

## Knowledge Frontiers: International Interdisciplinary Research Projects 2019

### List of Award-Holders

**Reference:** KF3/100047

**PI:** Dr Ann Kelly, King's College London

**Value:** £48,366

**Title:** Entomological Happenings: Exploring Collaborative Design Solutions for Sustainable Mosquito Control

**Abstract:** Mosquito-borne diseases represent one of the most dynamic frontiers of public health research and intervention. Climate change, population growth, rapid urbanisation and insecticide resistance are amplifying the global risk of pathogen-carrying mosquitoes. This project explores a reconfiguration of knowledges and disciplinary skills to meet this ever-evolving challenge and, in the process, develop new modalities of spatial design thinking under conditions of material precarity. Bringing together international and local entomologists, architects, social scientists, public health specialists, engineers and artists, the project will model novel strategies to tackle the wicked problem of mosquito control in Tanzania and Brazil. The team draws upon long-term interdisciplinary collaborations in these two countries and award-winning work in sustainable design to formulate integrative methodologies and operational frameworks for community-driven innovation. Through a series of 'entomological happenings', the researchers will design and build prototypes to help address the fraught connections between disease risk, makeshift housing and urban water management.

**Reference:** KF3/100167

**PI:** Dr Pamela Katic, University of Greenwich

**Value:** £49,500

**Title:** Enhancing Value Added Products and Nutritional Benefits from Agroforestry Systems

**Abstract:** Agroforestry has potential to slow tropical deforestation and contribute to local and global diets. Despite its promise, agroforestry currently occupies a relatively small area compared to more extensive land uses. This project will integrate natural and social sciences with local knowledge to co-develop strategies and technologies to add value to primary products from agroforestry crops grown by indigenous communities in tropical rainforests. The project will work with communities in the Peruvian Amazon to demonstrate the value of an interdisciplinary approach to generate value-added agroforestry products to improve livelihoods and nutrition in indigenous communities and curb deforestation.

**Reference:** KF3/100195

**PI:** Professor Tim Allen, London School of Economics and Political Science

**Value:** £49,964

**Title:** Living the Everyday in the Context of Ebola: a Study of Health and Social Interactions at Uganda's Borders

**Abstract:** 'Living the everyday' principally addresses how social relations and everyday life affect knowledge and management of sickness, including and beyond Ebola. This research focuses on the West Nile sub-region of Uganda (areas situated directly on the Uganda/Democratic Republic of Congo and Uganda/South Sudan border). Recently, these borders have come to the attention of international experts, under the guise of Ebola-preparedness efforts following the spread of the epidemic from North Kivu, DRC. Yet, little is known about everyday social relations, movement and health-seeking across these spaces. 'Living the everyday' deploys extensive interdisciplinary expertise in the region, along with novel international partnerships, to provide much needed, urgent perspectives on health-seeking.

**Reference:** KF3/100111

**PI:** Dr John Child, University of Birmingham

**Value:** £49,948

**Title:** Understanding the 'Fault' in Prior-Fault Intoxication: a Pathway to Criminal Law Reform

**Abstract:** This project integrates legal and neuroscientific methods to tackle a long-standing, complex problem in legal philosophy and doctrine: defining 'fault' in the criminalisation of intoxicated harm-causers. Where an intoxicated defendant causes harms, current intoxication rules may create liability even where the defendant lacks the foresight/intention required for the crime charged; criminalising accidental and/or mistaken behaviour 'as if' specific foresight was present. This approach has operated in the UK for over a century, and across much of the common law world. However, it is now dangerously out-of-step with the prevailing norms of modern liberal justice systems internationally. To respect defendants' autonomy, we must identify and justify the criminalisation of specified wrongful choices and/or behaviour. There is intuitive logic to the idea that intoxicated defendants should sometimes be criminalised despite a lack of foresight/intention when causing harms, but this intuition requires unpacking to avoid the mislabelling and over-criminalisation evident within current systems.

**Reference:** KF3/100126

**PI:** Dr Tania Lisboa, Royal College of Music

**Value:** £49,993.82

**Title:** Managing the Psychosocial Needs of Families Affected by ZIKA Virus: Exploring the Impact of Music as a Social Tool

**Abstract:** The international crisis related to the outbreak of the Zika virus (ZIKV) in Brazil (2015) resulted in thousands of babies being born with severe disabilities. These children are now at a crucial stage of development, making it timely to introduce psychosocial interventions to support both children and their parents. Hospitals in Brazil are responding with volunteer rehabilitation programmes, but there is a striking lack of underpinning research. This project meets this gap through a UK-Brazil partnership that builds on the now robust evidence that music is a powerful tool for improving psychological and social well-being. The research will adopt a mixed methods approach to study the effects of singing on mother-child closeness and well-being in families affected by ZIKV in Brazil. Findings will feed back into hospital practices and be made available to practitioners and clinicians throughout South America, supporting families affected by ZIKV to reintegrate into society.

**Reference:** KF3/100152

**PI:** Dr Adrian Howkins, University of Bristol

**Value:** £50,000

**Title:** Antarctic Mosaic: an Environmental History of the McMurdo Dry Valleys

**Abstract:** The McMurdo Dry Valleys (MDV) are the largest ice-free region in the Antarctic continent and have become an important centre for scientific activity. Since the early 1970s, the region has been at the forefront of debates over the environmental protection of the Antarctic continent and in 2004 the MDV became an Antarctic Specially Managed Area (ASMA). The management plan for the MDV ASMA will be reviewed in 2020. Coming at a time when anthropogenic climate change is exacerbating the challenges of environmental management, this project offers an opportunity for an interdisciplinary team of historians, human geographers and scientists to work collaboratively with environmental managers to incorporate insights from the humanities and social sciences into the environmental management of the MDV by a) outlining the history of environmental protection, b) providing historical 'data' about past human activity (environmental impact) and c) writing historically informed policy briefs.

**Reference:** KF3/100107

**PI:** Dr David Reubi, King's College London

**Value:** £49,553.75

**Title:** Cartographies of Cancer: Measuring and Mapping Disease in Sub-Saharan Africa

**Abstract:** International initiatives to map health and disease in Africa have multiplied in recent years. The epidemiological maps produced through these initiatives are critical to the evidentiary and accountability regimes that dominate contemporary global health, bringing to light neglected issues and determining which interventions work. This project aims to shed light on these maps that have become so critical but about which we know so little. In collaboration with epidemiologists and drawing on insights from science and technology studies, the project examines the socio-technical infrastructures and political rationales that underpin these maps as well as the understandings of disease and Africa that these maps bring into being. Specifically, it explores these issues through an archival and ethnographic analysis of an influential cartographic effort with a troublesome colonial past: the cancer maps of Africa produced by the International Agency for Research on Cancer and its network of cancer registries across the continent.