



New Models for in Vivo Fabrication and Actuation of Bioelectronic Interface

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The unmatched capability of living cells to fabricate complex structure starting from simple building blocks offers new paradigms to seamlessly integrate new electronic structures into the living matter, creating new hybrid devices. We exploited this potential in a simple tissue-like organism, the freshwater polyp *Hydra vulgaris*, and here we provide an overview of recent and on-going results obtained with this model together with our methodological approaches ranging from behavioural to optical, spectroscopical, and electrical characterization. By simple exposure to conjugated oligomers we show the capability of *Hydra* to fabricate new electronically conducting and electrochemically active microstructures. Tissues with integrated biocompatible electronics, manufactured in vivo in localized regions, may inspire new devices to manipulate biological functions, paving the way to new bioengineering concepts.

CRC 1461: Neurotronics

Colloquium: 26-October-2023_27

Thursday, 3:30 pm to 5:30 pm (CET)

The colloquium will start at 4:00 pm

[Link to the zoom meeting](#)

Invited by Dijana Pavleska,

Cell and Developmental Biology, Institute of Zoology, Kiel University