

ESOVE 2024

The XXIIIrd European
Society for Vector Ecology
Conference



ONE HEALTH IN ACTION:
supporting and accelerating
the bridging of the vertebrate
and plant health communities

14-17th Oct. 2024
Montpellier, France

BOOK OF ABSTRACTS

Program - Abstracts - Posters
Lists of participants, partners & exhibitors

[https://www.alphavisa.com/
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Society for Vector Ecology

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WELCOME TO THE 23rd EUROPEAN SOCIETY FOR VECTOR ECOLOGY CONFERENCE

Dear Conference Participants, Dear Colleagues, Dear Friends,

Twelve years after ESOVE 2012 in Montpellier, we're excited to welcome you again to the **ESOVE 2024** congress, and we hope you have a fantastic time both at the conference and exploring the local area.

Your presence is highly appreciated, and we are thrilled to have you join us for what promises to be an inspiring and informative event in the light of One Health! We believe that a friendly atmosphere fosters collaboration and innovation. We have a fantastic lineup of speakers and keynote speakers, as well as engaging posters targeting arthropod-borne pathogens and vector species, not only in vertebrates but also in plants. This conference aims at highlighting the numerous bridges between scientific communities, and emphasizes the need for collaborative, multisectoral and transdisciplinary research for surveillance, warning, and innovative vector and pest control.

We believe **ESOVE 2024** is the opportunity to network and connect with fellow attendees. We believe that these interactions can lead to collaboration, inspiration, and professional growth. We strongly encourage the junior community to engage into networking opportunities: we trust that you will gain insights and connections that will benefit your professional journey. **Indeed, ESOVE and the local committee are happy to award three prizes to Best oral communication (PhD students and postdoctoral researchers), Best poster (Master students and PhD students) and Best poster (postdoctoral researchers).**

At last, we would like to deeply thank all the partners and sponsors for their ongoing support of our organization's event. It plays a key role in the success of our event, and we deeply appreciate your participation.

Thank you for being part of this exciting journey. Together, we'll make this conference a memorable and rewarding experience.

Warm regards,
Vectopole Sud and the local organizing committee



Group picture from ESOVE 2012 in Montpellier

WELCOME ADDRESS

Dear Friends and Colleagues,

Welcome to the 23rd European Society for Vector Ecology Conference, and welcome back to Montpellier!

This year's conference is particularly exciting as we broaden our focus beyond human and veterinary health to include plant health, underscoring the importance of a multisectoral and transdisciplinary approach in vector ecology. By linking diverse perspectives, we hope to inspire fresh ideas and new approaches for those working with insects as they engage with different scientific disciplines. Thank you for bringing your brilliant minds to the meeting! Although this is our first attempt to make this link, since SOVE has had many parts of the One Health concept in its logo for over 50 years, I believe you are at the right place at the right time. It is my absolute pleasure to be a part of it.

Throughout the conference, we will meet to explore critical topics such as advances in vector control, the role of genomics in disease surveillance, and the impacts of climate change on vector-borne diseases. These discussions will highlight the essential bridges between our scientific communities and the need for collaborative research to tackle the complex challenges we face.

This event is not just about sharing knowledge; it's about building and strengthening the connections that make our community resilient and forward-thinking. As always, I encourage you to engage fully, challenge ideas, and forge new partnerships that will shape the future of our field.

My heartfelt gratitude goes to the local organizing committee, the members of the Vectopole Sud, and the ESOVE Scientific Committee. Their dedication and hard work have made this gathering possible and have shaped such an outstanding scientific program!

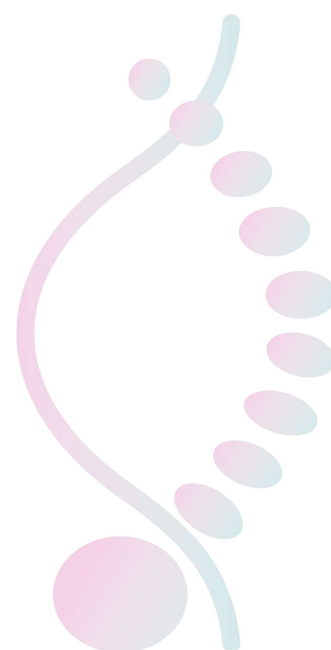
I wish you all a productive and enjoyable conference enriched by diverse viewpoints and approaches.

