

# CURRICULUM VITAE

## SILKE SACHSE

Research Group Olfactory Coding Max Planck Institute for Chemical Ecology Hans-Knoell-Strasse 8 D-07745 Jena Germany	<i>Telephone</i> <i>Fax</i> <i>Email</i> <i>ORCID</i> <i>Nationality</i> <i>Date of birth</i> <i>Family</i>	+49 3641 571405 +49 3641 571402 ssachse@ice.mpg.de 0000-0002-9769-8067 German 17th August 1973 1 son (*2010)
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### EDUCATION

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- 1999–2002 PhD in Biology (*summa cum laude*), Institute of Neurobiology, Free University of Berlin, Germany, PhD thesis: '*Odor processing in the honeybee antennal lobe*' (Supervisor: Prof. Dr. C. Giovanni Galizia).
- 1999 Diploma in Biology (grade: 1.0), Institute of Neurobiology, Free University of Berlin, Diploma thesis: '*A spatial map of odor representations in the honeybee antennal lobe*' (Supervisor: Prof. Dr. C. Giovanni Galizia).
- 1993–1999 Studies in Biology, Free University Berlin, Germany (grade: 1.0)
- 1993 Abitur, Ullrich-von-Hutten-Gymnasium Berlin, Germany

### RESEARCH POSITIONS

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- 03/2016– Research Group Leader (W2) for the independent Research Group Olfactory Coding (equivalent to tenured W2 professorship)  
Max Planck Institute for Chemical Ecology (MPI-CE), Jena, Germany  
Website: <https://ice.iwww.mpg.de/216825/olfactory-coding>
- 01/2016 Call to W2 professorship for Neurobiology  
University of Würzburg (*gratefully declined*)
- 2008–2015 Independent Junior Group Leader of BMBF funded research group  
Max Planck Institute for Chemical Ecology, Jena, Germany
- 2006–2008 Project Group Leader in the Department of Prof. Dr. Bill S. Hansson  
Department of Evolutionary Neuroethology, Max Planck Institute for Chemical Ecology, Jena,
- 2005–2006 Postdoctoral Research Associate in the laboratory of Prof. Dr. Randolph Menzel  
Institute of Neurobiology, Free University of Berlin, Germany
- 2002–2005 Postdoctoral Fellow in the laboratory of Prof. Dr. Leslie B. Vosshall  
Department of Neurogenetics & Behavior, Rockefeller University, New York, USA
- 1999–2022 PhD thesis research in the laboratory of Prof. Dr. C. Giovanni Galizia and Prof. Dr. Randolph Menzel, Institute of Neurobiology, Free University of Berlin, Germany

## FELLOWSHIPS & AWARDS

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- 2020– Member of AcademiaNet – database of excellent female scientists
- 2008–2014 Recipient of an Independent Research Group Grant in Neuroscience funded by the BMBF
- 2003 The T.I.L.L. Photonics Technology Award for excellence in developing novel techniques in neurosciences
- 2002–2003 Recipient of the Rockefeller University Presidential Postdoctoral Fellowship
- 2002 ECRO Travel Award, four-week laboratory visit at Trondheim University, Norway
- 2001 Travel Grant, German Neuroscience Society (NWG)
- 1999 PhD scholarship of the Graduiertenkolleg *Signalling Cascades in Living Systems* (GRK 120) funded by the German Science Foundation (DFG)

## THIRD-PARTY FUNDING

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- 2022-2026 German Science Foundation (DFG) research grant SA909/5-1 within FOR5424 (Modulation of Olfaction: How Recurrent Circuits Govern State-dependent Behavior): *The role of recurrent long- and short-range connections in experience-dependent modulation in Drosophila*, Tandem Project with Markus Knaden (MPI Jena)  
*Funding for 1 PhD position and running costs (4 years) (159 k€)*
- 2021-2024 Novo Nordisk Foundation research grant AUTOSECT: *Synthetic Autocrine Systems for Insects* within the Exploratory Interdisciplinary Synergy Programme 2020, Co-PI with Michael Krogh Jensen (DTU Biosustain) and Guy Theraulaz (CNRS)  
*Funding for 1 postdoc position and running costs (3 years) (248 k€)*
- 2020-2024 Max Planck Center nGICE (*next Generation Insect Chemical Ecology*) collaborative research grant with Lund University and SLU Alnarp, Co-PI with Bill Hansson and Markus Knaden (MPI Jena)  
*Funding for 1 postdoc and 1 PhD position (4 years) (approx. 350 k€)*
- 2020-2023 German Science Foundation (DFG) research grant SA909/4-1 within the SPP2205 Priority Program (Evolutionary Optimisation of Neuronal Processing): *Spatially anisotropic lateral inhibition: Convergent circuit designs in the insect antennal lobe and vertebrate olfactory bulb*, Tandem project with Veronica Egger (University of Regensburg)  
*Funding for 1 PhD (3 years) (172 k€)*
- 2018-2022 MPG-CAS collaborative grant with the Chinese Academy of Science (CAS): *Locust olfactory function and ecology*, Co-PI in a project headed by Bill Hansson (MPI) and Kang Le (CAS)  
*Funding for 1 postdoc position (4 years) (approx. 300 k€)*
- 2015-2019 EU Horizon 2020 FET-OPEN research grant *Nanosmell: Artificial remote-controlled odorants*, Co-PI in the consortium project headed by Noam Sobel (Weizmann Institute)  
*Funding for 1 postdoc position and running costs (4 years) (420 k€)*
- 2012-2016 German Science Foundation (DFG) research grant SA909/3-2 within the 2<sup>nd</sup> phase of the SPP1392 Priority Program (Integrative analysis of olfaction):

