

Monday 26 August

Main Hall

8:15 - 9:15



Plenary Lecture 1

8:15 **PL1** The Tangled Bank of Insect-Microbe Symbiosis
Nancy A. Moran

Department of Integrative Biology, The University of Texas at Austin (United States of America)

Introducer: Takema Fukatsu (National Institute of Advanced Industrial Science and Technology)

RoomA

Symposium 14-1

9:45 - 11:45



Potential application of Empirical Dynamic Modeling for insect population dynamics

Chair: Shigeki Kishi (National Agriculture and Food Research Organization), Noriyuki Suzuki (Kochi University)

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|-------|--|-------|--|
| 9:45 | 14-1-01 Introduction to EDM for entomologists
Shigeki Kishi | 10:45 | 14-1-05 EDM analyses for long rice pest records in Japan
Takehiko Yamanaka |
| 10:00 | 14-1-02 Application of Empirical Dynamic Modeling for investigating environmental effects on mosquito population dynamics
Chih-hao Hsieh | 11:00 | 14-1-06 Iteratively forecasting the weekly Western Flower Thrips (<i>Frankliniella occidentalis</i>) population in a pepper greenhouse with a data-driven ensemble model
Kin Ho Chan |
| 10:15 | 14-1-03 Multiple facets of the effects of interaction variability on population sensitivity to pesticide applications
Koya Hashimoto | 11:15 | 14-1-07 Wave interference can disrupt tethered suppression gene drives in continuous space
Ruobing Feng |
| 10:30 | 14-1-04 Nonlinear time series analysis on the interaction between the citrus whitefly and the whitefly-specialist ladybird as a test for top-down effect of biocontrol candidate
Noriyuki Suzuki | 11:30 | 14-1-08 Investigating the Termicidal effects of <i>Syzygium aromaticum</i> and <i>Allium sativum</i> Against the <i>Heterotermes indicola</i> (wasmann) (Isoptera: Rhinotermitidae)
Fazal Said |

Symposium 14-2

13:30 - 18:15



Genetic Population Engineering for Pest Management

Chair: Jackson Champer (Peking University), Xuechun Feng (Shenzhen Bay Laboratory), Nicky Faber (Wageningen University & Research)

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|-------|--|-------|---|
| 13:30 | 14-2-01 Failure mode analysis for a genetic biocontrol technology
Michael J Smanski | 14:30 | 14-2-05 Genetic determinisms of <i>Wolbachia</i> -induced cytoplasmic incompatibility in the invasive pest, <i>Drosophila suzukii</i>
Nicolas O. Rode |
| 13:45 | 14-2-02 The impact of genetic diversity on gene drive efficiency in <i>Drosophila melanogaster</i>
Nicky Faber | 14:45 | 14-2-06 Modeling to support target product profiles for mosquito gene drives
John M. Marshall |
| 14:00 | 14-2-03 Gene drive based population suppression targeting <i>dsx</i> in the malaria vector <i>Anopheles stephensi</i>
Xuejiao Xu | 15:00 | 14-2-07 New germline Cas9 promoters show improved performance for homing gene drive
Jie Du |
| 14:15 | 14-2-04 Male-only strains for genetic biocontrol of spotted wing <i>Drosophila</i> and the New World screwworm
Max Scott | 15:15 | 14-2-08 Unravelling <i>Anopheles</i> mosquito embryogenesis and sex determination with long-read RNA sequencing.
Matteo Vitale |

Daily schedules

Sunday 25 Aug

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|-------|--|-------|---|
| 15:30 | Coffee Break | 17:00 | 14-2-12 The expression of RTAcs-Bddsx system under thermo-control for female repression in <i>Bactroera dorsalis</i>
Cheng Chang |
| 16:15 | 14-2-09 Mosquito population modification and the malaria eradication agenda
Anthony A. James | 17:15 | 14-2-13 An integral gene drive for population modification of the malaria vector <i>Anopheles gambiae</i>
Nikolai Windbichler |
| 16:30 | 14-2-10 Genome engineering and gene drive development in the disease vector <i>Culex quinquefasciatus</i>
Xuechun Feng | 17:30 | 14-2-14 Spreading insecticide sensitive allele <i>RyK^{M4758I}</i> with gene drive in <i>Drosophila melanogaster</i>
Shimin Chen |
| 16:45 | 14-2-11 Improved population suppression by gene drive targeting <i>doublesex</i> from dominant nonfunctional resistance alleles
Weizhe Chen | 17:45 | 14-2-15 Allele Sails for Insect Population Modification
Maciej Maselko |

