



## Members of the IUCN Task Force on Synthetic Biology and Biodiversity Conservation

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### Kent Redford



Kent is Principal at Archipelago Consulting ([archipelagoconsulting.com](http://archipelagoconsulting.com)) established in 2012 and based in Portland, Maine, USA. Archipelago Consulting was designed to help individuals and organizations improve their practice of conservation, and has worked with the Global Environment Facility, U.S. National Park Service, Moore Foundation, MacArthur Foundation, Packard Foundation and the American Zoo and Aquarium Association amongst others. Prior to Archipelago Consulting Kent spent 14 years at the Wildlife Conservation Society (WCS) in New York. Previously he spent five years as head of Science and Stewardship in The Nature Conservancy's

Latin American Division. He started his career with a decade on the faculty at University of Florida where he co-founded the Program for Studies in Tropical Conservation and the Tropical Conservation and Development Programs. He received his Ph.D. in Biology from Harvard University and has written numerous articles and books on synthetic biology and conservation, national parks, local peoples, conservation, and wildlife. He has organized and co-organized four meetings bringing together conservation biologists and synthetic biologists to discuss the future of nature in an increasingly synthetic world and currently serves as Chair of IUCN's Task Force on Synthetic Biology and Biodiversity Conservation.

### Elizabeth Bennett



Elizabeth Bennett is the Vice President for Species Conservation at the Wildlife Conservation Society (WCS). She received her Ph.D. from Cambridge University for research on the ecology of primates in Peninsular Malaysia. She moved to Sarawak in 1984, and worked there for the next 18 years. This started by conducting the first ever detailed field study of the proboscis monkey, followed by studies of the effects of hunting and logging on wildlife. Her time in Sarawak culminated in her leading a team, with WCS and Sarawak Government staff, to write a comprehensive wildlife policy for the State, and subsequently to head a unit within the Government to oversee its

implementation. After that, she became Director, Hunting and Wildlife Trade Program at WCS. This included working with WCS field staff to develop strategies to address the bushmeat trade in Central Africa and the illegal wildlife trade in China. Her current role involves overseeing WCS's species conservation programmes globally. Liz has trained wildlife practitioners at many levels, including post-graduate students and government wildlife staff in Sarawak, Sabah, Myanmar and China. She has published widely, with more than 130 scientific and popular publications. Her services to conservation have been recognized by her being awarded the "Golden Ark" award by Prince Bernhard of the Netherlands, "Member of the Most Excellent Order of the British Empire" (MBE) by Her Majesty Queen Elizabeth II, D.Sc. (*honoris causa*) by Nottingham University, UK, and Merdeka Award for Outstanding Contribution to the People of Malaysia.

### Jason Delborne



Jason A. Delborne, PhD, is Associate Professor of Science, Policy, and Society in the Department of Forestry and Environmental Resources at North Carolina State University. Delborne joined NC State in August 2013 as part of the Chancellor's Faculty Excellence Program in Genetic Engineering and Society. Delborne's research focuses on challenges and potentials in public and stakeholder engagement surrounding emerging biotechnologies. Drawing upon the highly interdisciplinary field of Science, Technology, and Society (STS), he engages various qualitative research

methodologies to ask questions about how policymakers and members of the public interface with controversial science. Delborne holds a bachelor's degree in human biology from Stanford University (1993) and a doctorate in Environmental Science, Policy, and Management from the University of California, Berkeley (2005). Delborne recently served on the National Academies of Sciences, Engineering, and Medicine (NASEM) committee on gene drive research, which released its report, *Gene Drives on the Horizon*, in June, 2016. He is currently serving on another NASEM committee focused on the potential for biotechnology to address forest health.

