RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN
Fachgruppe Biologie
Zoologisches Forschungsmuseum Alexander Koenig

Biologisches Kolloquium

Wintersemester 2017/2018

Montag, den 4. 12. 2017, 17 Uhr c.t.

im Hörsaal Zoologie, Poppelsdorfer Schloss

PD Dr. Mario Wullimann

Department Biologie II, LMU München

"Crypt cells are involved in accessory olfactory system and kin recognition in larval zebrafish"

Einladung: Prof. Dr. G. von der Emde (Institut für Zoologie)

Abstract: Zebrafish imprint on visual (at day 5 post fertilization) and olfactory (at day 6 post fertilization) cues coming from kin siblings. Here, zebrafish larvae were raised experimentally in order to generate imprinted and non-imprinted specimens. Stimulation tests (at day 9) using kin odor show a specific increase of neuronal activity (shown with pERK) in crypt cells and in the mediodorsal olfactory bulb only in imprinted larvae, but not in non-imprinted larvae, suggesting that imprinting triggers neural changes at the olfactory epithelium level and the central nervous system. Additional tracing experiments in adult zebrafish show an associated accessory olfactory pathway originating from crypt and microvillous olfactory sensory cells running via mediodorsal olfactory bub and medial amygdala to the tuberal hypothalamus, which is diagnostic in synaptic succession of the vomeronasal system seen in land vertebrates.