	<i>Reception and coding of pheromone signals in insects</i> , Tandem project with Jürgen Krieger (University of Hohenheim/Halle) <i>Funding for 1 PhD position (3 years) (136 k€)</i>
2012-2015	EU7 Marie Curie research grant within the innovative training network (ITN) <i>FLiACT: Systems neuroscience of Drosophila: From genes to circuits to behaviours</i> <i>Funding for 1 PhD position and running costs (3 years) (230 k€)</i>
2011-	Faculty Member of the International Max Planck Research School (IMPRS) (funded by the Max Planck Society) <i>Funding for 4 PhD positions (2011, 2015, 2017, 2019) (approx. 540 k€)</i>
2009-2012	German Science Foundation (DFG) research grant SA909/3-1 within the 1 <sup>st</sup> phase of the SPP1392 Priority Program (Integrative analysis of olfaction): <i>Reception and coding of pheromone signals in insects</i> , Tandem project with Jürgen Krieger (University of Hohenheim) <i>Funding for HiWi positions and running costs (3 years) (67 k€)</i>
2008-2014	BMBF grant for independent research group in neuroscience ( <i>Role of neural circuits underlying olfactory coding and processing in Drosophila melanogaster</i> ) <i>Funding for independent research group, including positions, running costs, equipment (6 years) (1,310 k€)</i>
2006	Research grant (Initiativmittel) from the Forschungskommission (FK) of the Free University of Berlin <i>Funding for equipment (10 k€)</i>

## ACADEMIC SERVICE

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### Conference and Symposium Organization

2024	Program Committee Member, ICN Congress 2024 (International Society for Neuroethology), Berlin, Germany
2023	18 <sup>th</sup> ESITO Meeting (European Symposium of Insect Taste and Olfaction), Sardinia, Italy (co-organizer with Markus Knaden) (approx. 100-120 participants)
2022	Annual Meeting of ECRO XXXII (European Chemoreception Research Organization), Berlin, Germany (co-organizer with Ivan Manzini, Michael Schmuker, Jessica Freiherr and Johannes Reisert) (270 participants) Symposium, XXVI International Congress of Entomology (ICE), Helsinki, Finland (session co-organizer with Markus Knaden)
2021	Symposium, ECRO XXXI (European Chemoreception Research Organization), Cascais, Portugal (session co-organizer with Bill Hansson) Symposium, Meeting of the German Neuroscience Society (NWG), Göttingen, Germany (session co-organizer with Michael Schmuker) (virtual)
2020	Program Committee Member, ECRO XXX (European Chemoreception Research Organization), Dresden, Germany (virtual) Program Committee Member, 18 <sup>th</sup> Neurofly, Spain (virtual)
2019	Behavioural Research Retreat in the BMS, Jena, Germany (co-organizer with Markus Knaden and Bill Hansson) (30 participants) 16 <sup>th</sup> ESITO Meeting (European Symposium of Insect Taste and Olfaction) in Sardinia, Italy (co-organizer with Markus Knaden and Bill Hansson) (120 participants)

- 2017 International Symposium on Olfaction “*Neuronal Mechanisms of Odor-guided Behaviour*” at the University of Regensburg, funded by the Vielberth-Stiftung and BMBF (co-organizer with Veronica Egger, Ilona Grunwald Kadow, Joachim Ruther) (50 participants)
- 2016 Symposium, 10th FENS - Forum of Neuroscience, Copenhagen, Denmark (session co-organizer with Veronica Egger)  
Symposium, XXV International Congress of Entomology (ICE), Orlando, FL, US (session co-organizer with Markus Knaden)
- 2015 14<sup>th</sup> ESITO Meeting (European Symposium of Insect Taste and Olfaction) in Sardinia, Italy (co-organizer with Markus Knaden and Bill Hansson) (110 participants)  
Symposium, ECRO XXV Congress, Istanbul, Turkey (session co-organizer with Paul Szyszka)  
Symposium, 31<sup>st</sup> ISCE Meeting, International Society of Chemical Ecology, Stockholm, Sweden (session co-organizer with Marcus Stensmyr)
- 2013 International Symposium on Olfaction “*How inhibitory circuits govern olfactory processing*” at the LMU (Munich), funded by the Center for Advanced Studies (CAS) and the Priority Program SPP 1392 (co-organizer with Veronica Egger) (40 participants)  
13<sup>th</sup> ESITO Meeting (European Symposium of Insect Taste and Olfaction) in Sardinia, Italy (co-organizer with Markus Knaden and Bill Hansson) (110 participants)
- 2012 Symposium, XVI. International Symposium on Olfaction and Taste (ISOT), Stockholm, Sweden (session co-organizer with Markus Knaden)
- 2011 3<sup>rd</sup> Meeting of BMBF Neuroscience Groups, Jena, Germany (main organizer, 60 participants)  
Symposium, 12<sup>th</sup> ESITO Meeting (European Symposium for Insect Taste and Olfaction), St. Petersburg, Russia
- 2008 Symposium, ECRO XVIII Congress, Portoroz, Slovenia (session co-organizer with Giovanni Galizia)  
Symposium, XXIII International Congress of Entomology (ICE), Durban, South Africa (session co-organizer with Mattias Larsson)  
Session, 12<sup>th</sup> European Drosophila Neurobiology Conference (Neurofly), Würzburg, Germany (session co-organizer with André Fiala and Ian Meinertzhagen)
- 2006 Symposium, VIII European Congress of Entomology (ECE), Izmir, Turkey (session co-organizer with Giovanni Galizia)