## Hilde Eggermont



Hilde is a biologist by education, and completed 10 years of postdoctoral research in paleolimnology (Afrotropics). Since 2012, she is coordinator of the [Belgian Biodiversity Platform](#), a science-policy interface for biodiversity and ecosystem services in Belgium. I am acting as Belgian focal point for the Intergovernmental Platform for biodiversity and ecosystem services ([IPBES](#)), and Vice-Chair of the [BiodivERsA Partnership](#) (a network of 35 national and regional funding organisations promoting pan-european research on biodiversity and nature-based solutions). Hilde is also Belgian focal point for IUCN, member of the IUCN European Policy Advisory Group (EUPAG), and IUCN Regional Councilor for Western Europe. Her main interests/expertise include science-policy interfacing, research programming and promotion, and horizon scanning activities (some 40+ peer-reviewed papers).

## Drew Endy



Drew Endy is a member of the bioengineering faculty at Stanford University and BioBricks Foundation president ([biobricks.org](#)). His research teams pioneered amplifying genetic logic, rewritable DNA data storage, reliably-reuseable standard biological parts, and genome refactoring. Drew helped launch the new undergraduate majors in bioengineering at both MIT and Stanford; he also co-founded the iGEM competition, a global genetic engineering “olympics” now engaging over 6,000 students annually ([igem.org](#)). In 2013 the White House recognized Drew for his work on open-source biotechnology and, more recently, he received an honorary doctorate from the

Technische Universiteit Delft. Drew has served on the US National Science Advisory Board for Biosecurity and the Committee on Science, Technology, & Law; he currently serves on the World Health Organization’s Smallpox Advisory Committee. Drew lives in Menlo Park, California with Christina Smolke (Stanford colleague & Antheia, Inc., CEO), their two boys, and two cats. Drew was a co-founder of Gen9, Inc., a DNA construction company; he returned to serve as a director while Gen9 was successfully acquired. Drew worked briefly with the Rapid Evaluation team at Google [X] and also served on the building project team for the Shriram Center at Stanford. He is a founding co-director of the NIST/Stanford Joint Initiative for Metrology in Biology ([jimb.stanford.edu](#)). Esquire magazine recognized Drew as one of the 75 most influential people of the 21st century.

## Ann Kingiri



Ann Kingiri is a Senior Research Fellow, Science/Technology & Innovation/Research Director at the African Centre for Technology Studies in Nairobi, Kenya. Ann has been pursuing interdisciplinary research on integrated approach to agricultural development and innovation with relevance to Africa’s inclusive and sustainable development. As a Senior Research Fellow, she continues to pursue policy oriented research in STI, agriculture and bioenergy, including climate change and gender as cross cutting themes. Previously as a Research Fellow under the research into use (RIU)

programme, she pursued collaborative research that focused on institutional and organisational change aimed at linking knowledge production to use for pro-poor development in Africa and Asia. During this period, she also carried out research that focused on agricultural bio-policy. Ann has worked with various policy actors mainly in East Africa to provide technical & regulatory advice on genetically modified biosciences applications. She continues to work with selected African governments to build capacity on innovation and development. Ann has been supporting the development of national biosafety regulatory frameworks in East Africa as a consultant. Ann has been co-supervising four PhD students and one Master student. She is also providing mentorship to several postgraduate students in the area of STI and biosciences policy.

## Bart Kolodziejczyk



Bart Kolodziejczyk is a nanoscientist whose portfolio includes two biotech startups and three not-for-profit organizations. Bart holds two PhDs in nanotechnology and bioelectronics along with three masters. He is known for his advocacy in issues related to synthetic biology and nanowaste. He has advised the UN, NATO, OECD, G20, and EU on science, technology, innovation, and policy and was named one of MIT Technology Review’s Innovators Under 35 for his conductive polymers, which can be applied in medicine and bio-sensing. Dr. Kolodziejczyk was featured as one of 100 Visionary Leaders by Real Leaders Magazine together with Malala Yousafzai. Bart has

appeared in numerous publications, including Forbes Magazine, Business Insider, MIT Technology Review and Science Magazine, as well as many newspapers and radio stations in the US, Australia, Poland and abroad. Kolodziejczyk is an active Member of the Global Young Academy and IUCN, Fellow of the Royal Society of Arts and Fellow of the Linnean Society of London. In his free time, Kolodziejczyk enjoys traveling and scuba diving.

