NUS National University of Singapore | Department of Biological Sciences, Faculty of Science

ON-SITE BIOLOGY COLLOQUIUM

Friday, 13 Feb 2026 | 4 pm | S3 05-02 Conference Room 1

Hosted by Prof Antonia Monteiro

Map to Block S3

Exploration of communication systems in crickets: a multidisciplinary perspective

By **Tony Robillard**

Institut de Systématique, Evolution, Biodiversité, Muséum national d'Histoire naturelle, Paris

Crickets have long served as emblematic models for the study of animal communication, offering exceptional insight into how signals evolve, diversify, and function across biological scales. This lecture presents a multidisciplinary exploration of communication systems in crickets, spanning integrative taxonomy, bioacoustics, phylogenetics, biogeography and emerging genomic approaches. Focusing primarily on the subfamily Eneopterinae, I will illustrate how precise species delimitation, grounded in morphology, acoustic traits, and molecular data, is a prerequisite for understanding the evolution of signalling systems. By using a robust phylogenetic framework and studies of communication systems, we can reconstruct evolutionary trajectories of communication and identify convergence and innovations. Together, these approaches demonstrate how the study of cricket communication benefits from an integrative framework, in which taxonomy, evolution, and genomics jointly contribute to a deeper understanding of biodiversity and the mechanisms shaping animal communication.

About the Speaker

Tony Robillard is a French evolutionary biologist and entomologist, serving as a professor at the Muséum national d'Histoire naturelle (MNHN) in Paris within the Institut de Systématique, Évolution, Biodiversité (ISYEB). His work focuses on the evolutionary biology, taxonomy, and communication systems of Orthoptera, with a particular emphasis on the subfamily Eneopterinae crickets, a group he uses as a model to explore evolution at different temporal and geographical scales. He combines integrative taxonomy, phylogenetic analysis, bioacoustics, and comparative evolutionary studies.

Within ISYEB, Robillard holds leadership roles including Deputy Director of the Institute, Head of the Taxonomy Axis, and curator of several insect collections, such as Eneopterinae, Phasmatodea, Odonata and Dermaptera.

He is also Editor-in-Chief of the Journal of Orthoptera Research, deputy Editor-in-Chief of European Journal of Taxonomy, and serves as Scientific Director of MNHN Scientific Publications.