#### Editorial Service

- 2021 Guest Editor for the Special Issue ‘*Olfactory Coding and Circuitries*’ in Cell and Tissue Research (with Ivan Manzini)
- 2020- Editorial Board Member of Chemical Senses
- 2020- Associate Editor for Frontiers in Physiology / Invertebrate Physiology
- 2017- Review Editor for Frontiers in Chemical Ecology and Evolution

#### Journal Reviewer

Apidologie, BBA, BMC Biol, BMC Neuroscience, Cell and Tissue Res, Cell Reports, Chemical Senses, Current Zoology, Current Biology, Current Opinion in Insect Science, Developmental Neurobiology, eLife, European Biophysics Journal, European Journal of Neuroscience, FEBS Journal, Frontiers in Chemical Ecology, Frontiers in Molecular Neuroscience, Frontiers in Neuroscience, Frontiers in Neurophysiology, Insects, iScience, Journal of Chemical Ecology, Journal of Comparative Neurology, Journal of Comparative Physiology A, Journal of Insect Physiology, Journal of Neurophysiology, Journal of Neuroscience , Journal of Neuroscience

Methods, Nature Communication, Neuron, PLoS Biology, PLoS Genetics, PLoS ONE, PNAS, Proceedings of the Royal Society B, Science Advances, Scientific Reports, Zoology

Grant Reviewer

German Science Foundation (DFG, panel service for Research Units and *ad hoc* reviewer), European Research Council (Advance Grants, Synergy Grants), European Commission (reviewing expert, panel service), The Wellcome Trust, National Science Foundation (NSF), National Research Agency (ANR), Israel Science Foundation (ISF), Swedish Research Council Formas, Swiss National Science Foundation (SNSF), Marsden Fund, Volkswagen Stiftung

Other

- 2023- Executive Committee Member and Section Speaker for Behavioral Neuroscience of the German Neuroscience Society (NWG)
- 2017- Deputy Gender Equality Officer of the MPI-CE in Jena
- 2013- Member and Mentor of Minerva FemmeNet (Max Planck Society)
- 2011- Faculty Member of the International Max Planck Research School (IMPRS)
- 2011- Mentor in the Mentoring Program DREAM (Dahlem Research School, FU Berlin)
- 2007- ‘Lasersicherheitsbeauftragte’, ‘Gentechnikbeauftragte’ for the MPI-CE Jena
- 2006 Mentee in the Mentoring Program of the ProFiL-Netzwerk (FU, HU, TU Berlin)

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**STUDENT AND POSTDOCTORAL SUPERVISION**

Postgraduate researchers (postdocs)

- Sonja Bisch-Knaden (Jan 2007-Jun 2016)
- Marco Schubert (Jan 2007-Dec 2010)
- Yoichi Seki (Apr 2007-Mar 2012) (co-supervision with Bill Hansson and Dieter Wicher)
- Anja Reinert (Oct 2008-Oct 2012) (*BMBF Research grant*)
- Martin Strube-Bloss (Nov 2010-Sep 2013) (*BMBF research grant*)
- Federica Trona (Mar 2012-May 2015)
- Sudeshna Das Chakraborty (Mar 2014-June 2022) (*Humboldt Fellowship*)
- Veit Grabe (Jan 2015-May 2021)
- Ana Depetris-Chauvin (Jul 2017-Sep 2022) (*Humboldt Fellowship*, co-supervision with M. Knaden)
- Xingcong Jiang (Dec 2018-) (*MPG-CAS collaborative grant*, co-supervision with Bill Hansson)
- Karen Rihani (Mar 2020-) (*Max Planck Center nGICE*)
- Ali Bohra (Sep 2021-) (*Novo Nordisk Foundation*)
- Benjamin Fabian (June 2022-) (co-supervision with Bill Hansson)
- Diego Galagovsky (Feb 2023-) (co-supervision with Bill Hansson)

Graduate students (PhD)

- Antonia Strutz (Apr 2008-Oct 2012) (*BMBF research grant*)
- Veit Grabe (Aug 2010-Dec 2014) (*BMBF research grant*)
- Amelie Baschwitz (Nov 2011-Feb 2017) (*IMPRS fellowship*)