Stay curious, and stay healthy.

Warm regards,

Filiz Günay

European Region of Society for Vector Ecology Director



ORGANIZING AND SCIENTIFIC COMMITTEES

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- **Alex CHASKOPOULOU** - USDA-EBCL, Thessaloniki, Greece
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- **Filiz GÜNAY** - European SOVE director - Hacettepe University, Turkey

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|--|--|
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Hacettepe University, Turkey | |

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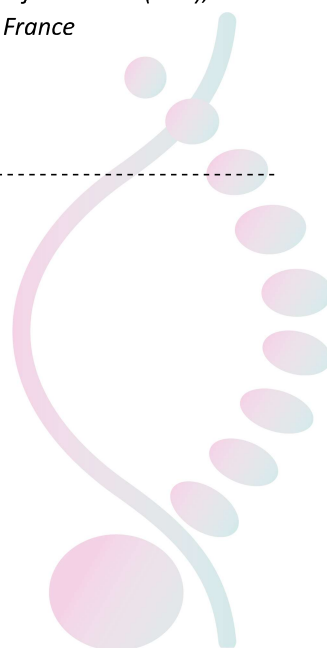
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ESOVE 2024

ORGANIZERS



<https://www.vectopole-sud.fr/>



<https://www.sove.org/>

PARTNERS

Vectopole Sud, SOVE and ESOVE acknowledge our partners and sponsors



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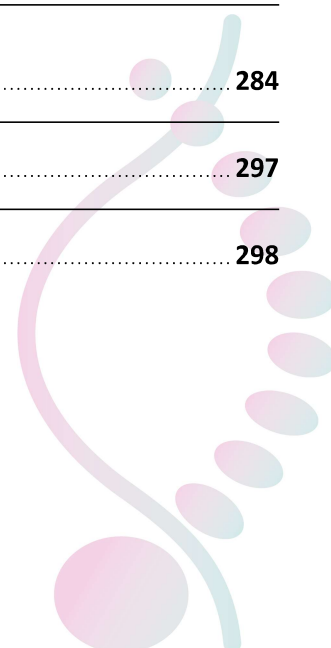
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One Health in action: supporting and accelerating the bridging of the vertebrate and plant health communities

MONDAY 14 OCTOBER		TUESDAY 15 OCTOBER		WEDNESDAY 16 OCTOBER		THURSDAY 17 OCTOBER	
08:00	Conference registration	08:25	Keynote 2 - <i>Cyril Caminade</i> (Earth System Physics Department, The Abdus Salam International Center for Theoretical Physics, Italy)	08:25	Keynote 3 - <i>Tine Huyse</i> (Royal Museum for Central Africa, Belgium)	09:00	Keynote 4 - <i>Fredros Okumu</i> (University of Glasgow, School of Biodiversity, One Health and Veterinary Medicine, Scotland)
09:00	Welcome Introduction	09:00	SESSION 3 Eco-epidemiology of VBDs under anthropogenic and climatic changes	09:00	SESSION 5 Novel research avenues for innovative vector control strategies	09:35	SESSION 7 Vector surveillance systems, community-based surveillance and management of VBDs
09:30	Keynote 1 - <i>Cindy Morris</i> (Plant Pathology Research Unit, INRAE, France)	10:40	Coffee break - Posters	10:00	Coffee break - Posters	10:35	Coffee break - Posters
10:05	SESSION 1 Integrative taxonomy and evolution	11:10	SESSION 3 (continued) Eco-epidemiology of VBDs under anthropogenic and climatic changes	10:30	SESSION 5 (continued)	11:00	SESSION 7 (continued)
11:05	Coffee break - Posters	12:30	Conference Group photo	11:30	SESSION 6 Networks and projects: What's new?	12:40	Closing Session Student awards presentation
11:30	SESSION 1 (continued)	12:40	Lunch & Coffee	12:45	Lunch box	13:00	Lunch & Coffee
13:10	Lunch & Coffee Posters	13:40	Poster Session 2	14:00	14:00 - Bus departure <i>From Le Corum - Level 0</i>		
14:10	SESSION 2 Vector ecology and biology	15:00	SESSION 4 Interactions between host(s)-vector(s)-pathogen(s)- microbiota-environment		15:00 - Cultural trip Abbey of Valmagne		
15:50	Coffee break - Posters	16:20	Coffee break - Posters				
16:10	SESSION 2 (continued) Vector ecology and biology	16:50	SESSION 4 (continued) Interactions between host(s)-vector(s)-pathogen(s)- microbiota-environment	19:00	Gala Dinner at the Abbey of Valmagne		
17:30	Poster Session 1						
18:30	Welcome Cocktail						

