? (3) how can policy be developed that enables potential sustainable, productive, climate-resilient pathways to be realised in the most inclusive way, thus maximising the contribution of agriculture to achieving the SDGs?   
  
Work will be focused in four countries in SSA: Malawi, Tanzania and Zambia -which are low income countries with varied farming systems - and South Africa, which is an upper middle income country. In each country, research and policy capacity will be built through collaborative partnerships across academic institutions, non-governmental organisations, and policy makers. Through FANRPAN and Chatham House' s inter-governmental policy expertise and platforms, we aim to generate lessons learned from our case-study countries and disseminate them across Africa to contribute to capacity building and evidence-based agricultural transformation through the application of a similar model of evidence into policy in other African countries, and at the regional level.

**Name:**  Professor Ya Ping Wang

**Organisation:** University of Glasgow

**Email:** YaPing.Wang@glasgow.ac.uk

**Project Title:** GCRF Centre for Sustainable, Healthy, and Learning Cities and Neighbourhoods (CSHLH)

**Attendee Bio:**  Professor Ya Ping Wangis Chair in Global City Futures at University of Glasgow and a Fellow of Academy of Social Sciences (FAcSS). He was Professor in Urban Studies at Heriot-Watt University from 2008 to 2012, and Head of Urban Studies from 2013 to 2015 at Glasgow. Ya Ping’s research on urban development, housing, rural to urban migration in China was supported by the ESRC, DFID, British Academy, British Council, Leverhulme Trust, Lincoln Institute of Land Policy, and a number of funding bodies in China. He is the author of Urban Poverty, Housing and Social Change in China (Routledge, 2004), co-author of Housing Policy and Practice in China (Macmillan, 1999) and Planning and Housing in the Rapidly Urbanising World (Routledge, 2007). He currently leads two research projects on China’s urban transformation, both jointly funded by the ESRC and Chinese funding bodies.

**Project Summary:** Urbanisation can help drive sustainable development. However, within cities, poverty and inequalities are at their most acute, and in lower- and middle-income countries, rapid growth due to rural-urban migration poses challenges of global proportions. Global urban policies for developing countries tend to operate at a very general level; research and understanding of urbanisation are fragmented and mainly focused on the conditions and life in slum areas. Sustainable development debates tend to concentrate at high levels and emphasise the physical and environmental aspects of urbanisation. We know very little about the social, economic and physical structures of fast growing cities in developing countries and how they are changing, especially at neighbourhood level. Apart from slums, there are many different types of urban neighbourhoods emerging in fast growing cities. Some are successful and sustainable, which offers inspiration for slum dwellers.   
  
Our approach to the dualities of urbanisation recognises the complex inter-relationships between sustainable cities, education and health, at the level of the urban neighbourhood. Sustainable cities depend on a population with the resilience and resources that health brings, and on relevant learning. Equally, access to healthcare and quality education depend on the sustainable development of cities and the neighbourhoods within them.  
  
The overall aim of our Centre is to grow research capacity in both developing countries and the UK through a series of training programmes/workshops and by means of multi-disciplinary and comparative studies of urbanisation and the formation and differentiation of neighbourhoods in urban areas, in order to address the challenges of urbanisation and large scale rural to urban migration in Africa and Asia. This programme draws on strong interests in and academic connection to developing countries at the University of Glasgow. It brings together a multi-disciplinary academics (including urban studies, health and wellbeing, and education) and international experts from seven developing countries (South Africa, Rwanda, Tanzania, India, Bangladesh, Philippines and China) to form an international urban research centre and a new consortium to facilitate and implement capacity strengthening training and knowledge exchange activities. The capacity strengthening programme will consist of both vertical flows of ideas from international knowledge base to developing countries, but also horizontal learning and knowledge exchange between developing countries, especially between the BRICS countries and the others. It will also conduct large scale cross-country comparative studies of urban neighbourhood dynamics. The research programme will adopt a common research framework in all seven countries (and 14 case study cities) to develop new research methods and techniques through four work packages. Our capacity enhancing, research activities and impact activities will extend beyond the research teams and partner institutions to involve local and national policy makers, academics based in other institutions, and relevant NGOs and private sector actors.  
  
Understanding how socio-economic changes, particularly migration, are driving the social and spatial structures of cities and shaping the lived experience of residents is an essential foundation for planning urban public services and finding forms of social organisation that are beneficial to welfare and stability. This is particularly relevant to policy makers as they move into a new phase of urban development where quality of life and social cohesion are increasingly important, and where urban economic competitiveness can no longer rely on low wages and cheap products. The research will identify urban planning and public service change as it relates to urban neighbourhoods and position this alongside an in-depth study of daily experiences of neighbourhood life.