

Daniel Münch

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POSITIONS

CHAMPALIMAUD CENTRE FOR THE UNKNOWN

| POST-DOCTORAL FELLOW
 April 2017 | Lisbon, Portugal

UNIVERSITY OF KONSTANZ | Post-Doc

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

PUBLICATIONS

PEER REVIEWED

2017

- Münch, D., Galizia, C.G., 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, C.G., 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, A.F., Bell, R., Münch, D., Cruchet, S., Gomez-Diaz, C., Laudes, T., Galizia, C.G., and Benton R.: **IR40a neurons are not DEET detectors.** Nature 534, E5–E7. doi:10.1038/nature18321
- Münch, D., and Galizia C.G.: **DoOR 2.0 - Comprehensive Mapping of *Drosophila melanogaster* Odorant Responses.** Scientific Reports. doi:10.1038/srep21841

2014

- Strauch, M.*, Lüdke, A.*, Münch, D.*, Laudes, T., Galizia, C.G., 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)

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

3RD IBRO SCHOOL ON INSECT NEUROSCIENCE

2014 | University of Dar es Salaam, Tanzania
 One week of teaching olfactory coding & calcium imaging at the 3rd 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:

calcium imaging • confocal microscopy
 2-photon • GC/MS • single neuron staining
 intracellular recording • *Drosophila*
 honeybee • R • \LaTeX • Linux • Amira • ImageJ
 Inkscape • HTML • CSS

basic knowledge:

PHP • MySQL • Python

PUBLICATIONS (CONTINUED)

PEER REVIEWED

2013

- Strauch, M., Müthing, C., Broeg, M.P., Szyszka, P., Münch, D., Laudes, T., Deussen, O., Galizia, C.G. 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, A.F. and Galizia C.G.: **Weaker Ligands Can Dominate an Odor Blend Due to Syntopic Interactions.** Chemical Senses 38, no. 4. doi:10.1093/chemse/bjs138

2010

- Galizia, C.G., 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

OTHER

2011

- Münch, D., Galizia, C.G., 2011. **DoOR: The Database of Odorant Responses.** Chemosense 13, 1–6.

ORAL PRESENTATIONS

- 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, Ribeiro Lab, 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.

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
French	basic
Portuguese	basic

OTHER INTERESTS

photography • graphic design • web design

POSTER PRESENTATIONS

- Olfactory sensory neurons use temporal dynamics to encode odor identity. **12th Meeting of the German Neuroscience Society, March 22.–25.2017, Göttingen**
- Odor responses of *Drosophila* receptor neurons – Response profiles, mixtures and individual response dynamics. **11th Meeting of the German Neuroscience Society, March 18.–21.2015, Göttingen**
- Olfactory signaling on the *Drosophila* antenna – response profiles, mixtures and individual response dynamics. **Annual meeting of the Society for Neuroscience 2014, 15. – 19. Nov 2014, Washington DC**
- Olfactory signaling on the *Drosophila* antenna – response profiles, mixtures and individual response dynamics. **9th FENS Forum of Neuroscience, 05. – 09. July 2014, Milan**
- Dominance of weaker ligands in a complex odor mixture. **Fourth Annual Meeting of the SPP Active Groups, June 13-14 2013, Jena**
- Dominance of weaker ligands in a complex odor mixture. **10th Göttingen meeting of the German Neuroscience Society, March 13-16, 2013, Göttingen**
- Mixture interactions in the periphery of the olfactory system – What does banana smell like? **105th Annual Meeting of the German Zoological Society, September 21-24, 2012, Konstanz**
- New data for the Database of Odorant responses – DoOR. **105th Annual Meeting of the German Zoological Society, September 21-24, 2012, Konstanz**
- Response profiles of three olfactory receptors – The open DoOR towards the *Drosophila* olfactome widens. **Annual meeting of the Society for Neuroscience 2011, 12. – 16. Nov 2011, Washington DC**
- Response profiles of the *Drosophila* olfactory receptors Or42b and Or69a – knocking on the DoOR. **Ninth Göttingen meeting of the German Neuroscience Society, 23. – 27. März 2011**
- Mixture interactions on the antenna of *Drosophila melanogaster*. **8th Meeting of the German Neuroscience Society, March 25.–29.2009, Göttingen**
- A DoOR to the complete olfactome: a common response model for the integration of heterogeneous odor-response data. **8th Meeting of the German Neuroscience Society, March 25.–29.2009, Göttingen**