

# Daniel Münch

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## POSITIONS

### CHAMPALIMAUD CENTRE FOR THE UNKNOWN

BEHAVIOR & METABOLISM LAB | DFG RESEARCH FELLOW  
April 2017 | Lisbon, Portugal

### UNIVERSITY OF KONSTANZ

AG GALIZIA | POST-DOC

2014 - 2017 | Constance, Germany  
(Parental leave from 08/15 till 10/15)

## PUBLICATIONS

2019

Münch D, Ezra-Nevo G, Francisco AP, Tastekin I, Ribeiro C, 2020. **Nutrient Homeostasis – Translating Internal States to Behavior** Current Opinion in Neurobiology, Neurobiology of Behavior 60, 67–75.  
10.1016/j.conb.2019.10.004

2018

Sánchez-Alcañiz JA, Silbering AF, Croset V, Zappia G, Sivasubramaniam AK, Abuin L, Sahai SY, Münch D, Steck K, Auer TO, Cruchet S, Neagu-Maier GL, Sprecher SG, Ribeiro C, Yapici N, Benton R, 2018. **An Expression Atlas of Variant Ionotropic Glutamate Receptors Identifies a Molecular Basis of Carbonation Sensing** Nat. Commun. 9, 4252. doi:10/gfc384

2017

Münch D, Galizia CG 2017. **Take Time: Odor Coding Capacity Across Sensory Neurons Increases Over Time in *Drosophila*** J Comp Physiol A 1–14.  
doi:10.1007/s00359-017-1209-1

Paoli M\*, Münch D\*, Haase A, Skoulakis E, Turin L, Galizia CG, 2017. **Minute Impurities Contribute Significantly to Olfactory Receptor Ligand Studies: tales from Testing the Vibration Theory** eNeuro ENEURO.0070-17.2017.  
doi:10.1523/ENEURO.0070-17.2017 - \*(co-first authorship)

2016

Zwaka H, Münch D, Manz G, Menzel R, Rybak J: **The Circuitry of Olfactory Projection Neurons in the Brain of the Honeybee, *Apis mellifera*** Frontiers in Neuroanatomy 10, 90. doi:10.3389/fnana.2016.00090

Silbering AF, Bell R, Münch D, Cruchet S, Gomez-Diaz C, Laudes T, Galizia CG, and Benton R: **IR40a Neurons are not DEET Detectors** Nature 534, E5–E7.  
doi:10.1038/nature18321

Münch D and Galizia CG: **DoOR 2.0 - Comprehensive Mapping of *Drosophila melanogaster* Odorant Responses** Scientific Reports. doi:10.1038/srep21841

## EDUCATION

### UNIVERSITY OF KONSTANZ

DR. RER. NAT.

Feb 2014 | Constance, Germany  
(family care duties from 2012-2014)

Title: Odor representations in *Drosophila* Receptor Neurons Analyzed by *in vivo* Calcium Imaging | Galizia lab

### FREIE UNIVERSITÄT BERLIN

DIPLOMA IN BIOLOGY

Jan 2008 | Berlin, Germany

Title: Intracellular Stainings and 3D Structural Analysis of Olfactory Projection Neurons in the Bee Brain | Menzel lab

## TEACHING EXPERIENCE

### 3<sup>RD</sup> IBRO SCHOOL ON INSECT NEUROSCIENCE

2014 | University of Dar es Salaam, Tanzania  
One week of teaching olfactory coding & calcium imaging at the 3<sup>rd</sup> IBRO school on insect neuroscience and *Drosophila* neurogenetics, organized by *TReND in Africa*.

**SUPERVISION OF A BACHELOR'S THESIS**  
2008

**SUPERVISION OF A MASTER'S THESIS**  
2009

**ADVANCED COURSE IN NEUROBIOLOGY**  
2008, 2009, 2011, 2013 & 2015  
6 weeks, 1-2 students

### ANIMAL PHYSIOLOGY COURSE

2009, 2010, 2011, 2014 & 2015  
2 weeks, including lecture and hands-on

**R INTRODUCTORY LECTURE**  
2012 - 2015

## SKILLS

experienced:

volumetric calcium imaging • confocal microscopy  
• 2-photon imaging • GC/MS • single neuron staining • intracellular recordings • *Drosophila* • honeybee • R • Python • image registration • data analysis • data visualization •  $\text{\LaTeX}$  • Linux • Amira • ImageJ • Inkscape • HTML • CSS  
basic knowledge:  
PHP • MySQL

