

ABSTRACT

Universität Hamburg, Fachbereich Biologie
IZS-Colloquium

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Dr. Lauren Sumner-Rooney

(Museum für Naturkunde Berlin - MultiEye lab group)

The evolution of distributed visual systems: what can we learn from spiders?

Host: Jutta Schneider

Visual system architecture and its functional evolution: lessons from spiders.

Vision is one of the most important evolutionary innovations in animal biology, having transformed the way species navigate, communicate, forage and seek shelter. Eyes have evolved more than 40 times in a stunning array of diverse forms over the past half a billion years. These eyes represent single units within animal visual systems, whose architecture can take a range of configurations. The most familiar comprise a single pair of identical, bilaterally symmetrical, eyes, but this is a tiny fraction of visual system diversity. This talk will explore the diversity of visual system architectures and their functional implications, taking examples from across the animal kingdom and focussing on spiders. The architecture of the system, including the diversity of the eyes within an individual, and their position, determines the total information that can be collected. We will explore these relationships, and their implications for the integration of information across the entire visual system, in relation to visual ecology and behaviour.