- Elisa Schuh née Badeke (Nov 2012-Apr 2018) (*DFG grant SA909/3-2*)
- Ahmed Mohamed (Jan 2014-Mar 2019) (*EU7 Marie Curie research grant*)
- Florencia Campetella (Mar 2015-June 2021) (*IMPRS fellowship*)
- Benjamin Fabian (Jan 2017-May 2022) (*IMPRS fellowship*)
- Devasena Thiagarajan (Jan 2019-) (*IMPRS fellowship*)
- Somasundar Arumugam (Nov 2020-) (*nGICE grant*)
- Pramit Bandyopadhyay (Nov 2020-) (*DFG grant SA909/4-1*)

Undergraduate students (Diploma, MSc, BSc)

- Céline Heinl (Oct 2006-Jul 2007) Diploma thesis
- Martin Gühmann (Jan 2007-Sep 2007) Master thesis
- Veit Grabe (Jun 2009-Jul 2010) Diploma thesis
- Amelie Baschwitz (Apr 2011-Nov 2011) Diploma thesis
- Florian Bilz (Dec 2013-Apr 2014) Master thesis
- Emil Kind (Jul 2015-Nov 2015) Bachelor thesis
- Supraja Prasad (Apr 2019-Nov 2019) Master thesis
- Anna Schottstedt (June 2021-Sep 2021) Bachelor thesis

Technician

- Silke Trautheim (Feb 2009-)

Visiting scientists

- Natalia Lozano Fahey (Feb 2016 - Jun 2016): visiting master student from Alberto Ferrus' group, Cajal Institute, Madrid, Spain
- Krista van den Heuvel (Jun 2016 - Oct 2016): visiting master student from Hans Smid's group, Wageningen University, The Netherlands
- Fernando Locatelli (Jul 2017 - Aug 2017): visiting scientist, University of Buenos Aires, Argentina, funded by DAAD
- Martin Klappenbach (Jun 2018 - Sep 2018): visiting PhD student from Fernando Locatelli's group, University of Buenos Aires, Argentina
- Aidan Williams (May 2019 - Sep 2019): visiting master student from Hans Smid's group, Wageningen University, The Netherlands

Doctoral Thesis committee expert

- Elisabeth Adam (2018-2022): Bill Hansson's lab, MPI-CE Jena, Germany
- Ariane Corina Böhm (2019): Ilona Grunwald Kadow's lab, Technical University Munich, Germany
- Lorena Halty de León (2022): Bill Hansson's lab, MPI-CE Jena, Germany
- Hari P. Narayanan (2022): Katrin Vogt's lab, University of Konstanz, Germany
- Andrea Rafaela Nicolaïdou (2022): Wolfgang Rössler's lab, University of Würzburg, Germany
- Esteban Pino (2022): Veronica Egger's group, University of Regensburg, Germany
- Ankita Prakash Chodankar (2023): Vijay Raghavan's & Mani Ramaswami's lab, National Centre for Biological Sciences (NCBS), Bangalore, India
- Martina Montanari (2023): Julien Royet's lab, IBDM, Aix-Marseille Université, France

- Maike Laura Fischer (2023): Martin Kaltenpoth's / Heiko Vogel's lab, MPI-CE Jena, Germany

## COURSES AND LECTURES

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### Teaching at Free University (FU) of Berlin (Fachbereich Biologie, Chemie, Pharmazie)

- 2014-2022 Lecture in *Chemoreception* within the lecture series *Vertiefung in die Neurobiologie und Neuroinformatik* (Animalische Physiologie I und II für Bioinformatiker)
- 2015-2022 Lecture in *Chemoreception* within the lecture series *Neurobiology and Behavior* (Vertiefungsmodul Neurobiologie und Verhalten A und B für Bachelor)
- 2015 Lecture and seminar *Olfaction* with the lecture series *Neurobiology for student teachers* (Lehramtmaster Biologisches Vertiefungsmodul Neurobiologie)
- 2014-2017 Lecture/Seminar *Sensory World: Olfaction* within the lecture series *Biology of Insects*
- 2014-2016 Lectures and seminars *Chemoreception I & II* within the lecture series *Comparative Sensory Physiology* (affines Modul)
- 2014-2015 Lectures, seminars and basic practical courses in *Neurobiology and Behavior* (Basismodul Neurobiologie und Verhalten für Bachelor)
- 2014-2015 Lectures *Action Potentials and Conduction of Electricity in Neurons* within the lecture series *Neurobiology and Behavior* (Vertiefungsmodul für Bachelor)
- 2006-2007 Advanced practical course (2 weeks) in neurobiology *Optophysiology and Neuroanatomy of the Honeybee Brain*
- 2005-2007 Lecture *Chemorezeption* within the lecture series *Neurobiology and Behaviour of the Honeybee*
- 2005-2006 Seminar and basic practical course (Grundkurs für Diplomstudenten) in *Animal Physiology – Neurobiology*
- 2005-2006 Lectures and seminars *Neurotransmitter Receptors and Intracellular Signaling* within the lecture series *Neurobiology: From Molecules to Networks*
- 2005 Lecture *World of Odors* within the lecture series *Sensory Neuroscience*
- 2000-2002 Advanced practical courses (4 weeks) in neurobiology *Optical Recording of Neuronal Activity in Honeybees*