Area *Antigone* - Level 2

Auditorium *Einstein* - Level 0

Colored stars are for oral communications in competition for the awards

★ Best Oral communication - PhD and Post doctoral researchers

PROGRAM - MONDAY 14 OCTOBER

CET (Central European Time)

08:00-09:00 **Conference registration - Welcome coffee**

Area **Antigone** - Level 2

09:00-09:30 **Welcome Introduction**

Auditorium **Einstein** - Level 0

Chairs: Didier FONTENILLE (IRD, Vectopole Sud, Montpellier, France) & Claire GARROS (Cirad, Vectopole Sud, Montpellier, France)

- **Prof Jacques MERCIER** (Vice-Président en charge de la Recherche, Université de Montpellier)
- **Mme Clare HART** (Vice-Présidente de Montpellier Méditerranée Métropole, Déléguée au Rayonnement international et Coopération européenne)
- **Mme Claire GATECEL** (Conseillère Régionale, Région Occitanie, Présidente de la Commission Enseignement Supérieur et Recherche)

09:30-10:05 **Keynote 1**

- **KN-1- What is the interest of Plant Health for One Health?**
Cindy MORRIS (Plant Pathology Research Unit, INRAE, Montfavet, France)

10:05-11:05 **Session 1 - Integrative taxonomy and evolution**

Chairs: Thierry LEFEVRE (CNRS, Montpellier, France) & Alessandra DELLA TORRE (Universita Sapienza, Rome, Italy)

Oral presentations

- ★ **S1-1 - Pangenomic variations and differentiation between the two African malaria vector sister species *Anopheles gambiae* and *Anopheles coluzzii***
Clothilde CHENAL (MIVEGEC, Univ. Montpellier, CNRS, IRD, Montpellier, France)
- **S1-2 - Speciation within the *Anopheles gambiae* complex: high-throughput whole genome sequencing reveals evidence of a putative new cryptic taxon in 'far-west' Africa**
Alessandra DELLA TORRE (Dpt of Public Health and Infectious Diseases, Sapienza University, Rome, Italy)
- **S1-3 - Genomic diversity, evolution, and adaptation of *Anopheles bwambae* to the extreme thermal spring waters in Uganda** - Michael C. FONTAINE (MIVEGEC, CNRS - U Montpellier - IRD, Montpellier, France)

11:05-11:30 **Coffee break - Posters**

Area **Antigone** - Level 2

11:30-13:10 **Session 1 (continued)**

Auditorium **Einstein** - Level 0

Chairs: Thierry LEFEVRE (CNRS, Montpellier, France) & Alessandra DELLA TORRE (Universita Sapienza, Rome, Italy)

Oral presentations

- ★ **S1-4 - Characterization of *Aedes aegypti* from three West African countries using morphological, morphometric and genetic analysis**
Eric AGBOLI (Vector control, Bernhard Nocht Institute for Tropical Medicine, Hamburg, Hamburg, Germany)
 - **S1-5 - A worldwide study of structural variants of insecticide resistance genes in *Culex pipiens* s.l.**
Pierrick LABBÉ (ISEM, Université de Montpellier, Montpellier, France)
 - **S1-6 - A decade of mass spectrometry applications on phlebotomine sand flies: what we know and what we want to know more** - Vit DVORAK (Dpt of Parasitology, Faculty of Science, Charles University, Prague 2, Czechia)
 - **S1-7 - An integrative approach to combat cryptic speciation in a complex of biting midges**
Phillip SHULTS (ARS, USDA, Manhattan, Kansas, United States)
- ... / ...

