

Colloquium

Institute Colloquium | Daniel Robert

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Host: Scott Waitukaitis

Exploring the Hidden but Rich World of Electrostatics in Arthropods The natural world is electrical and so are the organisms living in it. However weak, electrostatic fields are pervasive and constitute a potential source of information, if detectable. The question was recently put forward as to whether animals and plants can sense the Coulomb force arising from electrostatic fields. The capacity of arthropods to sense weak electric fields became apparent when bumblebees were shown to detect and learn about the weak electric field that build up when they approach a flower. In this talk, I will discuss the role of static electricity in pollination, and also more generally consider the presence and function of static electricity in the sensory ecology of terrestrial arthropods and plants. I will propose that sensing electric fields in the air - aerial electroreception - plays a pervasive and adaptive role in the biology and sensory ecology of plants and arthropods such as spiders, caterpillars, wasps and treehoppers, adding some diversity to a potentially long list. The existence of aerial electroreception as a new sense is enticing and constitutes a novel window into the sensory world of arthropods and plants.

Monday, December 7, 2026 11:30am - 12:30pm
Raiffeisen Lecture Hall

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