

## **IAIN D. COUZIN AND DAVID GRUBER WIN THE LAGRANGE PRIZE – CRT FOUNDATION 2019**

This study focuses on the extraordinary complexity of the animal world in order to enhance our understanding of the mechanisms that govern life on planets, including our own. This is the field in which the two winners of the 2019 edition of the **Lagrange Prize – CRT Foundation** operate. This year the greatest international recognition for complex systems science – **CRT Foundation Institute – Cassa di Risparmio di Torino and coordinated by the Institute for Scientific Exchange ISI Foundation**, goes to the British Biologist and Ecologist **Iain D. Couzin** and the American Marine Biologist and Explorer **David Gruber**.

Formerly a researcher at Oxford University and Professor at Princeton University, **Iain D. Couzin** is today Director of the Max Planck Institute of Animal Behavior in Konstanz, Germany. He studies the fundamental patterns of collective animal behaviour. His research studies cover a wide range of biological systems – from swarms of insects to schools of fish and from flocks of birds to groups of primates and have already won him a range of prestigious recognitions (Searle Scholar Award, Mohammed Dahleh Award, Popular Science Brilliant 10 Award, National Geographic Emerging Explorer Award, Scientific Medal of the Zoological Society of London, Clarivate Analytics Global Highly Cited Researcher).

**David Gruber** is the Presidential Professor of Biology and Environmental Science at the Baruch College of the City University of New York. He is also an Explorer for National Geographic, Research Associate of Invertebrate Zoology at the American Museum of Natural History and Adjunct Faculty Member at the John B. Pierce Laboratory of the Yale School of Medicine. His interdisciplinary research covers marine biology, genomics, transcriptomics analyses of uncharacterised marine organisms, deep-sea ecology, light robotics, photosynthesis, biofluorescence and bioluminescence as well as the use of advanced techniques of machine learning applied to the study of bio-acoustics of large cetaceans.

Interdisciplinarity is one of the key features of complex systems science, a scientific research field linked to technological innovation and its growing influence in all areas of society (medicine, public health, environmental protection, non-profit, communication, economics, finance). Since 2008, the Lagrange Prize – CRT Foundation awards young researchers that stand out for their excellence in studies of complex systems science. The award ceremony for the 2019 edition will take place on **Thursday 17 October at 6.00 pm in the Teatro Vittoria in Turin** (via Antonio Gramsci 4) and – like the previous edition – will be accompanied by an exclusive and original performance, created by the ISI Foundation AReS Project merging science, art, music and dance.

*«This year the Lagrange Prize – CRT Foundation again focuses on complex systems science », says the ISI Foundation President, **Mario Rasetti**. «And is symbolic at a time when issues regarding the ecosystem and the survival of our planet are currently of critical importance. This recognition goes to two scientists who are concentrating their research on the animal universe by studying fascinating phenomena such as the songs of whales that can echo up to 800 kilometres in the oceans and the way in which the collective spirit of flocks of birds flying resolve the mathematical problem of Plato. In these studies all the complex systems science come to light: from the use of sophisticated and modern techniques to a multidisciplinary approach that includes linguistics, cryptography, mathematics, the probability theory ».*

*“Using the most advanced tools and methodologies to confront the global challenges of the 21st Century is also a goal shared by Philanthropy and Complex Systems Science and is well represented by the two prestigious researchers who are awarded the International Lagrange – CRT Foundation Prize for their studies focused on the conservation of biodiversity, protection of resources and the safeguarding of ecosystems – states the*

Secretary General of the CRT Foundation and President of the European Foundation Centre **Massimo Lapucci**. *Faced with such current, urgent and universal issues as those at the heart of the UN 2030 Agenda for Sustainable Development, the Philanthropic Institutes in Italy and Europe are also responsible for identifying solutions based on a scientific approach and the use of innovative analysis methodologies. The use of “Big Data for Good”- Big Data for Social Good, is most definitely heading in this direction and is one that the CRT Foundation and ISI Foundation will experience in the first European Competence Center which will open at the OGR Tech in Turin”.*

## **THE LAGRANGE PRIZE – CRT FOUNDATION LIST OF WINNERS**

2008 Yakov Grigorievich Sinai (Mathematician, Russia) and William Brian Arthur (Economist, UK), 2009 Giorgio Parisi (Physics, Italy)  
2010 James J. Collins (Biomedical Engineer, USA)  
2011 Albert-László Barabási (Physicist, Hungary/USA)  
2012 Lada Adamic (Social Network Scholar, USA) and Xavier Gabaix (Economist, France)  
2013 Duncan J. Watts (Sociologist and Social Network Scholar, Australia)  
2014 Mark Newman (Physicist, UK)  
2015 Panos Ipeirotis (Information Technology, Greece) and Jure Leskovec (Information Technology, Slovenia)  
2016 John Brownstein (Epidemiologist, Canada)  
2017 Danielle S. Bassett (Physicist and Neuroscientist, USA)  
2018 César Hidalgo (Physicist, Chile/USA)  
2019 Iain D. Couzin (Biologist, UK) and David Gruber (Biologist and explorer, USA)

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