- **S1-8 - Integrative taxonomy of nearly 200 years old type specimens of *Culicoides vexans* Staeger leading to unexpected taxonomic implications**
Bruno MATHIEU (UR3073 PHAVI - Medical School, University of Strasbourg, Strasbourg, France)

13:10-14:10 **Lunch & Coffee - Posters**Area **Antigone** - Level 214:10-15:50 **Session 2 - Vector ecology and biology**Auditorium **Einstein** - Level 0

Chairs: Filiz GÜNAY (University of Florida, Vero Beach, USA) & Chris SANDERS (The Pirbright Institute, Woking, UK)

Oral presentations

- ★ **S2-1 - Temperature and humidity limits for flight activity and survival of field-collected *Culicoides* in the UK**
Laura JONES (The Pirbright Institute, Woking, United Kingdom)
- ★ **S2-2 - Tick-borne encephalitis virus in the Netherlands: Exploring the interplay between ticks, viruses and rodents**
Julian BAKKER (Laboratory of Entomology, Wageningen University & Research, Wageningen, Netherlands)
- **S2-3 - The cellular and molecular components of the proboscis in the tiger mosquito *Aedes albopictus***
Paolo GABRIELI (Dept. Biosciences, University of Milan, Milano, Italy)
- ★ **S2-4 - The genetic bases of deltamethrin resistance in *Aedes albopictus* - A genomic travelling around the world**
Tiphaine BACOT (Laboratoire d'écologie alpine, Université Grenoble Alpes, Gières, France)
- **S2-5 - The seasonal thermal ecophysiology and egg metabolome point to different overwintering strategies in two invasive *Aedes* mosquito species**
Ruth MÜLLER (Unit Entomology, Biomedical Sciences, Institute of Tropical Medicine, Antwerp, Belgium)

15:50-16:10 **Coffee break - Posters**Area **Antigone** - Level 216:10-17:30 **Session 2 (continued)**Auditorium **Einstein** - Level 0

Chairs: Filiz GÜNAY (University of Florida, Vero Beach, USA) & Chris SANDERS (The Pirbright Institute, Woking, UK)

Oral presentations

- **S2-6 - Unlocking *Aedes albopictus* Expansion: Integrating Microhabitat Climate in Species Distribution Models**
Katie Milligan SUSONG (Pathobiological Sciences, University of Wisconsin - Madison, Madison, WI, United States)
- ★ **S2-7 - Resting site selection and microclimate of adult mosquitoes along a land use gradient**
Carmen VILLACAÑAS DE CASTRO (Carl von Ossietzky Universität Oldenburg, Oldenburg, Germany)
- ★ **S2-8 - Toc-toc: who is inside? Uncovering indoor host-seeking mosquito dynamics by Citizen Science**
Eleonora LONGO (Center Agriculture Food Environment, University of Trento, San Michele all'Adige, Italy)
- **S2-9 - Diversity of the *Aedes aegypti* group in the Southwest Indian Ocean**
Andrea GLORIA-SORIA (Department of Entomology, The Connecticut Agricultural Experiment Station, New Haven, CT, United States)

17:30-18:30 **Poster Session 1**Area **Antigone** - Level 218:30 **Welcome Cocktail**Area **Antigone** - Level 2

PROGRAM - TUESDAY 15 OCTOBER

CET (Central European Time)

08:25-09:00

Keynote 2

Auditorium *Einstein* - Level 0

- **KN-2 - Impact of recent and future climate change on vector-borne diseases**
Cyril CAMINADE (*Earth System Physics Department, The Abdus Salam International Center for Theoretical Physics, Trieste, Italy*)

09:00-10:40

Session 3 - Eco-epidemiology of VBDs under anthropogenic and climatic changes

Chairs: Didier FONTENILLE (*IRD RIVOC, Montpellier, France*) & Antoine BARREAUX (*Cirad, Nairobi, Kenya*)