Monday 26 Aug

Annex Hall1

Symposium 14-3

9:45 - 11:45

Sterile Insect Technique (SIT) Applications for Area-wide Integrated Pest Management (AW-IPM)



Chair: Lawrence Nkosikhona Malinga (South African Sugarcane Research Institute)

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|-------|---|-------|---|
| 9:45 | 14-3-01 Effect on sterility and flight ability of <i>Ceratitis capitata</i> irradiated with X-ray as an alternative to gamma irradiation for the sterile insect technique
Desmond Edward Conlong | 10:45 | 14-3-05 A Study in Ebony: Functional genomics evidence linking the <i>ebony</i> gene to the black pupae phenotype in tephritid fruit flies
Daniel Fernando Paulo |
| 10:00 | 14-3-02 Applicability of Rhodamine-B for Mark, Release, and Recapture of Gamma-Irradiated Males <i>Aedes aegypti</i> : Persistence, Dispersal, and Its Effect on Survival
Beni Ernawan | 11:00 | 14-3-06 Comparing gamma and X-ray irradiation for the sterilization of <i>Thaumatotibia leucotreta</i> in a commercial SIT programme
Megan Mulcahy |
| 10:15 | 14-3-03 Experience and Lessons Learnt on the Application of SIT against the Primary Vector <i>Anopheles arabiensis</i> in South Africa
Givemore Munhenga | 11:15 | 14-3-07 Population suppression with dominant female-lethal alleles is boosted by homing gene drive
Jinyu Zhu |
| 10:30 | 14-3-04 Simulating Millions of Mosquitos Using Cutting Edge Continuous-Space Modeling Techniques
Samuel Evans Champer | 11:30 | 14-3-08 Effect of X-ray irradiation on the sterility of Eldana saccharina for the sterile insect technique in sugarcane
Lawrence Nkosikhona Malinga |

Tuesday 27 Aug

Wednesday 28 Aug

Symposium 14-4

13:30 - 18:15

Bemisia tabaci: a pernicious pest and a super vector



Chair: Rajagopalbabu Srinivasan (University of Georgia), Alvin M Simmons (Agricultural Research Service)

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|-------|---|-------|--|
| 13:30 | 14-4-01 Recent phylogenomic advancements, and biogeographical and ecological nuances of the <i>Bemisia tabaci</i> cryptic species group
Judith K Brown | 14:30 | 14-4-05 Horizontally obtained <i>Rickettsia</i> "symbiont" is not inherited by the parasitic wasp <i>Eretmocerus hayati</i>
Yin-Quan Liu |
| 13:45 | 14-4-02 Whiteflies in Changing Environments
Alvin M Simmons | 14:45 | 14-4-06 Four decades of <i>Bemisia tabaci</i> -transmitted viruses in Europa's orchard
Dirk Janssen |
| 14:00 | 14-4-03 Whitefly infestations may drop down under a future climate
Elisa Garzo | 15:00 | 14-4-07 Alterations in the expression profiles of secreted small RNAs by the whitefly <i>Bemisia tabaci</i> upon Tomato yellow leaf curl virus infection
Murad Ghanim |
| 14:15 | 14-4-04 The costs and benefits of two secondary symbionts in a whitefly host shape their differential prevalence in the field
Shu-Sheng Liu | 15:15 | 14-4-08 Differential interactions of <i>Bemisia tabaci</i> cryptic species with old- and new-world begomoviruses
Rajagopalbabu Srinivasan |

Thursday 29 Aug

Friday 30 Aug

15:30	Coffee Break	17:15	14-4-13 Armet from whitefly saliva acts as an effector to suppress plant defences by targeting tobacco cystatin Hui Du
16:15	14-4-09 Mixed infections of whitefly (<i>Bemisia tabaci</i>)-transmitted viruses in the southwestern United States influence virus transmission and prevalence William M Wintermantel	17:30	14-4-14 A Low-Cost Egg Staining Method for Improved Phenotyping of Whitefly Resistance in Crop Plants Benjamin van Raalte
16:30	14-4-10 Making a mixed infection: effect of acquisition sequence on propagation of TYLCV and ToMoV by <i>Bemisia tabaci</i> Alana Jacobson	17:45	14-4-15 Attraction of <i>Nicotiana benthamiana</i> to <i>Bemisia tabaci</i> is related to a chemical signal in plant volatile, undecane Xinyue Zhang
16:45	14-4-11 Tracking <i>Bemisia tabaci</i> -transmitted sweet potato leaf curl virus through field production and vegetative propagation: Implications for breeding and production Sharon A. Andreason	18:00	14-4-16 Insecticide susceptibility and biotype identification of <i>Bemisia tabaci</i> (Gennadius) in Taiwan Ying-shiou Lin
17:00	14-4-12 CRISPR/Cas9, Cas12a Ribo Nucleoprotein Mediated Genome Editing: A New Avenue in Insect Pest Management Asokan Ramasamy		

