

# 19<sup>th</sup> ESITO

## European Symposium for Insect Taste and Olfaction



September 19-24, 2025 - Villasimius (Cagliari), Italy

Conference venue:  
Residence Hotel Cormoran  
Loc. Campus, 09049 Villasimius-CA, Italy

# 19<sup>th</sup> ESITO

## SCIENTIFIC PROGRAM

Friday, September 19, 2025

- 16:00 – 18:00 **Registration**  
On-site registration at the reception desk in the poster room
- 19:00 **Welcome Cocktail**

Saturday, September 20, 2025

### MORNING SESSION

- 09:00 – 10:00 Keynote Lecture      *Chairs: Silke Sachse / Markus Knaden*  
The chemical language of insect-microbe symbioses  
*Martin Kaltenpoth*
- Chemical Ecology**      *Chair: Gabriele Uhl*
- 10:00 – 10:15 Comparative chemosensory systems in *Aedes* mosquito larvae: The role of olfaction in foraging behavior  
*Dor Perets*
- 10:15 – 10:30 Hawkmoths can smell with grooming organs on their legs  
*Sonja Bisch-Knaden*
- 10:30 – 11:00 **COFFEE BREAK**
- 11:15 – 11:30 Chemosensory mechanisms of temporal niche partitioning in an ecological specialist  
*Ambra Masuzzo*
- 11:30– 11:45 Preference performance mismatch of the Eurasian spruce bark beetle, *Ips typographus*  
*Jana Gabriele Burchards*
- 11:45 – 12:00 Deciphering chemical communication in an aquatic insect  
*Nicolas Montagne*
- 12:00 – 12:15 Deep behavioral phenotyping of pathogen-infected mosquitoes reveals mosquito- and pathogen-specific changes in blood-feeding behavior  
*Felix Hol*
- 12:15 – 12:30 Oxidant pollutants and their effect on sexual communication in insects  
*Sina Cassau*
- 12:30 – 15:00 **LUNCH BREAK**

## AFTERNOON SESSION

### Development

Chair: Philipp Brand

- 15:00 – 15:30 Development of ant olfactory systems - plasticity as a key to sociality  
Wolfgang Rössler
- 15:30 – 15:45 Development of GABAergic innervation within olfactory mushroom-body microcircuits of the honeybee *Apis mellifera*  
Claudia Groh

### Application

Chair: Philipp Brand

- 15:45 – 16:15 Exploiting herbivore-induced plant volatiles for crop protection  
Ted Turlings
- 16:15 – 16:30 From volatile to visual cues: host location and oviposition in tachinid parasitoids, with insights from *Exorista larvarum* (L.)  
Maria Luisa Dindo
- 16:30 – 17:00 **COFFEE BREAK**
- 17:00 – 17:15 Does the natal host species affect host choice of pupal filth fly parasitoids?  
Leo W. Beukeboom
- 17:15 – 17:25 Announcement Entomologia Experimentalis
- 17:25 – 17:45 **Poster talks I** (odd numbers / 3 min. per poster)
- 17:45 – 19:00 **Poster session I**

Sunday, September 21, 2025

## MORNING SESSION

### Olfactory circuits

Chair: Sonja Bisch-Knaden

- 09:00 – 09:30 Behavioral evolution in a complex world: From environment to neural circuits  
Philipp Brand
- 09:30 – 09:45 Odorant receptor selectivity in ants  
Giacomo Glotzer
- 09:45 – 10:00 Hunger-state dependent olfactory processing in *Drosophila* larvae  
Hari Pradeep Narayanan
- 10:00 – 10:15 Sexual pheromone processing in the honey bee brain  
Julia Mariette

10:15 – 10:30 Identification of two odorant receptors tuned to alarm pheromone in the honey bee *Apis mellifera*  
Julie Carcaud

10:30 – 11:00 **COFFEE BREAK**

11:00 – 11:15 Mechanosensory processing within the olfactory pathway  
Martin Strube-Bloss

**Odour-guided behaviour** Chair: Wolfgang Rössler

11:15 – 11:45 Sensory flexibility in the desert locust - from social cues to collective migrations  
Einat Couzin-Fuchs