Oral presentations

- ★ **S3-1 - Predicting the current and future geographic distribution of *Lutzomyia* spp., vectors of *Leishmania* spp., under climate change, in North America**
Sydney DEWINTER (*AEROH Lab, Department of Population Medicine, Ontario Veterinary College, University of Guelph, Guelph, Ontario, Canada*)
- **S3-2 - The rising global economic costs of invasive *Aedes* mosquitoes and *Aedes*-borne diseases**
David ROIZ (*MIVEGEC, Institut de recherche pour le Développement (IRD), Montpellier, France*)
- **S3-3 - One Health innovative sampling to understand the ecology and spread of Usutu virus and West Nile virus in the Netherlands, 2016-2022**
Reina SIKKEMA (*Virology, ErasmusMC, Rotterdam, The Netherlands*)
- ★ **S3-4 - Modeling mosquito thermal performance and West Nile virus transmission suitability with Bayesian hierarchical models** - Julian HEIDECHE (*Heidelberg University, Heidelberg, Germany*)
- **S3-5 - Molecular Xenomonitoring (MX) allows real-time surveillance of West Nile and Usutu virus in mosquito populations**
Nazli AYHAN (*Unité des Virus Émergents, Aix-Marseille University, Marseille, France*)

10:40-11:10

Coffee break - Posters

Area *Antigone* - Level 2

11:10-12:30

Session 3 (continued)

Auditorium *Einstein* - Level 0Chairs: Didier FONTENILLE (*IRD RIVOC, Montpellier, France*) & Antoine BARREAUX (*Cirad, Nairobi, Kenya*)

Oral presentations

- ★ **S3-6 - Alien lymnaeid snails in the Western Mediterranean basin: new invaders and trematode-transmitters in the region?** - Annia ALBA MENÉNDEZ (*Université de Montpellier, Perpignan, France*)
- ★ **S3-7 - Lyme Borreliosis in Bonn, Germany under an integrated approach of One Health and Socio-Ecology**
Maria Luisa ESPINEL RAMOS (*Center for Development Research (ZEF), University of Bonn, Bonn, Germany*)
- ★ **S3-8 - Green cities and the risk for vector-borne diseases transmission** - Mathilde MERCAT (*UMR MIVEGEC, University of Montpellier, IRD, CNRS, Montpellier, France*), presented by Colombine BARTHOLOMÉE
- **S3-9 - Phenotypic plasticity in vector traits drives trends in global disease incidence: *Aedes albopictus* and dengue** - Steven WHITE (*UK Centre for Ecology and Hydrology, Wallingford, United Kingdom*)

12:30-12:40

Conference Group Photo

12:40-13:40

Lunch & Coffee - Posters

Area *Antigone* - Level 2

13:40-15:00

Poster Session 2

Area *Antigone* - Level 2

15:00-16:20

Session 4 - Interactions between host(s)-vector(s)-pathogen(s)-microbiota-environment

Chairs: Thomas POLLET (INRAE, Montpellier, France) & Maryline UZEST (INRAE, Montpellier, France)

Auditorium *Einstein* - Level 0*Oral presentations*

- ★ **S4-1 - West Nile virus-related activity alterations and neuronal infection in *Culex pipiens***
Jaume GARDELA (IRTA, Centre de Recerca en Sanitat Animal (CRESA, IRTA-UAB), Bellaterra, Barcelona, Spain)
- ★ **S4-2 - Understanding factors shaping mosquito microbiome assembly using gnotobiotic approach**
Shivanand HEGDE (School of Life Sciences, Keele University, Newcastle, United Kingdom)
- ★ **S4-3 - Analyzing the Complexity: interactions of arboviruses and insect-specific viruses in vector competence studies with two invasive *Aedes Species***
Anna HEITMANN (Department of Arbovirology and Entomology, Bernhard Nocht Institute for Tropical Medicine, Hamburg, Germany)
- ★ **S4-4 - Impacts of insecticide resistance on Usutu virus transmission and associated life-history parameters in *Culex quinquefasciatus* mosquitoes**
Maxime PRAT (ISEM, Université de Montpellier, Montpellier, France)

16:20-16:50

Coffee break - PostersArea *Antigone* - Level 2

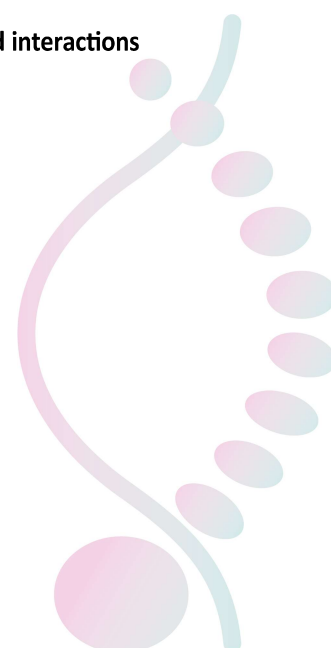
16:50-18:30

Session 4 (continued)Auditorium *Einstein* - Level 0

Chairs: Thomas POLLET (INRAE, Montpellier, France) & Maryline UZEST (INRAE, Montpellier, France)