### Teaching at MPI-CE Jena

- 2023 Lecture, seminars and practical course (1 week) in *Functional imaging and behavioral methods for insect olfaction* for students of the Max Planck Center nGICE
- 2022 Lecturer in the Mini lecture series in *Insect Chemical Ecology*
- 2016 Co-organizer and lecturer of the Graduate Course in *Insect Chemical Ecology* (40 participants)
- 2013 Seminar and practical course (3 days) *Functional Imaging of Neuronal Activity* for PhD students of the IMPRS
- 2012 Lecturer at the PhD course *Frontiers of Chemical Ecology*
- 2012 Main organizer of the FLiACT workshop *Electrophysiology and Functional Imaging* (including lectures, seminars and practical training) for PhD students of the Marie Curie Research Training Network FLiACT (30 participants)
- 2011-2022 Basic Lectures for PhD students of the International Max Planck Research School (IMPRS)

2009	Seminar and practical course (1 week) <i>The Neuroethological Basis of Arthropod Chemosensation</i> for students of the International Max Planck Research School (IMPRS)
2008	Seminar and advanced practical course (2 weeks) in <i>Neurophysiology</i> (Zoologisches Großpraktikum) for students of the Friedrich-Schiller Universität (FSU) Jena

Other teaching activities

2023	Lecturer at the <i>Insect Chemical Ecology</i> course, SLU, Alnarp, Sweden
2019	Lecturer at the <i>Insect Chemical Ecology</i> course at ICIPE, Nairobi, Kenya
2018	Lecturer at the <i>Insect Chemical Ecology</i> course, SLU, Alnarp, Sweden
2017	Lecture „ <i>Warum riechen wir?</i> “, Bruno-H-Bürgel Grundschule, Berlin, Germany
2015	Lecturer at the <i>Insect Chemical Ecology</i> course, SLU, Alnarp, Sweden
2009	Supervisor of the ‘Seminarfacharbeit: Ich kann dich nicht riechen’ of Annemarie Birckner, Caroline Scholz and Rebecca Overmeyer, Musikgymnasium Schloss Belvedere, Weimar
2009	Lecturer at the <i>Insect Chemical Ecology</i> course, SLU, Alnarp, Sweden
2008	Lecturer at the International Workshop on PhD Programs, Addis Abeba University, Ethiopia
2003-2005	Mentor of several Science Outreach Students, Rockefeller University, New York, USA

**INVITED TALKS**

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- 2023
  - SPP 2205 Retreat ‘Evolutionary optimization of neuronal processing’, Göttingen, Germany
  - Berufungssymposium (W3 Neurobiologie und Genetik), University of Würzburg, Germany
- 2022
  - Zoologisches Kolloquium, University of Regensburg, Germany
  - Final Symposium of SFB 889 (Cellular Mechanisms of Sensory Processing), Göttingen, Germany
  - 25<sup>th</sup> Anniversary of the MPI-CE, Jena, Germany
  - BMBF-BBAW Symposium: Interdisciplinary Approaches in the Neurosciences, Berlin, Germany
  - 19th Neurofly (European Drosophila Neurobiology Conference), Saint-Malo, France (*plenary lecture*)
  - ECRO 2022 Congress, Berlin, Germany
  - XXVI International Congress of Entomology (ICE), Helsinki, Finland (*keynote talk*)
  - IUSSI 2022 (International Union for the Study of Social Insects), San Diego, CA, US
  - Johannes Gutenberg Universität (AG Silies), Mainz, Germany
  - First symposium of the French Neuroethology Club (virtual)
- 2021
  - Monell Chemical Senses Center, Philadelphia, PA, US (virtual)
  - 6th Congress of the Latin American Association of Chemical Ecology (ALAEQ), Buenos Aires, Argentina (virtual)
  - 36th International Society of Chemical Ecology, Stellenbosch, South Africa (*keynote talk*) (virtual)
  - Insect Olfaction and Taste in 24 Hours around the Globe (*keynote talk*) (virtual)
  - Dartmouth College, NH, US, Department of Molecular and Systems Biology (virtual)

