World Congress of Herpetology

Plenary Speakers

Indraneil Das, Universiti Malaysia Sarawak, Malaysia
Ethnoherpetology: Perspectives and Conservation

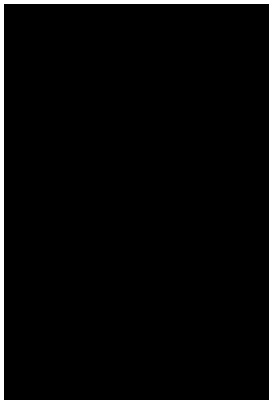
Professor Indraneil Das works with the Institute of Biodiversity and Environmental Conservation, based at Universiti Malaysia Sarawak. Located in the heart of the SE Asian tropics, his research group works on a variety of topics, from herpetological systematics, to community ecology, and conservation biology, to the history of natural history. We use state-of-the-art technologies for field studies, including automated weather stations, acoustic recorder stations, remote sensing, drones for aerial surveys, underwater sonar for subaerial biodiversity, radiotelemetry and other tracking devices. These (and other) activities of the group are supported by Fundamental Research Grants from the Ministry of Higher Education, Government of Malaysia, Shell Chair, Conservation International, United Nations Development Programme / Global Environmental Facility, The Mohamed bin Zayed Species Conservation Fund, Volkswagen Stiftung and the National Geographic Society.

Paula Cabral Eterovick, Pontifícia Universidade Católica de Minas Gerais, Brazil
A Challenging World for Frogs

Dr. Paula Cabral Eterovick is currently interested in the distribution of frogs and the interactions between tadpoles and their predators. She has studied frogs for over 10 years focusing on varied subjects from natural history to population genetics, which has resulted in over 50 peer-reviewed publications. She is very familiar with mountaintop ecosystems of the southern Espinhaço Mountain Range in southeastern Brazil, a biodiversity hotspot that represents a transition between the Atlantic Forest and the Cerrado. She authored a widely used field guide for the amphibians of the Serra do Cipó, a region of the Espinhaço, and described a new species from there. She received her PhD (’02) from the Ecology, Conservation, and Wildlife Management program at the Universidade Federal de Minas Gerais, where she now advises PhD students as a collaborator. Currently she is an Associate Professor at Pontifícia Universidade Católica de Minas Gerais where she teaches courses in ecology, zoology, and genetics to graduate and undergraduate biology students and environmental science to engineering students. She participated in national and international conservation workshops that produced lists of threatened species (including the IUCN list for amphibians), maps of priority areas for conservation, and future directions for the study of tadpoles. She has collaborated with researchers from Australia and the United States and has lead several funded projects involving students from different levels,

most recently on using environmental DNA as a tool to understanding the distribution of frogs.

Francesco Ficetola, University of Grenoble-Alpes, France
What Determines Biogeographical Patterns of Amphibians and Reptiles: The Past, the Present and the Humans



Dr. Francesco Ficetola is a research scientist at the Alpine Ecology lab in France, and he has a multidisciplinary background in both modelling and genetics. He tries to combine these two approaches to better understand how environmental systems change, which factors determine their modifications, and which are the consequences across multiple spatial and temporal scales. His current research activities include: 1) Studying the factors that determine the biodiversity of amphibians and reptiles at broad spatial scale (e.g. macroecological biogeographical); 2) Evaluating how evolutionary processes can be integrated into macroecological analyses; 3) Improving our understanding of biological invasions of amphibians and reptiles, and of their impact on native species; 4) Identifying strategies for amphibian conservation at the local, landscape and national scales scale. When he was 10 years old, newts saved his life, therefore amphibian conservation is a major commitment for him. 5) Using Environmental DNA (eDNA) for the study of impact of human activities on present and past biodiversity. In the long term, he would like to integrate the eDNA-analysis of ecosystems, which provide lot of information over fine spatial scales, with the macroecological approach, in order to obtain results that are more general and that can be applied over broader areas. Despite most of my research activities have been performed in Europe, He is increasingly interested in the study of tropical and sub-tropical ecosystems in Asia and South America.