Oral presentations

- ★ **S4-5 - Infection dynamics and impact of blood feeding on the susceptibility of *Culicoides biting* midges to bluetongue virus (BTV)**
Christopher SANDERS (Entomology, The Pirbright Institute, Woking, Surrey, United Kingdom)
- ★ **S4-6 - Identification of receptors of the plant virus Turnip mosaic virus (*Potyviridae*) in their aphid vectors**
Yu FU (Plant Health Institute Montpellier (PHIM), Montpellier, France)
- ★ **S4-7 - The aphid factor: how aphid genetic diversity and the endosymbionts they carry may impact virus epidemiology**
Trisna TUNGADI (Keele University, Keele, United Kingdom)
- ★ **S4-8 - A flower pathway for arbovirus transmission? Unravelling sand fly - Phlebovirus interactions**
Lison LAROCHE (Life Sciences, Imperial College London, London, United Kingdom)
- ★ **S4-9 - The *Hyalomma marginatum* tick holobiont: composition, dynamics and interactions**
Charlotte JOLY KUKLA (ASTRE, Cirad-INRAE, Montpellier, France)



PROGRAM - WEDNESDAY 16 OCTOBER

CET (Central European Time)

08:25-09:00

Keynote 3

Auditorium *Einstein* - Level 0

- **KN-3 - sNailed it: Unlocking the potential of Citizen Science to control and prevent snail-borne diseases**
Tine HUYSE (*Royal Museum for Central Africa, Tervuren, Belgium*)

09:00-10:00

Session 5 - Novel research avenues for innovative vector control strategies

Chairs: Fabrice CHANDRE (*IRD, Montpellier, France*) & Eleonora FLACIO (*SUPSI, Mendrisio, Switzerland*)

Oral presentations

- **S5-1 - Monitoring individual rice field flooding dynamics over large scales to inform mosquito surveillance and control** - Mauricianot RANDRIAMIHAJA (*ONG PIVOT, Ranomafana, Madagascar*)
- ★ **S5-2 - Reducing densities of zoophagous Anopheles by treating cattle with an innovative formulation of Ivermectin while preserving the environment: a One-Health approach**
Angélique PORCIANI (*MIVEGEC, Université de Montpellier-CNRS-IRD, Montpellier, France*)
- **S5-3 - The use of Wolbachia for dengue control - New Caledonia as a case study**
Edwige RANCÈS (*World Mosquito Program, Pau, France*)

10:00-10:30

Coffee break - Posters

Area *Antigone* - Level 2

10:30-11:30

Session 5 (continued)

Auditorium *Einstein* - Level 0Chairs: Fabrice CHANDRE (*IRD, Montpellier, France*) & Eleonora FLACIO (*SUPSI, Mendrisio, Switzerland*)

Oral presentations

- **S5-4 - Development of N-arylamide insecticides to control hemipteran pests of agricultural systems**
Daniel SWALE (*Emerging Pathogens Institute, Department of Entomology, University of Florida, Gainesville, FL, United States*)
- **S5-5 - Vectrap: a 3 years-field evaluation of mass-trapping strategy against *Aedes albopictus* and *Aedes aegypti* implemented in residential areas**
Nicolas LE DOEUFF LE ROY (*EID Méditerranée, Montpellier, France*)
- ★ **S5-6 - Exploiting sugar-feeding behaviour for the control of *Culicoides* biting midges**
Alec HOCHSTRASSER (*Vector Entomology Group, Institute of Parasitology, Zürich, Switzerland*)

11:30-12:45

Session 6 - Networks and projects: What's new?