- 2020
  - Bernstein Conference on Computational Neuroscience (virtual)
  - Grand Opening of the Max Planck Center nGICE, Lund, Sweden
- 2019
  - ECRO 2019 Congress, Trieste, Italy (*plenary lecture*)
  - Women in Olfactory Science Symposium 2019 (WIOS), Wageningen, The Netherlands
  - 20th annual meeting of the French Club for Invertebrate Neurobiology, Orléans, France
  - Universität Aachen (AG Rothermel), Institut für Biologie, Aachen, Germany
  - Institute of Zoology, Chinese Academy of Sciences (CAS), Beijing, China
  - Workshop Geruch, Schering Stiftung, Berlin, Germany
- 2018
  - Flying Senses Symposium, Max Planck Institute of Experimental Medicine, Göttingen
  - ECRO 2018 Congress, Würzburg, Germany
  - Behavioural Research Retreat, Max Planck Institute for Ornithology, Seewiesen
  - Universität Konstanz (AG Galizia), Germany
  - MPG LeadNet Symposium, Berlin, Germany
  - NeuroSeminar (AG Hiesinger), Free University Berlin, Germany
- 2017
  - Technische Universität Berlin, Department of Ecology, Berlin, Germany
  - Universidad de Buenos Aires (UBA), Buenos Aires, Argentina
  - German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany
  - Conference of the Mediterranean Neuroscience Society (MNS 2017), St. Julian, Malta
  - NWG Satellite Symposium ‘Integrative Analysis of Olfaction’, Göttingen, Germany
  - Columbia Workshop on Brain Circuits, Memory and Computation, New York, US
  - MPG-Cambridge Neuroscience Symposium, Berlin, Germany
- 2016
  - Zoologisches Kolloquium, University of Regensburg, Germany
  - XXV International Congress of Entomology, Orlando, FL, US
  - 10th FENS - Forum of Neuroscience, Copenhagen, Denmark
  - Insect Chemical Ecology (ICE 16), MPI für Chemische Ökologie, Jena, Germany
  - Kolloquiumsvortrag, Universität Hamburg, Germany
  - Berlin-Brandenburgische Akademie der Wissenschaften, Berlin, Germany
  - Linnaeus Conference - IC-E3 Final Symposium, Alnarp, Sweden
  - International Congress of Neuroethology (ICN 2016), Montevideo, Uruguay
- 2015
  - Brain & Behaviour Seminar, Universität Bielefeld, Germany
  - Symposium ‘Genetics of Plasticity, Learning, and Behavior in a Mini Brain’, Universität Leipzig; Germany
  - ECRO XXV Congress, Istanbul, Turkey
  - 31st ISCE Meeting, International Society of Chemical Ecology, Stockholm, Sweden
  - Minisymposium (Besetzung W3-Professur Tierphysiologie), Philipps-Universität Marburg, Germany
  - Second International Conference in Code Biology, FSU Jena, Germany
  - Berufungssymposium (W2 Neurobiology), University of Würzburg, Germany
  - COSB Colloquium (Centre for Organismal Systems Biology), University Vienna, Austria
  - Mini-Symposium IC-E<sup>3</sup> - Insect Chemical Ecology, Ethology and Evolution, Jena
- 2014
  - ESF-EMBO Conference, Sant Feliu de Guixols, Spain
  - Biozentrumseminar Würzburg, Universität Würzburg, Germany
  - Universität Köln, Germany
  - LIMES Institute, University Bonn, Germany
  - Biologisches Kolloquium, AG Morphologie & Evolution der Wirbellosen, Philipps-Universität Marburg

- Symposium ‘Behavioral Physiology’ (Berufungssymposium W3), Humboldt University Berlin, Germany
- 2013    • 1<sup>st</sup> International Workshop on ‘Odor Spaces’, Hannover, Germany  
           • Symposium Neurobiologie (Besetzung W3-Professur Neurobiologie), FU Berlin, Germany  
           • South American Neuroscience Conference, Cordoba, Argentina (*gratefully declined*)  
           • Mini-Symposium ‘Date the Brains and Face your Data’, Goethe Universität Frankfurt
- 2012    • International Symposium on Olfaction and Taste (ISOT), Stockholm, Sweden  
           • 3<sup>rd</sup> Annual Meeting of the SPP 1392 ‘Integrative Analysis of Olfaction’, Konstanz, Germany  
           • Review Panel Symposium of the SPP 1392 ‘Integrative Analysis of Olfaction’, 2nd phase, Bonn, Germany  
           • ICE Symposium, Max Planck Institute for Chemical Ecology, Jena, Germany  
           • FLiACT Kick-off Meeting, Barcelona, Spain
- 2011    • Bernstein Center Berlin (BCCN) / Humboldt-Universität Berlin (AG Schreiber), Germany  
           • Georg-August-Universität (AG Fiala), Göttingen, Germany  
           • 12<sup>th</sup> European Symposium for Insect Taste and Olfaction (ESITO), St. Petersburg, Russia  
           • 2<sup>nd</sup> Annual Meeting of the SPP 1392 ‘Integrative Analysis of Olfaction’, Berlin, Germany  
           • 9<sup>th</sup> Göttingen Meeting of the German Neuroscience Society (NWG), Göttingen, Germany
- 2010    • ESF-EMBO Conference Functional Neurobiology in Minibrains: From Flies to Robots and Back Again, Sant Feliu de Guixols, Spain
- 2009    • 11<sup>th</sup> European Symposium for Insect Taste and Olfaction (ESITO), Villasimius, Italy  
           • Universidad de Buenos Aires, Departamento de Fisiología y Biología Molecular, Argentina  
           • Gordon Research Conference on Floral & Vegetative Volatiles, Magdalen College, Oxford, UK  
           • 18<sup>th</sup> Computational Neuroscience Meeting, Insect Olfaction: From Experiments to Models, Berlin, Germany  
           • 8<sup>th</sup> Göttingen Meeting of the German Neuroscience Society (NWG), Göttingen, Germany  
           • Université Paul Sabatier (AG Giurfa), Toulouse, France  
           • Max Planck Institute for Neurobiology (AG Tanimoto), Munich, Germany  
           • Review Panel Symposium of the SPP 1392 “Integrative Analysis of Olfaction”, 1st phase, Bonn, Germany
- 2008    • Deutsche Zoologische Gesellschaft (DZG), Jena, Germany  
           • ECRO XVIII Congress, Portoroz, Slovenia  
           • Biozentrum, Universität Würzburg (AG Heisenberg/ AG Buchner), Germany
- 2007    • DFG Research Group 643 Symposium “Information Processing in the Olfactory System”, Heidelberg, Germany  
           • 7<sup>th</sup> Göttingen Meeting of the German Neuroscience Society (NWG), Göttingen, Germany  
           • Biozentrum, Universität Würzburg (AG Rössler), Germany
- 2006    • Biozentrums-Kolloquium, Universität Würzburg, Germany  
           • VIII<sup>th</sup> European Congress of Entomology (ECE), Izmir, Turkey  
           • Research Institute for Molecular Pathology (IMP), Vienna, Austria
- 2005    • 2<sup>nd</sup> Hanse Workshop of HEARing Research: “Sensory Worlds: A Comparative View on Sensory Perception”, Delmenhorst, Germany
- 2003    • T.I.L.L. Photonics Technology Award Lecture, 5<sup>th</sup> Göttingen Meeting of the German Neuroscience Society, Göttingen, Germany
- 2002    • XIV International Congress of IUSSI, Sapporo, Japan
- 2001    • 7<sup>th</sup> European Symposium for Insect Taste and Olfaction (ESITO), Villasimius, Italy