## PUBLICATIONS (CONTINUED)

2014

Strauch M\*, Lüdke A\*, Münch D\*, Laudes T, Galizia CG, Martinelli E, Lavra L, Paolese R, Olivieri A, Catini A, Caouano R and Di Natale C: **More Than Apples and Oranges - Detecting Cancer with a Fruit Fly's Antenna** Scientific Reports. doi:10.1038/srep03576 - \*(co-first authorship)

2013

Strauch M, Mütting C, Broeg MP, Szyszka P, Münch D, Laudes T, Deussen O, Galizia CG and Merhof D: **The Looks of an Odour - Visualising Neural Odour Response Patterns in Real Time** BMC Bioinformatics 14, no. Suppl 19: S6. doi:10.1186/1471-2105-14-S19-S6

Münch D, Schmeichel B, Silbering AF and Galizia CG: **Weaker Ligands Can Dominate an Odor Blend Due to Syntopic Interactions** Chemical Senses 38, no. 4. doi:10.1093/chemse/bjs138

2010

Galizia CG, Münch D, Strauch M, Nissler A and Ma S: **Integrating Heterogeneous Odor Response Data into a Common Response Model: A DoOR to the Complete Olfactome** Chemical Senses 35, no. 7: 551-63. doi:10.1093/chemse/bjq042

## GRANTS & FELLOWSHIPS

- Research Fellowship.  
2017 | German Research Foundation, DFG
- Independent Research Start-Up Grant.  
2016 | Zukunftskolleg, University of Konstanz
- Flexible Working Conditions for Parents in Science.  
2015 | Office for Equal Opportunity, Family Affairs and Diversity, University of Konstanz

## ORAL PRESENTATIONS

- Imaging pan-neuronal activity in 3D - Internal state dependent taste processing in the *Drosophila* brain.  
2019 | ESITO XVI - European Symposium for Insect Taste and Olfaction, Villasimius, Italy
- Imaging pan-neuronal activity in 3D - Internal state dependent taste processing in the *Drosophila* brain.  
2019 | EDRC - European Drosophila Research Conference, Lausanne, Switzerland
- Pan-neuronal imaging internal-state dependent taste processing in the *Drosophila* brain.  
2019 | University of Leipzig, Leipzig, Germany
- Olfactory receptors use both time and combinatorial power to encode odors.  
2016 | Departmental Seminar, University of Konstanz, Konstanz, Germany
- Das PAL-System als Duftorgel - Automatisierte Stimulusgabe in der Insekten Olfaktorik.  
2016 | PAL Anwendertreffen, Bad Dürkheim, Germany
- Odor coding in the peripheral olfactory system of *Drosophila*.  
2016 | Champalimaud Neuroscience Programme, Lisbon, Portugal
- Olfactory signaling on the *Drosophila* antenna - Response profiles and individual response dynamics.  
2015 | ESITO XIV - European Symposium for Insect Taste and Olfaction, Villasimius, Italy
- Odor coding in *Drosophila* ORNs.  
2014 | Cold Spring Harbor Laboratory, NY, USA, Turner Lab
- Early mixture processing in *Drosophila* olfaction.  
2013 | ESITO XIII - European Symposium for Insect Taste and Olfaction, Villasimius, Italy

## REFeree

Scientific Reports • J. Agric. Food Chem. • French National Research Agency (ANR)

## FURTHER

## EDUCATION

**SAFETY ASPECTS IN GENETIC ENGINEERING FOR PROJECT LEADERS (ACCORDING TO THE GENE TECHNOLOGY ACT - § 15 GENTSV)**

2015 | University of Konstanz, Germany

**INTRODUCTION INTO THE TRACE DSQ GC/MS SYSTEM**

2008 | Axel Semrau GmbH & Co, Sprockhövel, Germany

## OTHER ACTIVITIES

Volunteer for *TReND in Africa* (project leader IT).

## LINKS

ResearchGate:// [Daniel\\_Muench](#)  
GoogleScholar:// [xS3v340AAAAJ](#)  
Github:// [Dahaniel](#)  
Twitter:// [@Dahaniel](#)  
PersonalPage:// [muench.bio](#)

## LANGUAGES

German	native
English	fluent
Portuguese	basic
French	basic

## OTHER INTERESTS

photography • graphic design • web design