Annex Hall2

Symposium 14-5

9:45 - 11:45



Insect vectors of plant pathogens: the biology of epidemics and development of public policy

Chair: Andres Antolinez (Cornell University), Monique Rivera (Cornell University)

9:45	14-5-01 Building an multidisciplinary approach to help decision makers solve vectored disease problems Neil McRoberts	11:00	14-5-05 Field-inspired research on the biology and management of insect vector-borne disease Michelle Lynn Heck
10:15	14-5-02 Understanding the impact of policy change and agronomic practice on carrot virus and vector management in the United Kingdom Adrian Fox	11:15	14-5-06 Intruding into a conversation: harnessing vibrational communication for interfering with <i>Xylella fastidiosa</i> transmission Daniele Cornara
10:30	14-5-03 Management and regulations for invasive vectors of plant diseases in New Zealand Jessica Vereijssen	11:30	14-5-07 A secondary metabolite produced by an organelle-like bacterial mutualist may affect the microbiota of the Asian citrus psyllid Atsushi Nakabachi
10:45	14-5-04 Vector behavior and epidemiology of vector-borne bacteria Alberto Fereres		

Symposium 7-1

13:30 - 18:15



Evolution of termites and cockroaches (Blattodea)

Chair: Thomas Bourguignon (Okinawa Institute of Science and Technology), Frederic Legendre (Museum national d'Histoire naturelle, Paris)

13:30	7-1-01 The molecular signatures of healthy ageing in termites Mark C Harrison	14:00	7-1-03 Blattodea diversification during the Angiosperm Revolution: insights from their rich fossil record Corentin Jouault
13:45	7-1-02 Reproductive biology and embryonic development of <i>Anaplecta japonica</i> , 1977 (Blattodea, Anaplectidae) Mari Fujita	14:15	7-1-04 Pervasive relaxed selection in termite genomes Nathan Lo

- 14:30 **7-1-05** Unveiling the Biology of Stylotermitidae: Gaining Insights through Nesting Chamber Reconstruction, Ontogenetic Development and Symbiotic Protist Diversity
Ren-han Liu
- 14:45 **7-1-06** The divergence and disparity of late Mesozoic cockroaches as indicated by Myanmar amber
Xin-Ran Li
- 15:00 **7-1-07** Evolution of termite tandem runs, with a few references to cockroach mating
Nobuaki Mizumoto

- 16:45 **7-1-11** Genome-scale phylogenies and their use in Blattodea
Simon Hellemans
- 17:00 **7-1-12** Blattodea phylogenomics and wing evolution
Dominic A Evangelista
- 17:15 **7-1-13** Identifying key genes in termite soldier differentiation through comparative analysis with *Cryptocercus* woodroaches
Yudai Masuoka
- 17:30 **7-1-14** Behavioral ecology of the mating pair in subsocial wood-feeding cockroaches: the beginning of the sociality in their life history.
Haruka Osaki
- 17:45 **7-1-15** The origin and trends of coevolution between Blattodea and their obligate endosymbiont, *Blattabacterium*
Yukihiro Kinjo
- 18:00 **7-1-16** Genome-wide expression analysis of duplicated genes in termites
Kiyoto Maekawa

- 15:15 **7-1-08** Transgenerational epigenetic effects on caste differentiation in termites
Kenji Matsuura
- 15:30 **Coffee Break**
- 16:15 **7-1-09** Evolutionary genomics of termite sociality
Dino McMahon
- 16:30 **7-1-10** Phylogeny and rapid karyotype evolution of African and Madagascar Oxyhaloinae cockroaches (Blaberoidea: Blaberidae).
Zuzana Kotyková Varadinová

