

## KEYNOTE SPEAKERS

*We are happy to welcome the following keynote speakers at the IENE 2018 conference:*

### Ignace Schops

**Ignace Schops** is a Belgian environmentalist, Director of the Belgian NGO Regionaal Landschap Kempen en Maasland (RLKM), President of EUROPARC federation - the largest network on natural heritage in Europe - full member of the EU chapter of the Club of Rome, full member of the Rewilding Europe Circle and council member of the largest nature conservation organization in Flanders, Natuurpunt. Ignace was awarded with the Goldman Environmental Prize in 2008, better known as the Green Nobel Prize for his contributions to the establishment of the Hoge Kempen National Park, the first National Park of Belgium. Since 2008 he was selected as ASHOKA fellow, a world leading social entrepreneur. Due to his international work on biodiversity and social entrepreneurship he became an Honorary Doctor at the Hasselt University in 2011. In 2013 he became

a member of the Climate Leadership Corps of Al Gore and later that year he was decorated as the "Commander of the Order of the Crown" by the Belgian King Filip.

The title of his keynote presentation will be: Connecting the dots to re-connect ourselves. For thousands of years we depend on the vital services of the ecosystems of our planet. Since we entered the era of the Anthropocene our increasing ecological footprint is causing severe problems. The effects of Climate Change and Biodiversity loss are daily reminders that the diversity and the variety of life is falling apart. We are losing our comfort zone! So we need a system change. We need to reflect, rethink and harmonize our behavior and our relationship with the planetary boundaries and translate them into a language everybody can understand and join the essential change. Following nature's design. In



a densely populated region like North-west-Europe we face many problems due to fragmentation. We are lacking real connectivity: for men and for animal and plant species. The way we harmonize transportation and nature can give direction towards a sustainable future. Is it possible to connect the dots and re-connect ourselves? Yes, we can! ■

### Kamiel Spoelstra

**Kamiel Spoelstra** is a behavioural ecologist, and specializes on the impact of anthropogenic activity on natural habitat. He graduated at the University of Groningen (NL), and continued with postdoc positions at Princeton University (US) the Max Planck Institute for Ornithology (DE) and Wageningen University. He currently works as a researcher at the Netherlands Institute of Ecology (NIOO-KNAW, NL), and is interested in the possibilities for mitigating human impact on ecosystems, in particular of (infrastructure) illumination. Recent changes in lighting technology offer promising possibilities for reducing impact, most importantly

the capability for producing custom light spectra. Over the last seven years, Kamiel has run a long-term, experimental large-scale field study and dedicated field and laboratory experiments. These studies cover effects of light on the density of species, and at the individual effects on behaviour and physiology – and consequently on individual fitness. Kamiel is specifically interested in how light at night affects the spatial and temporal behaviour of nocturnal species, and how different species groups interact. Kamiel enjoys the application of new automated data collection systems and writing software for processing data. Furthermore,



he recognizes the power of citizen science based research and has organized courses to train volunteers in field work with mammals. >

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The title of his keynote presentation will be: The impact of infrastructure lighting: spectrum dependent effects on behaviour and density of species in natural habitat. Infrastructure lighting has increased dramatically over the last decades, and continues to increase.

Its presence has a profound effect on many – especially nocturnal – species. The illumination of infrastructure may particularly be problematic, as linear illumination may amplify fragmentation of natural habitat. The change from traditional to LED lighting opens up the

possibility to mitigate impact. Kamiel will present the outcome of a unique long-term experimental study on the impact of artificial light in natural habitat. The results provide important tools to limit the impact of light at night along infrastructure on ecosystems. ■

## Anthony P. Clevenger

**Tony Clevenger** obtained his undergraduate degree at the University of California, Berkeley. His early involvement in wildlife research was focused primarily on carnivore ecology, which led him to the University of Tennessee, Knoxville, where he studied black bear ecology for a Master's Degree (1986). A continued interest in bears, a desire to travel, and recognizing lack of research on Eurasian brown bears, he developed a cooperative research project between Spain and the US in 1985. The 3-year project turned into a Doctoral degree in Zoology from the Universidad de León (1990) and 11 years researching southern European brown bears and small carnivores in the Balearic Islands. In 1996, he moved to Canada and began research on, at that time, a dozen wildlife underpasses in Banff National Park, Alberta. The last 10 years Tony has worked with colleagues in Latin America providing training courses in road mitigation practices to government agencies and consultancies and look forward to continuing in that direction. Since 2002, he has been a research wildlife biologist for the Western Transportation Institute at Montana State University, while residing near Banff National Park. He has published over 70 articles in peer-reviewed scientific journals and co-authored three books, including *Road Ecology: Science and Solutions*. When not in his office or doing fieldwork, Tony can be found in the backcountry hiking, skiing, or in pools, lakes or oceans swimming long distances. The title of his keynote presentation

will be: Through the lens of time: Long-term research integrating behavior, landscape ecology and conservation along the Trans-Canada Highway. Canada's Rocky Mountain front harbors the richest diversity of large mammals remaining in North America. This landscape is among the continent's last remaining undisturbed natural areas and provides a critical trans-boundary linkage with the United States. Maintaining landscape connectivity throughout the ecoregion has been a key conservation strategy. Regional scale connectivity is the prime objective, however, securing local-scale connections across highways are equally important and necessary for landscape connectivity to be achieved. Banff National Park and its environs represent one of the best testing sites of innovative highway mitigation in the world. The Trans-Canada Highway (TCH) bisects Banff and Yoho National Parks and has been identified as a major landscape stressor. Beginning in 1982, Banff National Park embarked on a phased-mitigation program that would span 30 years and result in 44 crossing structures built on 82 km of highway bisecting a UNESCO World Heritage Site. From 1996 to 2014, Tony directed long-term research assessing the impacts of highways and performance of mitigation measures designed to reduce fragmentation of wildlife populations and increase landscape connectivity. His research evolved from the basic questions of: Do wildlife use the crossing structures and what



attributes facilitate passage? And do the measures reduce road-related mortality of wildlife? Our non-invasive genetic approach to whether the Banff crossings have restored demographic and genetic connectivity was a logical and necessary next step. From that work, he demonstrated that crossings are capable of restoring movements, gene flow and demographic connectivity, thus are functional at a higher ecosystem level. Recently he identified a key mechanism of demographic and genetic connectivity, i.e., how to move breeding females across road barriers. By ensuring that key ecological processes are connected, Banff's highway mitigation is arguably one of Canada's greatest conservation success stories. ■