Yiming Li, Institute of Zoology, Chinese Academy of Sciences, China
Dynamics of Species Range: Roles of Climate, Topography and Human Activities

Professor Yiming Li is the head of Diversity and Spatial Ecology Research Group, Institute of Zoology, Chinese Academy of Science. He is interested in ecology and conservation biology of amphibians and reptiles, and macroecology of terrestrial vertebrates, particularly in causes for population declines of amphibians, alien herpetofauna invasions, effects of long-term habitat fragmentation and climate change on the population declines, and shifts in range and life-history traits of amphibians. His group has worked with a diversity of taxa, driven by interesting and general questions across different taxa from local to global scale. He uses multiple approaches and methods, including field survey, mesocosm experiments, mathematical models and molecular technologies, to understand ecology and conservation biology of amphibians and reptiles. His field work covers Northern, Eastern and Western China, mainly focusing on island biogeography of amphibians in coastal

islands and nearby mainland in Zhejiang, macroecological pattern of amphibians and reptiles, invasion biology of invasive American bullfrog, and distribution, spread, phylogenetic and impacts of chytrid fungus infecting amphibians in China. He has published more than 90 scientific papers or book chapters. He currently is the member of the Endangered Species Scientific Commission, The People's Republic of China and the vice president of Chinese Herpetological Society. He is also an associate editor of *Current Zoology*, editorial board member of *Integrative Zoology* and *Biodiversity Sciences*.

Hidetoshi Ota, University of Hyogo, Japan
Systematics and Biogeography of the East Asian Herpetofauna, with Emphasis on the Recent Contributions from the Molecular, Cytogenetic, and Fossil Studies

Professor Hidetoshi Ota is Director/Professor, Institute of Natural and Environmental Sciences, University of Hyogo, and Vice-Director, Museum of Nature and Human Activities. Since he first got at the inventory project for the herpetofauna of the Ryukyu Archipelago in 1981, he has been working on the current status, historical bearings, and conservation of diversity in reptiles and amphibians of the tropical, subtropical, and temperate East Asia, insular regions in particular. To the present, results have been published as over 250 peer-reviewed journal articles and book chapters. On the coming opportunity, he would like to review research results of his colleagues and himself, with special reference to contributions of molecular, cytogenetic, and fossil data.

Corinne Richards-Zawacki, University of Pittsburgh, USA
Selection and the Evolution of Warning Color Diversity in the Strawberry Poison Frog

Dr. Corinne Richards-Zawacki is an Associate Professor at the University of Pittsburgh and the Director of the Pymatuning Laboratory of Ecology. Her research lies at the intersection of ecology and evolutionary biology in that she approaches questions about how changes in climate and habitat shape organisms and communities in a way that considers their evolutionary implications. Her work often integrates studies of molecular, morphological, ecological, and behavioral variation. She focuses mainly on amphibians because their diversity provides an exciting backdrop for exploring the interplay between ecology and evolution across a wide range of spatial and temporal scales. The questions she asks address: (1) how climate and host/pathogen evolution shape the dynamics of wildlife diseases (2) the effects of changes in climate on species distributions and diversity (3) how reproductive isolation evolves during speciation and (4) the natural history and conservation of endangered amphibians. Current projects in my lab are focused on the roles of natural and sexual selection in the evolution of color variation in the strawberry poison frog (*Oophaga pumilio*), the role of climate and climate change in shaping the risk that

chytridiomycosis poses to North American amphibians, and how Panamanian amphibians are managing to survive and, in some cases, perhaps even begin to recover a decade after a chytridiomycosis epizootic.