Room C-1

Symposium 7-2

9:45 - 11:45

Evolution of life history trade-offs in insects



Chair: Abel Bernadou (University of Toulouse), Jürgen Heinze (University of Regensburg), Judith Korb (University of Freiburg)

- 9:45 **7-2-01** Stressful interactions: how does genetic variation shape plastic responses to combined thermal and nutritional stress?
Christen Kerry Mirth
- 10:15 **7-2-02** Invasive mosquitoes are bigger in size and produce more fertile eggs
Ayda Khorramnejad
- 10:30 **7-2-03** Influences of artificial selection for locomotor activity on the life-history and reproductive traits in the red flour beetle
Kentarou Matsumura
- 10:45 **7-2-04** Royal homeostasis in termites: the advanced maintenance systems exist in long-lived queens and kings
Eisuke Tasaki
- 11:00 **7-2-05** The genetic underpinnings of the trade-off between resistance and life history traits in *Plodia interpunctella* and its granulosis virus
Signe White
- 11:15 **7-2-06** Summer diapause in aphid parasitoids: a space-for-time approach along longitudinal climatic gradient to better understand temperature effects
Lena Jago
- 11:30 **7-2-07** The astonishing diving lice: introducing the truly marine insects
María Soledad Leonardi

Symposium 7-3

13:30 - 18:15

Arthropod Ecology in the Anthropocene



Chair: Evan Economo (Okinawa Institute of Science and Technology Graduate University), Rosemary Gillespie (Professor & Schlinger Chair Director, Essig Museum of Entomology, University of California, Berkeley)

- 13:30 **7-3-01** Acceleration of biological responses in the Anthropocene
Yi-Wen Chen
- 13:45 **7-3-02** Impact of elevated temperatures on bumblebee cognition
Maxence Gérard

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| 14:00 | 7-3-03 Echoes of Silent Spring. Tracing the Historical and Contemporary Decline of Insects and Allies in Japan.
Makihiko Ikegami | 16:30 | 7-3-10 Multiple drivers simultaneously impact dung beetle communities across a tropical land use gradient
Friederike Gebert |
| 14:15 | 7-3-04 Current Status and Conservation matters of endemic weevils in the Ogasawara Islands, Japan: How to Confront the Green Anole Crisis.
Yoshie Kaga | 16:45 | 7-3-11 What causes outbreaks of spruce budworm?
Deepa Pureswaran |
| 14:30 | 7-3-05 Butterfly diversity under climate change
Valentina Todisco | 17:00 | 7-3-12 Land-use change impacts on litter invertebrate community and functional traits in tropical agroecosystem
Mukhliah Jamal Musa Holle |
| 14:45 | 7-3-06 Insularization drives physiological condition of Amazonian dung beetles
Renato Portela Salomão | 17:15 | 7-3-13 Arthropods in the Anthropocene: Two Approaches to Measuring Change
Evan P. Economo |
| 15:00 | 7-3-07 Uncovering the hidden lives of insect pests
Jocelyn Holt | 17:30 | 7-3-14 The functional traits of moths reach a mid-elevation peak in the French Pyrenees.
Louise Ashton |
| 15:15 | 7-3-08 Temperature tolerance of parasitoids
Katherine Malinski | 17:45 | 7-3-15 Plant phenology affects apparent competition between exotic and native plants via herbivorous insect
Yuzu Sakata |
| 15:30 | Coffee Break | 18:00 | 7-3-16 Expanding range a sign of things to come? The unique case of spotted lanternfly, <i>Lycorma delicatula</i> in Japan
Matthew Tatsuo Kamiyama |
| 16:15 | 7-3-09 How wild bees (Apiformes) take up anthropogenic particles: A look into flowers and guts
Kenneth Kuba | | |

Room C-2

Symposium 7-4

9:45 - 11:45



Stick insect biology and evolution: an emerging model system

Chair: Thies Henning Büscher (Kiel University), Sven Bradler (Georg-August-Universität Göttingen), Thomas Buckley (Manaaki Whenua Landcare Research)