### **Todd Kuiken**



Dr. Todd Kuiken is a Senior Research Scholar with the Genetic Engineering and Society Center at NC State University where he explores the scientific and technological frontier, stimulating discovery and bringing new tools to bear on public policy challenges that emerge as science advances. He previously was the principal investigator on the Woodrow Wilson Center's Synthetic Biology Project. He has numerous projects evaluating and designing new research and governance strategies to proactively address the biosafety, biosecurity and environmental opportunities/risks associated with emerging genetic technologies; including a project to ensure safety and

security within the rapidly expanding community of amateur biologists and the growing network of community laboratories and maker spaces. Dr. Kuiken is a member of the United Nations Convention on Biological Diversity Ad-Hoc Technical Expert Group on Synthetic Biology. He has also worked with the United Nations Treaty for Plant Genetic Resources for Food and Agriculture to assess whether dematerialization and digitization of data will affect the structure, function and viability of the Treaty. He is also a member of the executive committee on human practices for the International Genetically Engineered Machines competition and a founding member of its biosafety/biosecurity committee. He received a B.S. in Environmental Management and Technology at Rochester Institute of Technology, an M.A. in Environmental and Resource Policy from The George Washington University and earned his Ph.D. from Tennessee Tech University where his research focused on the air/surface exchange of mercury associated with forest ecosystems.

### **Aroha Mead**



Aroha Te Pareake Mead (Ngati Awa, Ngati Porou) is a Research Associate currently working in two of New Zealand's National Science challenges. She is on the Kahui Maori (governance body) for the Deep South Climate Change Challenge, and, is a researcher in the Biological Heritage National Challenge, Mataranga Maori (indigenous knowledge) and Biodiversity project. She is also on the Kahui Maori for the Genomics Aotearoa Platform, and lead author of the paper 'Maori Perspectives and Gene-Editing' which has been widely distributed in NZ as Maori communities and organisations discuss whether gene-drive technology should be included as one of the

tools in NZ's Predator Free 2050 goal and for other purposes. Aroha has been involved in research and policy relating to indigenous peoples, traditional knowledge, intellectual property issues and genetic research for over thirty years, publishing many papers including Co-Editing the publication, Pacific Genes and Life Patents. She is particularly interested in public engagement in emerging technologies and establishing social and cultural licences for research and policy.

Aroha was elected by the World Conservation Congress to Chair the IUCN Commission on Environmental, Economic & Social Policy in 2008 and re-elected for a second term in 2012. She retired from that role in 2016.

### **Sonia Peña Moreno**

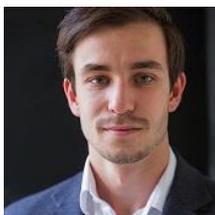


Sonia Peña Moreno is a Colombian and Italian national. For the last fifteen years she has been working at the Headquarters of IUCN – International Union for Conservation of Nature, in Gland, Switzerland. At IUCN she is currently working as the Coordinator - Global Biodiversity Policy and Governance within the Global Policy Unit (GPU) where she coordinates IUCN's biodiversity policy work, mainly in the context of the Convention on Biological Diversity (CBD), but also with respect to other biodiversity-related conventions and agreements. In this role, she has followed the CBD processes for the last ten years

organizing IUCN's participation and engagement in the Convention in general and in the negotiations that lead to the adoption of the Nagoya Protocol on Access and Benefit Sharing and its subsequent follow-up in particular.

She holds professional degrees on Political Science and Modern Languages from the University of Los Andes in Bogota, Colombia. After having worked for two years at the Ministry of Environment of Colombia in the office that provided advice to the Minister on international cooperation issues, she travelled to Switzerland to continue her postgraduate studies at the Graduate Institute of International Studies in Geneva where she finished a Master on International Relations in 2002. She recently completed an Executive Certificate on Environmental Governance from the same Graduate Institute in Geneva. Sonia is married, has two children and lives in France. She speaks Spanish (Mother Tongue), is fluent in English and French and understands some Italian.