Auditorium *Einstein* - Level 0Chairs: Florence FOURNET (*IRD, Montpellier, France*) & Vit DVORACK (*Faculty of Science - Charles University, Prague, Czech Republic*)

Oral presentations

- **S6-1 - VectorNet3: The third iteration of the European network for medical and veterinary entomology**
Cedric MARSBOOM (*Avia-GIS, Zoersel, Belgium*)
- **S6-2 - MEDILABSECURE A One Health Network to improve preparedness and response capacities to emerging vector-borne diseases increased by environmental and climate change**
Vanessa LAGAL (*Department of International Affairs, Institut Pasteur, Paris, France*)
- **S6-3 - VEClim Advances: Climate Sensitive Models of Vector Dynamics and Disease Transmission**
Kamil ERGULER (*CARE-C, The Cyprus Institute, Nicosia, Cyprus*)

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- **S6-4 - Shortening the gap between vector surveillance and first response in arboviruses outbreaks: from REVIVE network program to MOBVEC project**
Hugo Costa OSÓRIO (*Centre for Vectors and Infectious Diseases Research (CEVDI), National Institute of Health (INSA), Águas de Moura, Palmela, Portugal*)
- **S6-5 - A federative scientist Network under One Health approach to enhance people well-being and sustainable development in Côte d'Ivoire**
Mathurin KOFFI (*Research Unit of Genetic and Molecular Epidemiology, UJLoG, Daloa, Côte d'Ivoire*)

12:45-14:00 **Lunch box** Area **Antigone** - Level 2

14:00-19:00 **Cultural trip: Abbey of Valmagne**

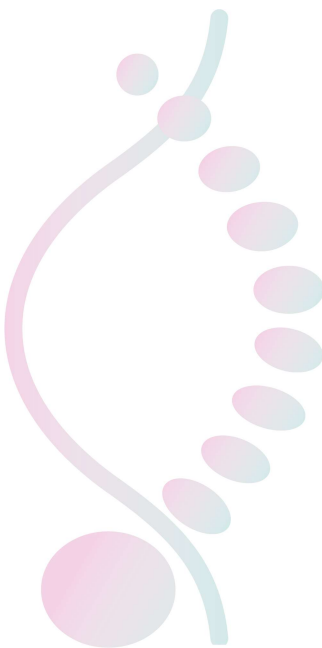
14:00 Bus departure from Le Corum **Level 0** - Allé de la Citadelle

15:00 Arrival at the Abbey of Valmagne for guided activities

19:00 **Gala Dinner at the Abbey of Valmagne**

22:00 Return first bus to Montpellier Triangle

00:00 Last departure to Montpellier Triangle



PROGRAM - THURSDAY 17 OCTOBER

CET (Central European Time)

09:00-09:35

Keynote 4

Auditorium *Einstein* - Level 0

- **KN-4 - Exploiting the Biology of Dominant Vector Species to Improve Malaria Control in Africa**
Fredros OKUMU (*Ifakara Health Institute & University of Glasgow, Glasgow, United Kingdom*)

09:35-10:35

Session 7 - Vector surveillance: surveillance systems, community-based surveillance and management of VBDs

Chairs: Alex CHASKOPOULOU (*USDA ARS EBCL, Thessaloniki, Greece*) & Jerome BARON (*Heidelberg University Hospital, Heidelberg, Germany*)

Oral presentations

- **S7-1 - Integrating Citizen and Authoritative Surveillance Data in Mosquito Distribution Models**
Catuxa CERECEDO-IGLESIAS (*Centre d'Estudis Avançats de Blanes (CEAB-CSIC), Blanes, Catalunya, Spain*)
- **S7-2 - Preventing Another Useless Modelling Task**
Heidi BROWN (*University of Arizona, Tucson, AZ, U.S.A.*)
- **S7-3 - Success in Mosquito Control: An Integrated Approach in Istanbul, Turkey**
Bulent ALTEN (*Ecology/vErg Lab./Biology, Hacettepe University, Ankara, Turkey*)

10:35-11:00

Coffee break - Posters

Area *Antigone* - Level 2

11:00-12:40

Session 7 (continued)

Auditorium *Einstein* - Level 0

Chairs: Alex CHASKOPOULOU (*USDA ARS EBCL, Thessaloniki, Greece*) & Jerome BARON (*Heidelberg University Hospital, Heidelberg, Germany*)