11:45 – 12:00 Olfactory learning in *Pieris brassicae* butterflies is dependent on the intensity of a plant-derived oviposition cue  
Dimitri Peftuloglu

12:00 – 12:15 YOLito: an open-source mosquito detector for behavioral tracking  
Evyatar Sar-Shalom

12:15 – 12:30 Olfactory navigation in the Australian bogong moth *Agrotis infusa*  
Linnea Rosberg

12:30 – 15:00 **LUNCH BREAK**

AFTERNOON SESSION

**Odour-guided behaviour** Chair: Sophie Caron

15:00 – 15:15 Risk assessment in a navigating desert ant  
Richard Spehr

15:15 – 15:30 Host plant selection and discrimination of mosquitoes  
Rickard Ignell

15:30 – 15:45 Functional characterization of ovipositor-expressed odorant receptors in *Spodoptera littoralis*  
Sai Zhang

**Pollination ecology** Chair: Sophie Caron

15:45 – 16:15 How biotic and abiotic factors impact the evolution of plant-insect interactions  
Florian Schiestl

16:15 – 16:30 The role of floral scents composition in plant-pollinator interactions  
Arthur de Fouchier

16:30 – 17:00 **COFFEE BREAK**

17:00 – 17:30 **Poster talks II** (even numbers / 3 min. per poster)

Monday, September 22, 2025

## MORNING SESSION

### Evolution

Chair: Thomas Auer

- 09:00 – 09:30 Chemical sensing in arachnids  
Gabriele Uhl
- 09:30 – 09:45 Where's Waldo? A hunt for functionally divergent odorant receptor orthologs in the context of host shifts  
Arthur Comte
- 09:45 – 10:00 Olfactory alchemy: Unraveling the molecular basis of the Orco-ORx puzzle  
Camille Meslin
- 10:00 – 10:15 Of flies and feces: Olfactory preference for weird resources in *Drosophila melanogaster*  
Heinrich Marx
- 10:15 – 10:30 Evolution of an olfactory subsystem in Hymenoptera: a springboard for eusociality?  
Jean-Christophe Sandoz
- 10:30 – 11:00 **COFFEE BREAK**
- 11:00 – 11:15 Comparative transcriptomic analyses in Tephritidae species provide insights into the ecological driving force behind odorant receptor evolution  
Emmanuelle Jacquin-Joly
- 11:15 – 11:30 Receptor expression analysis of an olfactory organ reveals evolutionary patterns: from co-option to cell-type diversification  
Juan Sebastian Lugo Ramos
- 11:30 – 11:45 From land to water: Evolution of odorant receptor repertoires and expression across adephagan beetles  
Marie Merle
- 11:45 – 12:00 Evolutionary reconstruction of odorant receptor co-expression, neofunctionalization, and replacement  
Roman Arguello
- 12:30 **BOAT EXCURSION**  
Departure from Cormoran beach, lunch on board

## MORNING SESSION

### Gustation

Chair: Einat Couzin-Fuchs

- 09:00 – 09:30 Evolution of taste processing shifts dietary preference  
Thomas Auer
- 09:30 – 09:45 Neuroethology of taste in the honey bee *Apis mellifera*: from behaviour to the neural circuits  
Melissa Pitzalis

### Modulation and Plasticity

Chair: Einat Couzin-Fuchs

- 09:45 – 10:15 The ecological mind — making sense of the world with a tiny brain  
Sophie Caron
- 10:15 – 10:30 Olfactory-visual integration and recurrent modulation of olfactory processing in the honeybee  
Andrea Rafaela Nicolaidou

### 10:30 – 11:00 COFFEE BREAK

- 11:00 – 11:15 Nutrient specific modulation of sensorimotor processing in *Drosophila melanogaster*  
Daniel Münch
- 11:15 – 11:30 Hunger vs. hazard: Neurophysiological mechanisms of maladaptive food intake  
Dennis Pauls
- 11:30 – 11:45 Target- and type-specific synaptic plasticity of olfactory sensory neurons  
Robert J. Kittel
- 11:45 – 12:00 Sensory cross-talk between sight and smell in higher order brain centers  
Devasena Thiagarajan