### **Edward Perello**



Edward Perello is co-founder and Chief Business Officer of Desktop Genetics, an international provider of CRISPR genome editing libraries for functional genomics and drug discovery. Edward has expertise in genome editing and synthetic biology, communications, product development and biosecurity. He is ELBI Biosecurity Fellow and a SynBio LEAP fellow. He currently serves on the IUCN Synthetic Biology Taskforce. He formerly co-chaired the iGEM software track, and was the UK Ambassador for Hello Tomorrow. In 2017 he was listed on the Forbes 30 Under 30 in Tech in Europe and nominated to the Kairos 50. Edward has also worked for the EU Science and Technology section in Washington DC, and on the national implementation team at the arms control charity, VERTIC. Edward holds a BSc in Bioveterinary Science from London's Royal Veterinary College and an MPhil in Bioscience Enterprise from the University of Cambridge. His research interests include the governance and policy of biotechnology, in particular, the oversight of human genome editing, and the development of appropriate governance frameworks for conservation biotech.

### **Cyriaque Sendashonga**



Cyriaque Sendashonga is Global Director of IUCN's Policy and Programme Group. She is a biologist by training, holder of a Master of Sciences and PhD degrees in Zoology from the Free University of Brussels (Belgium). Cyriaque's career has focused on natural resources management, encompassing both research and development perspectives. She has previously worked at the United Nations Environment Programme (UNEP) in Nairobi where she was responsible for biodiversity and biotechnology issues in the framework of the programme to support the implementation of the Convention on Biological Diversity (CBD). In 1998, she moved to Montreal, Canada, to head the Biosafety Programme at the Secretariat of the CBD. In that capacity, she coordinated the final round of the negotiation of the Cartagena Protocol on Biosafety and its subsequent implementation. In 2006, Cyriaque joined CIFOR (Centre for International Forestry Research) as Regional Coordinator for the Central Africa Regional Office based in Yaoundé, Cameroon. She joined IUCN in September 2010.

Cyriaque is the author and co-author of many publications on environmental issues and she is a Fellow of the World Academy of Art and Science. She has also served on a number of prestigious international scientific panels, committees and initiatives.

### **Risa Smith**



Risa Smith is an ecologist who has worked on the science/policy interface for most of her career, first as Head of State of Environment Report with the Government of British Columbia and more recently with the Government of Canada. Since Oct. 21, 2017, Risa has been Co-Chair of the IUCN, World Commission on Protected Areas (WCPA), Protected Areas Climate Change Specialist Group. In that capacity, Risa is lead author for a new publication Policy and Guidelines for Protected Areas Managers on Climate Change Mitigation and has just completed work on Ensuring Co-Benefits for Biodiversity, Climate Change and Sustainable Development. Risa represents WCPA on the IUCN Climate Change Task Force as well as the Synthetic Biology Task Force. In her previous capacity as the Canadian national focal point for the Convention on Biological Diversity (CBD), Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), Risa was the Canadian lead for CBD discussions on synthetic biology from 2012-2015. After approximately 50 hours of contact groups on synthetic biology at the CBD, Risa has been engaged in most of the early CBD discussions on synthetic biology.

Risa has extensive experience in translating science for policy-makers. Some of the many publications she has had a lead role in include: Canadian Biodiversity: Ecosystem Status and Trends 2010, Arctic Biodiversity Assessment, Arctic Biodiversity Trends 2010: Selected Indicators of Change.