Oral presentations

- **S7-4 - Circulation of West Nile virus in active *Culex pipiens* mosquito populations in the Attica region 2021-2023** - Georgios BALATSOS (*Laboratory of Insects & Parasites of Medical Importance, Benaki Phytopathological Institute, Kifisia, Attica, Greece*)
- **S7-5 - Unraveling Dissemination Trajectories of Insect Vectors : Towards Enhanced Prophylaxis in Plant Health** - Margaux DARNIS (*Pathologie Végétale, INRAE, Avignon, France*)
- **S7-6 - Novel eDNA-based surveillance strategy targeting quiescent ticks in soil**
Androniki CHRISTAKI1 (*European Biological Control Laboratory, USDA-ARS, Thessaloniki, Greece*)
- **S7-7 - Testing a novel Optical Sensor for *Aedes* and *Culex* adult automatic count and identification and BG-trap capture rate determination**
Martina MICOCCHI (*Dpt of Public Health and Infectious Diseases, Sapienza University of Rome, Rome, Italy*)
- **S7-8 - Estimating the probability that observed absence of tsetse (Diptera: Glossinidae) indicates elimination**
John HARGROVE (*South African Centre for Epidemiological Modelling and Analysis (SACEMA), Stellenbosch University, Stellenbosch, South Africa*)

12:40-13:00

Closing Session

- Filiz GÜNAY (*European SOVE director, Hacettepe University, Turkey*)
- Alexandra CHASKOPOULOU (*USDA-EBCL, Thessaloniki, Greece*)
- Fabrice CHANDRE (*IRD, Montpellier, France*)

- Student awards presentation

13:00-14:00

Lunch & Coffee

Area *Antigone* - Level 2



S3-6

Alien lymnaeid snails in the Western Mediterranean basin: new invaders and trematode-transmitters in the region?

Annia ALBA MENÉNDEZ^{1,2} (annia.alba@gmail.com), Philippe DOUCHET¹, Olivier REY³, Dominique FAUGÈRE⁴, Joaquin LOPEZ-SORIANO⁵, Sergio QUIÑONERO-SALGADO⁵, Pilar ALDA⁶, Langand JULIETTE³, Nicolas BONEL⁶, Jean Pierre POINTIER³, Sylvie HURTRÈZ-BOUSSÈS⁷, Benjamin GOURBAL³, Antonio A. VÁZQUEZ³

¹ Université de Montpellier, Perpignan, France ; ² Institut ExposUM, Perpignan, France ; ³ Université de Perpignan, Perpignan, France ; ⁴ IRD, Montpellier, France ; ⁵ Associació Catalana de Malacologia, Barcelona, Spain ; ⁶ CONICET-UNS, Bahía Blanca, Argentina ; ⁷ IRD, Université de Montpellier, Montpellier, France

Biological invasions have the potential to foster the emergence of diseases, either through geographic spread or adaptive evolution. In the Western Mediterranean basin, two non-native snails have been introduced: the American *Pseudosuccinea columella*, to Aquitania and Corsica (France), and the Asian *Orientogalba viridis*, to Spanish Catalunya. Both play significant roles in transmitting the liver fluke *Fasciola hepatica* (Trematoda) elsewhere. This zoonotic emerging parasite circulates endemically in Europe within livestock, facilitated by a single vector species, the local snail *Galba truncatula*. Here, we aim to address four crucial questions: (i) Have the introduced exotic snails established and spread throughout the region? (ii) What are their ecological patterns in comparison to the local vector snail? (iii) What is their population genetic structure, and what is their history of invasion? (iv) Are they compatible with and capable of transmitting local parasites? Spatial surveys conducted within the Catalunya/Occitania region, alongside field ecology, were complemented with COI sequencing, microsatellite genotyping, and trematode metabarcoding analyses. Furthermore, laboratory populations were established to evaluate experimental compatibility with local parasites. The successful establishment of a COI haplotype of *O. viridis*, closely related to a Malaysian haplotype, is patented within the Ebro delta. Of particular concern is the spread of the globally invasive genotype of *P. columella*, known for its high compatibility with *F. hepatica*, in Occitania. This spread is primarily associated with hydrographic systems connected to the Canal Latéral de la Garonne/Canal du Midi. However, multiple introduction events may have occurred, as populations of these species are also documented in distant and non-connected artificial habitats, suggesting the existence of high propagule pressures. Both species exhibited high compatibility with local isolates of *F. hepatica* (70-100%). This comprehensive study provides a thorough overview of the invasion history and the associated risks of parasite transmission in the region driven by these exotic snails.