- 11<sup>th</sup> International Symposium on Insect-Plant Relationships (SIP), Helsingør, Denmark
  - 4<sup>th</sup> Göttingen Meeting of the German Neuroscience Society (NWG), Göttingen, Germany
- 2000 • Universität Hohenheim (AG Breer), Stuttgart, Germany
- 1999 • 6<sup>th</sup> European Symposium for Insect Taste and Olfaction (ESITO), Tutzing, Germany

## **SCIENTIFIC MEMBERSHIPS**

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- 2004- Member of the European Chemoreception Research Organization (ECRO)
- 2006/2007 Mentee in the Mentoring Program ProFiL (FU, TU and HU Berlin)
- 2010- Member of the German Neuroscience Society (NWG)
- 2011- Faculty Member of the International Max Planck Research School (IMPRS)
- 2011/2012 Mentor in the Mentoring Program DREAM (Dahlem Research School, FU Berlin)
- 2013- Member of the Minerva-FemmeNet (MPG)

## PUBLICATION LIST

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CITATION REPORT (Web of Science™, 04/2023):

H-Index: 31 / Total times cited: 4,178 / Average citations per publication: 72

### Peer-reviewed publications (\*senior author):

1. Fischer, M. L.; Fabian, B.; Pauchet, Y.; Wiersch, N.; **Sachse, S.**; Vilcinskas, A.; Vogel, H.\* (2023). An assassin's secret: multifunctional cytotoxic compounds in the predation venom of the assassin bug *Psytalla horrida* (Reduviidae, Hemiptera). *Toxins* 15 (4), 302.
2. Fabian, B.; **Sachse, S.**\* (2023). Experience-dependent plasticity in the olfactory system of *Drosophila melanogaster* and other insects. *Frontiers in Cellular Neuroscience* 17, 1130091.
3. Anton, S.; **Sachse, S.**; Huber, R. (2023). Editorial: Insights in invertebrate physiology 2021. *Frontiers in Physiology* 14, 1157932.
4. Thiagarajan, D.; Eberl, F.; Grabe, V.; Hansson, B. S.; Knaden, M.; **Sachse, S.**\* (2022). Aversive bimodal associations impact visual and olfactory memory performance in *Drosophila*. *iScience* 25, 105485.
5. Das Chakraborty, S.; Chang, H.; Hansson, B. S.\*; **Sachse, S.**\* (2022). Higher-order olfactory neurons in the lateral horn supports odor valence and odor identity coding in *Drosophila*. *eLife* 11, e74637.
6. Thiagarajan, D.; **Sachse, S.**\* (2022). Multimodal information processing and associative learning in the insect brain. *Insects* 13 (4), 332.
7. Rihani, K.; **Sachse, S.**\* (2022). Shedding light on inter-individual variability of olfactory circuits in *Drosophila*. *Frontiers in Behavioral Neuroscience* 16, 835680.
8. Knaden, M.; Anderson, P.; Andersson, M. N.; Hill, S. R.; **Sachse, S.**; Sandgren, M.; Stensmyr, M. C.; Löfstedt, C.; Ignell, R.; Hansson, B. S.\* (2022). Human impacts on insect chemical communication in the Anthropocene. *Frontiers in Ecology and Evolution* 10, 791345.
9. Campetella, F.; Ignell, R.; Beutel, R.; Hansson, B. S.; **Sachse, S.**\* (2021). Comparative dissection of the peripheral olfactory system of the Chagas disease vectors *Rhodnius prolixus* and *Rhodnius brethesi*. *PLoS Neglected Tropical Diseases* 15 (4), e0009098.
10. Das Chakraborty, S., **Sachse, S.**\* (2021). Olfactory processing in the lateral horn of *Drosophila*. *Cell and Tissue Research*, 383, pp. 113-123.
11. **Sachse, S.**\*, Manzini, I.\* (2021). Editorial for the special issue "Olfactory coding and circuitries". *Cell and Tissue Research*, 383, pp. 1-6.
12. Vulpe, A.; Kim, H. S.; Ballou, S.; Wu, S.-T.; Grabe, V.; Gonzales, C. N.; **Sachse, S.**; Jeanne, J. M.; Su, C.-Y.; Menuz, K.\* (2021). An ammonium transporter is a non-canonical olfactory receptor for ammonia. *Current Biology* 31 (15), pp. 1-9.
13. Grabe, V., Schubert, M., Strube-Bloss, M., Reinert, A., Trautheim, S., Lavista-Llanos, S., Fiala, A., Hansson, B. S., **Sachse, S.**\* (2020). Odor-induced multi-level inhibitory maps in *Drosophila*. *eNeuro*, 7(1), 1-18.
14. Khallaf, M. A., Auer, T. O., Grabe, V., Depetris-Chauvin, A., Ammagarahalli, B., Zhang, D.-D., Lavista-Llanos, S., Kaftan, F., Weißflog, J., Matzkin, L. M., Rollmann, S. M., Löfstedt, C., Svatoš, A., Dweck, H., **Sachse, S.**, Benton, R., Hansson, B. S.\*; Knaden, M.\* (2020). Mate discrimination among subspecies through a conserved olfactory pathway. *Science Advances*, 6(25): eaba5279.