Kate Sanders, University of Adelaide, Australia
Rapid Radiation and Speciation of Sea Snakes

Dr. Kate Sanders is a Senior Lecturer at the University of Adelaide, Australia. Her research group focuses primarily on trait evolution and speciation in viviparous sea snakes. Current projects involve: 1) phylogenetic and population genomic approaches to understanding the biogeographic origins of sea snake diversity in the Indo-Australian marine biodiversity hotspot; 2) reconstructing morphological evolution in sea snakes, especially the remarkably frequent origin of 'microcephalic' burrowing-prey specialists and possible role in promoting reproductive isolation and rapid species diversification; 3) the evolution of sensory systems in the transition to aquatic habitats in snakes, including transcriptomic studies of tail (skin) photoreception and vomeronasal gene family evolution. Kate's research has a substantial fieldwork component focused primarily in Indonesia and Western Australia. This has led to the discovery of new species, and generated ecological and distributional data that have contributed to conservation assessments. She co-chairs the IUCN/SSC Sea Snake Specialist Group. Kate also teaches courses in evolutionary and conservation biology and coordinates the Bachelor of Science (Wildlife Conservation Biology) at the University of Adelaide.

Barry Sinervo, University of California, Santa Cruz, USA
The Sixth Mass Extinction is Underway: The Current Reptile and Amphibian Biodiversity Crisis Compared to Extinctions over the Past 200 Million Years

Professor Barry Sinervo is an evolutionary biologist who conducts research on Behavioral Ecology, Game Theory and the Biotic Impacts of Climate Change. He received his HBSc from Dalhousie University with a double major in Mathematics and Biology, PhD from, University of Washington, and was a Miller Research Fellow at the University of California, Berkeley. Early in his career he discovered the first biological example of the rock-paper-scissors game, played out in nature by the side-blotched lizard. He is co-author with Dan Friedman of a book (2016) entitled: "Evolutionary Games in Natural, Social and Virtual Worlds". He is currently researching contemporary extinctions of reptiles and amphibians and changes in plant communities driven by climate change, at sites distributed on five continents, leading a multinational research team of scientists developing physiological models of the biotic impacts of climate change on diverse biological systems, and measuring the biotic impacts of climate from equatorial sites to polar regions. He also

runs an REU sites program (co-PI with Laurel Fox) at UC Santa Cruz each summer, and gives workshops on climate change science at institutions around the world. He is also Director of the UC-wide Institute for the Study of the Ecological and Evolutionary Climate Impacts, a research consortium funded by a UC Presidential Research Catalyst Award, studying biotic impacts of climate change across the UC Natural Reserve System of California.

Krystal Tolley, South African National Biodiversity Institute, South Africa
Ever Since Gondwana: The Influence of Changing Climate, Fragmenting Forest, and Spreading Savanna on the Biogeography of African Reptiles

Professor Krystal Tolley has been working in the field of African herpetology for 15 years, and has written two books on African chameleons, and numerous peer-reviewed publications. She specialises in phylogenetics, phylogeography and biogeographic studies of African reptiles and amphibians, particularly chameleons. With her co-authors, she has described or elevated many genera and species of chameleons, lizards and frogs. She has participated in and/or led field surveys in South Africa, Namibia, Angola, Mozambique, Malawi and Kenya. She currently serves as the Red List Focal Point for the IUCN Chameleon Specialist Group, and drives the Red listing initiatives, which has ensured that every species of chameleon has been assessed for IUCN. She also leads the IUCN Southern African Regional Reptile Specialist Group. Professor Tolley has an extensive network of collaborators in Africa and Europe who focus on reptile/amphibian biogeography, phylogenetics, taxonomy, ecomorphology and global change/conservation issues. She heads the Molecular Ecology group at the South African National Biodiversity Institute in Cape Town, where she currently supervises postgraduate students, interns, and junior staff. She has led a number of successful research projects involving students and interns plus local and international collaborators. In 2015, she joined the Editorial Board of Journal of Biogeography.