### **Simon Stuart**



Simon is Conservation Director at Synchronicity Earth, having recently retired as Chair of the Species Survival Commission (SSC) for the International Union for Conservation of Nature (IUCN). The SSC is a science-based network with more than 7,500 experts (mostly volunteers) from all over the world who give their time through Specialist Groups, Red List Authorities and Task Forces. SSC's major role is to provide information to IUCN on biodiversity conservation, the inherent value of species, their role in ecosystem health and functioning, the provision of ecosystem services, and their support to human livelihoods. Simon has undergraduate and doctoral degrees

from the University of Cambridge, with fieldwork in Tanzania and Cameroon. He has over 25 years of experience with the IUCN and the SSC. Simon started work on the African Bird Red Data Book in 1983. He joined the IUCN Secretariat in 1986, and was Head of the Species Programme (1990-2000), Acting Director General (2000-2001), Head of the Biodiversity Assessment Unit (2001-2005), and Senior Species Scientist (2005-2008). He was elected as Chair of the SSC at the IUCN World Conservation Congress in Barcelona in October 2008. Simon has been instrumental in the species conservation movement, working on a number of global initiatives such as the Millennium Development Goals Biodiversity Target and the Convention on Biological Diversity. Simon has also produced numerous high impact reports and books.

### **Delphine Thizy**



Delphine Thizy is the Stakeholder Engagement Manager of Target Malaria, a non-for-profit consortium of researchers developing an innovating vector control approach to save millions of lives from malaria. She has over 10 years of experience in the field of stakeholder engagement in lower-income countries, with a particular attention on conflict drivers. After receiving her Master's Degree in development studies and project management from the University Pierre Mendes France (Grenoble, France), she worked in advocacy for Palestinian farmers' rights before holding several positions within PlaNet Finance in the Middle East and South Asia. There she was responsible

for technical assistance to microfinance institutions in post-conflict countries as well as leading a team for capacity strengthening of various civil society groups.

Afterwards she joined a consultancy company, Channel Research, specialising on social impact of projects. In that role she conducted a number of projects evaluations in the field of humanitarian aid and development for a variety of donors and organisations – including the European Commission, members of the Red Cross and Red Crescent Movement and private foundations. After creating her own consultancy company she specialised in social performance and stakeholder engagement for infrastructure and extractive industries. She led several teams for large social impact assessments across Africa.

Since 2014 she became the Stakeholder Engagement Manager of Target Malaria and works with teams in Mali, Uganda and Burkina Faso, as well as at the global level to engage stakeholders to co-develop and share an innovative long-term, sustainable and cost-effective vector control technology.

### **Dan Tompkins**



Dan Tompkins leads the science strategy for Predator Free 2050, New Zealand's initiative to eradicate invasive predators for the benefit of native biodiversity, as the Project Manager for Predator Free 2050 Ltd. Dan is a Member of the New Zealand National IUCN Council and the IUCN Invasive Species Specialist Group, and is an Honorary Professor at the University of Otago.

An ecologist and epidemiologist by training, with degrees from Cambridge University and the University of Oxford, Dan's past research includes: exploring novel high-tech approaches to pest control (including the 'Trojan Female Technique' approach to fertility control); understanding the interactions among species in the New Zealand mammal pest community; demonstrating the efficacy of oral BCG vaccination for TB control in brushtail possums; and demonstrating the role of shared diseases in native species declines (including the UK red squirrel)

## Wei Wei



Dr. Wei Wei received his PhD degree from the Institute of Botany, Chinese Academy of Sciences and worked on biosafety of transgenic technology and biodiversity conservation for nearly two decades. He has published 35 English papers in Science Citation Indexed journals and many others in Chinese language. He now acts as one Executive Secretary of the China Agro-Biotechnology Society on biosafety issues. Dr. Wei became an expert member of the Ad Hoc Technical Expert Group on Risk Assessment and Risk Management of the Convention on Biological Diversity of the United Nations since 2008. In Nov 2015 and April 2016, He participated in the SBSTTA negotiation on synthetic biology served as a member of China delegation at the SBSTTA conferences held in Montreal, Canada. He is currently involved in the online forum discussion on synthetic biology and its environmental/social implication. He is also an active Commission member of the IUCN SSC Crop Wild Relative Specialist Group since 2013.

*\*Anne-Gabrielle Wüst-Saucy will actively join the IUCN Task Force on Synthetic Biology and Biodiversity Conservation from 2019.*