15. Mohamed, A., **Sachse, S.**\* (2020). Everyone on their own! Individualization of synaptic boutons. *Neuron*, 106(6), 875-878.
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17. Mohamed, A., Hansson, B. S., **Sachse, S.**\* (2019). Third-order neurons in the lateral horn enhance bilateral contrast of odor inputs through contralateral inhibition in *Drosophila*. *Frontiers in Physiology*, 10: 851.
18. Mohamed, A. M. M., Retzke, T., Das Chakraborty, S., Fabian, B., Hansson, B. S., Knaden, M.\* , **Sachse, S.**\* (2019). Odor mixtures of opposing valence unveil inter-glomerular crosstalk in the *Drosophila* antennal lobe. *Nature Communications*, 10: 1201.
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20. Grabe, V., **Sachse, S.**\* (2018). Fundamental principles of the olfactory code. *BioSystems*, 164, 94-101.
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41. Bisch-Knaden, S., Carlsson, M. A., Sugimoto, Y., Schubert, M., Missbach, C., **Sachse, S.**\* , Hansson, B. S.\* (2012). Olfactory coding in five moth species from two families. *The Journal of Experimental Biology*, 215, 1542-1551.
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47. Seki, Y., Rybak, J., Wicher, D., **Sachse, S.**, Hansson, B.S.\* (2010). Physiological and morphological characterization of local interneurons in the *Drosophila* antennal lobe. *Journal of Neurophysiology*, 104, 1007-1019.
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60. Galizia, C.G., **Sachse, S.**, Mustaparta, H.\* (2000). Calcium responses to pheromones and plant odours in the antennal lobe of the male and female moth *Heliothis virescens*. *Journal of Comparative Physiology A* 186, 1049-1063.
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### Manuscripts on Preprint Server:

1. Keesey, I., Doll, G., Das Chakraborty, S., Baschwitz, A., Lemoine, M., Kaltenpoth, M., Svatoš, A., **Sachse, S.**, Knaden, M.\*, Hansson, B. S.\*. Alcohol boosts pheromone production in male flies and makes them sexier. BioRxiv. doi:10.1101/2020.08.09.242784.

### Book Chapters:

1. **Sachse, S.**, Hansson, B. S. (2016). Research spotlight: Olfactory coding in *Drosophila melanogaster*. In A. Schmidt-Rhaesa, S. Harzsch, G. Purschke (Eds.), *Structure and Evolution of Invertebrate Nervous Systems* (pp. 640-645). Oxford: Oxford University Press.
2. Strutz, A., Völler, T., Riemensperger, T., Fiala, A.\*, **Sachse, S.**\* (2012). Calcium imaging of neural activity in the olfactory system of *Drosophila*. In J.-R. Martin (Ed.), *Neuromethods / Genetically Encoded Functional Indicators*, New York, NY, USA: Springer Science+Business Media, LLC (Vol. 72, pp. 43-70).
3. Galizia C.G., **Sachse S.** (2010). Odor Coding in Insects. In A. Menini (Ed.), *Frontiers in Neuroscience / The Neurobiology of Olfaction*, Sidney A.S, Miguel A. L (Eds.), CRC Press (Taylor & Francis Group), Boca Raton - London - New York (pp. 35-70).
4. Friedrich, R.W., Firestein, S., Galizia, C.G., Greer, C.A., Laurent, G., Lledo, P.M., Mombaerts, P., **Sachse, S.** (2006). Group Report: Olfactory Microcircuits. In S. Grillner (Ed.), Dahlem Workshop Report / *Microcircuits: The interface between neurons and global brain function*, Cambridge, MA: The MIT Press, (pp. 275-294).
5. **Sachse, S.** & Galizia, C.G. (2006). Topography and dynamics of the olfactory system. In S. Grillner (Ed.), *Dahlem Workshop Report / Microcircuits: The interface between neurons and global brain function*, Cambridge, MA: The MIT Press, (pp. 251-274).
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