

## SCIENTIFIC PROGRAM

### SESSION LECTURE

No. 22

Chemical Ecology, from Gene to Behavior

Room: 403

Co-Chairs: Le Kang



Honorary Chair  
John Hildebrand/  
Chair Hong Lei



Day 2 October 28<sup>th</sup> (Sunday) 13:30 – 17:00

Time	Speaker	Title
13:30-14:00	<b>Hong Lei</b> <i>Arizona State University, USA</i>	Novelty detection in early olfactory processing of the honeybee, <i>Apis mellifera</i>
14:00-14:30	<b>Jianghua Sun</b> <i>Institute of Zoology, Chinese Academy of Sciences, China</i>	Chemical signals synchronize the interactions of pinewood nematode and its vector beetle
14:30-15:00	<b>Emmanuelle Jacquin-Joly</b> <i>National Institute of Agricultural Research, France</i>	Functional olfactomics in a crop pest moth
15:00-15:30	<b>Tea Break</b>	
15:30-16:00	<b>Yonggen Lou</b> <i>Zhejiang University, China</i>	Molecular interactions between rice and herbivores
16:00-16:30	<b>Yukio Ishikawa</b> <i>University of Tokyo, Japan</i>	Type-II sex pheromones in moths: biosynthetic pathways and enzymes involved therein
16:30-17:00	<b>Rensen Zeng</b> <i>Fujian Agriculture and Forestry University, China</i>	Induced and primed defenses of plants and their application in agriculture



### Le Kang

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Distinguished Professor of the Institute of Zoology, Chinese Academy of Sciences(CAS), Member of the CAS since 2011. Dr. Kang integrates multiple approaches from molecular biology, physiology to behavior analysis to resolve the ecological questions in insect adaptation to environmental variation and stress. His highlights of research accomplishments include clarification of molecular regulatory mechanisms of locust phase changes, tritrophic interactions, and cold tolerance of insects.



### Jianghua Sun

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His current research interest mainly centers on multispecific interactions among host plants, herbivores, and their associated fungi and bacteria which are dominated by chemical signals that exert feedback amongst multiple trophic levels. He is also studying the invasion biology of two important invasive species in China and the development of semiochemical-based monitoring and control technologies.



### Yonggen Lou

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Dr. Lou's group mainly works on rice-herbivore interactions and the exploitation of new control methods for insect pests based on the understanding of these interactions. They have revealed that rice defense responses are shaped by an integrated signaling network consisting mainly of phytohormones, such as JA, SA and ethylene.



### Hong Lei

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Research Scientist of School of Life Sciences, Arizona State University. His research interest is focused on how the nervous systems of animals acquire on information from their environment, process that information, and ultimately use it to trigger corresponding behaviors.



### Emmanuelle Jacquin-Joly

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Her research focuses on insect chemoreception in a context of plant protection. Her objectives are 1) to decipher the molecular mechanisms of olfaction and taste, focusing on chemosensory receptors, 2) to study the contribution of chemoreception to insect adaptation to new hosts and anthropic systems, 3) to investigate the evolutionary origin of insect chemosensory receptors.



### Yukio Ishikawa

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Professor Yukio Ishikawa is the head of Laboratory of Applied Entomology, Graduate School of Agricultural and Life Sciences, The University of Tokyo. His research interest extends widely to Insect-Plant Relationships, Phylogenetic and Evolutionary Biology, Sex Pheromones, Diapause and Development, Sensory Physiology, Botanical Insecticides, Feminization of Insects Caused by Endosymbiont *Wolbachia*, and Ultrasound Communication in Moths.



### Rensen Zeng

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He is currently working on chemical-mediated plant interactions with insects, microbes and other plants (allelopathy), as well as plant induced defense. His work also demonstrated that plants are able to hijack underground common mycorrhizal networks (CMNs) for induced defence signal transfer and interplant defense communication.