





**Gerhard Roth** is Professor of Behavioural Physiology and Developmental Neurobiology at the Brain Research Institute of the University of Bremen, Germany. He has studied visually guided behaviour and its neural basis in amphibians, and the evolution of brains and intelligence in mammals, including man.



**Lars Chittka** is a Professor of Sensory and Behavioural Ecology at Queen Mary University of London. He is recognised for his work on the psychology of colour vision and cognition in insects, and for modelling its neural underpinnings.



**Jennifer Mather** is a Professor in the Department of Psychology at the University of Lethbridge, Canada, studying the behaviour and cognition of octopuses. Her dual background in Biology and Psychology has led to studies of play, personality and problem solving in animals from which we would not have expected such abilities.



**Thomas Bugnyar** is Professor of Cognitive Ethology at the University of Vienna and studies social behaviour and cognition in animals under lab and field conditions. His research on ravens has revealed primate-like socio-cognitive skills in birds such as perspective taking, third-party understanding and 'political' interventions in others' relationships.



**Nathan Emery** is Senior Lecturer in Cognitive Biology at Queen Mary University of London. He studies the evolution of intelligence in corvids, parrots and primates, focusing on their ability to solve novel problems, use tools and predict others' future actions. He recently authored and illustrated a popular science book on avian cognition called 'Bird Brain: An exploration of avian intelligence' (Ivy Press).



# Programme

Thursday September 14th 2017, kl. 09:00 – 16:20  
Palaestra et Odeum, Universitetsplatsen, Paradisgatan, Lund

- 09:00 - 09:05 **Welcome from the Royal Physiographic Society of Lund - President.** Per Lundberg
- 09:05 - 09:15 **Welcome from the Symposium Organisers -** Eric Warrant and Mathias Osvath
- 09:15 - 09:45 **What makes an intelligent brain intelligent?** Gerhard Roth
- 09:45 - 10:15 **Are insects intelligent?** Lars Chittka
- 10:15 - 10:45 **MORNING TEA – FOYER, PALAESTRA ET ODEUM**
- 10:45 - 11:15 **Mind in the waters: The what, where, why and how of octopus intelligence.** Jennifer Mather
- 11:15 - 11:45 **Testing bird brains: Raven politics.** Thomas Bugnyar
- 11:45 - 13:15 **LUNCH – AKADEMISKA FÖRENINGEN, STORA SALEN**
- 13:15 - 13:45 **Bird brains make brainy birds.** Nathan Emery
- 13:45 - 14:15 **What can a dog learn from its owner?** Ádám Miklósi
- 14:15 - 14:45 **Our obligations to elephants: How understanding the minds of endangered animals can help protect them from extinction.** Joshua Plotnik
- 14:45 - 15:15 **AFTERNOON TEA – FOYER, PALAESTRA ET ODEUM**
- 15:15 - 15:45 **Evolving ethics and animal persons.** Kristin Andrews
- 15:45 - 16:15 **General discussion**
- 16:15 - 16:20 **Final word –** Eric Warrant and Mathias Osvath



**Ádám Miklósi** is Professor of Animal Behaviour at the Eötvös Loránd University of Budapest in Hungary and studies how dogs and humans form close social groups through developing an attachment relationship, complex ways of multimodal communication, social learning and cooperative interaction.



**Joshua Plotnik** is a visiting assistant professor of psychology at Hunter College, City University of New York as well as the executive director of Think Elephants International. Josh studies elephant cognition and decision-making, and works to apply the study of elephant behavior to both human/elephant conflict mitigation in Asia as well as to the development of conservation education programs for children in the US and Thailand.



**Kristin Andrews** is York Research Chair in the Philosophy of Animal Minds at York University in Toronto, Canada and the author of two books: *Do Apes Read Minds? Toward a New Folk Psychology* (MIT 2012) and *The Animal Mind* (Routledge 2015). She is currently working on the evolution of morality.



**Mathias Osvath** is Reader in Cognitive Zoology at the University of Lund and studies independently evolved complex cognition in mammals and birds. His main discoveries concern sophisticated planning abilities in animals.



**Eric Warrant** is Professor of Zoology at the University of Lund in Sweden and studies vision and visual navigation in animals from extremely dim habitats (nocturnal and deep sea). His research has led to the discovery of neural principles that permit vision in dim light.



## THE THINKING ANIMAL

There is no question that we humans have evolved extraordinary cognitive abilities, and with them “intelligence”. We are unique among animals for developing a complicated vocal language, and for expressing our inner emotions through music and art. Our advanced abilities to predict and plan for future events, to analyse and process abstract concepts and to invent devices that solve complex problems, are all the hallmarks of what many scholars would describe as quintessentially “human”.

But what about other animals? Even though a dog is clearly incapable of creating art, does this necessarily mean it is unintelligent? Many who have experienced the faithful companionship of a dog would likely disagree. Or can a raven, a highly social bird, understand what other ravens are thinking? What about a squid or an insect? Can they think? Do they have intelligence? Are their nervous systems sufficiently advanced to allow them to understand causality and solve problems?

Questions like these have vexed philosophers and scientists for centuries, and even today, with the modern techniques at our disposal, they remain as controversial as ever. And if it turns out, as increasing consensus is confirming, that other animals *can* think, what ethical implications does this have for animal welfare and conservation? For this symposium we have gathered the world’s leading experts in comparative animal cognition to give us their view of this exciting and ongoing debate.

# The Thinking Animal

arranged by

**The Royal Physiographic Society of Lund**, which was founded in 1772, is one of the country's oldest scientific academies. The Society is an academy for Science, Medicine and Technology, and each year awards around 30 million kronor in research grants and scientific prizes, with special emphasis on supporting younger researchers at the beginning of their careers. Each year the Society organises several scientific symposia with the aim of highlighting the role of research in society.

During 2017, the 350th anniversary of the founding of the University in Lund, the Royal Physiographic Society of Lund has organised a number of symposia, including this one. The last of these symposia will be the Sandblom Day on Thursday October 26th, with the title "Möte – Bemötande".



**THE ROYAL PHYSIOGRAPHIC SOCIETY OF LUND**  
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