### Receptor function

Chair: Jean-Christophe Sandoz

- 12:00 – 12:30 Structural mechanisms of chemical specificity in insect odorant receptors  
Josefina del Marmol

### 12:30 – 14:30 LUNCH BREAK

## AFTERNOON SESSION

### Receptor function

Chair: Jean-Christophe Sandoz

- 14:30 – 14:45 Dissecting odor coding strategies in the migratory locust  
Silke Sachse

- 14:45 – 15:00 Unravelling pheromone detection in the Asian and American palm weevils  
Ludvine Brajon
- 15:00 – 15:15 From the depths of the twilight zone: expression & functional analyses of an odorant & gustatory receptor homolog conserved in flies, humans and beyond  
Nathaniel Himmel
- 15:15 – 15:30 Metabotropic signaling broadens odour tuning in ionotropic receptor neurons  
Suguru Takagi
- 15:30 – 15:45 Chemosensory evolution at the origin of inquilinism in the bee louse fly (*Braula coeca*)  
Alizée Delarue
- 15:45 – 16:00 Alternative strategies based on transgenic *Drosophila melanogaster* for the functional characterization of insect ionotropic receptors  
Alberto Maria Cattaneo
- 16:00 – 16:30 **COFFEE BREAK**

## **Insect Vector**

*Chair: Josefina del Marmol*

- 16:30 – 17:00 Non-canonical olfaction in mosquitoes  
Meg Younger
- 17:00 – 17:15 Towards exploiting skin bacteria to protect animals against insect vectors  
Niels Verhulst
- 17:15 – 17:30 Unravelling the sugar-feeding behaviour of Culicoides biting midges  
Alec Hochstrasser
- 17:30 – 17:45 Mechanistic insights into LIPS-2 modulated probing behaviour of the tiger mosquito  
Irene Arnoldi
- 17:45 – 18:00 Breaking the unbreakable: Dissecting DEET and picaridin's behavioral and neuronal basis in mosquitoes  
Jacopo Razzauti
- 18:00 – 18:15 Decoding responses in the olfactory system of the yellow fever mosquito  
Benjamin Fabian
- 18:15 – 18:30 How experience can drive oviposition preference in insects  
Markus Knaden

18:30 **Concluding remarks**

19:30 **CONFERENCE BANQUET**

Wednesday, September 24, 2025

10:00 – Departure

## POSTER PRESENTATIONS

01. VOC induced interactions of *Gasterophilus* bot flies with Welsh ponies in France  
*Fotini Koutroumpa*
02. Untangling space and taste within the sensory world of *Drosophila*  
*Alexi Mery*
03. Uncovering the chemosensory repertoire of *Ips typographus* larvae: gene annotation and expression profiling  
*Anna Magnusson*
04. How subpopulations of MBONs integrate olfactory and visual information across sub-regions of the calyx  
*Athil Althaf Aliyam Veetil Zynudheen*
05. Neuromodulation of odor-guided feeding motivation and odor preference in the hungry fruit fly *Drosophila melanogaster*  
*Tzu-Ting (Tammy) Huang*
06. Expression of olfactory proteins in tarsal neurons of the desert locust *Schistocerca gregaria*  
*Natalie-Danielle Feige*
07. Cytochrome p450s in the *Drosophila* olfactory system  
*Sydney Ballou*
08. The chemical and sensory bases of social immunity in the clonal raider ant  
*Sandra Tretter*
09. Markers of olfactory sensilla support cells in adult *Drosophila*  
*Kristine Zlotnick*
10. A deep learning model for VOC-driven mating analysis in BSF  
*Libi Tamir*
11. Odor detection in complex mixtures following appetitive and aversive conditioning  
*Lautaro Alejandro Duarte*
12. Sucrose sensitivity and dietary signal integration shape feeding decisions in whiteflies  
*Jonathan Bohbot*
13. Attraction to date extract in *Aedes* mosquitoes reveals species-specific foraging strategies  
*Neta Keren*
14. Integration of learning in an innate pheromone circuit  
*Sayantani Biswas*

15. Discovery of a novel Mosquito repellent chemical from perfumery palette  
Eduardo Hatano
16. Evolution of feeding preference in drosophilids  
Enrico Bertolini