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| 9:45 | 7-4-01 Expanding the phasmatodean tree of life: new insights from targeted enrichment in stick and leaf insects
Sarah Bank | 10:45 | 7-4-05 Effects of environmental factors and ageing of maternal insects on early embryonic diapause in the stick insect, <i>Phraortes elongatus</i> (Phasmatodea: Phasmatidae)
Haruyuki Nakano |
| 10:00 | 7-4-02 Early Evolution of Mesozoic Phasmatodea
Hongru Yang | 11:00 | 7-4-06 Scaling of stick insect adhesion
Guillermo J Amador |
| 10:15 | 7-4-03 Dispersal and speciation of Australian Phasmatodea
Braxton R Jones | 11:15 | 7-4-07 The phasmid egg shell: microstructure and mechanical properties of a versatile protective layer
Thies Henning Büscher |
| 10:30 | 7-4-04 The irreversible parthenogenesis in the Japanese common stick insect, <i>Ramulus mikado</i>
Tomonari Nozaki | 11:30 | 7-4-08 From Camouflage to Thermoregulation: Multiple selection pressures shape the reflectance of Stick and Leaf insect eggs.
Gerben Debruyn |

Symposium 7-5

13:30 - 18:15



11th International Symposium on Chrysomelidae

Chair: Caroline Simmrita Chaboo (University of Nebraska - Lincoln), Yoko Matsumura (Hokkaido University), Michael Schmitt (Universität Greifswald)

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| 13:30 | 7-5-01 Site-based metagenomic analysis of global biodiversity patterns of leaf beetles
Rui-E Nie |
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Sunday 25 Aug

Monday 26 Aug

Tuesday 27 Aug

Wednesday 28 Aug

Thursday 29 Aug

Friday 30 Aug

- 13:45 **7-5-02** Reevaluation of exclusion due to resource competition for food among herbivorous insects using leaf beetle species
Natsuki Nomura
- 14:00 **7-5-03** Architecture, construction, retention, and repair of fecal shields in three tribes of tortoise beetles (Chrysomelidae: Cassidinae)
Caroline Simmrita Chaboo
- 14:15 **7-5-04** Evolutionary scenarios for reduction of the hindwings of Galerucinae sensu stricto (Coleoptera: Chrysomelidae): cases of Taiwanese species
Chi-Feng Lee

- 14:30 **7-5-05** Genomic basis of digestive synergy in a leaf beetle-bacterial symbiosis
Hassan Salem
- 14:45 **7-5-06** Developmental process of elytral spines in leaf beetles
Tadashi Shinohara
- 15:00 **7-5-07** How do female and male genitalia interact mechanically in *Cassida* beetles with an elongated intromittent structure?
Yoko Matsumura

- 15:15 **7-5-08** Aedeagal sensilla of *Agelastica alni* (Coleoptera: Chrysomelidae: Galerucinae)
Michael Schmitt

Room D

Symposium 16-1

9:45 - 11:45

Physiology of insects in a warming world: from cellular to ecological and evolutionary responses



Chair: Nicolas Pichaud (Université de Moncton), Jon F Harrison (Arizona State University), Daniel González-Tokman (Instituto de Ecología AC)

- 9:45 **16-1-01** The role of phenotypic plasticity in shaping evolutionary responses to climate change
Vanessa Kellermann
- 10:00 **16-1-02** Insect Responses to Extreme High Temperatures under climate warming
Chun-Sen Ma
- 10:15 **16-1-03** Testing the threshold trait model to predict plasticity of flight dimorphism in *Gryllus* field crickets
Lourenço Martins

- 10:30 **16-1-04** Temperature effects on performance of Triatomine as Chagas disease vectors
Sabrina Clavijo-Baquet

- 15:30 **Coffee Break**
- 16:15 **7-5-09** Exploring white mustard (*Sinapis alba*) diversity for novel resistance against the Cabbage Stem Flea Beetle (*Psylliodes chrysocephala*).
Susannah Gill
- 16:30 **7-5-10** An outline of history and current status in studies of the Japanese fauna of the family Chrysomelidae (Coleoptera)
Kunio Suzuki
- 16:45 **7-5-11** Moss and leaf-litter inhabiting leaf beetles of Japan (Coleoptera: Chrysomelidae: Galerucinae)
Haruki Suenaga
- 17:00 **7-5-12** Introduction to taxonomic issues within the Japanese members of the genus *Chrysolina* (Coleoptera: Chrysomelidae: Chrysomelinae)
Takuya Takemoto
- 17:15 **7-5-13** Taxonomic study on the *Basilepta hirticollis* species-group (Coleoptera, Chrysomelidae, Eumolpinae) from Japan
Hiroaki Shigetoh
- 17:30 **7-5-14** Resurrection of *Donacocia*, and endophallite structure of Donaciinae.
Ingolf S Askevold
- 17:45 **7-5-15** Rediscovery of a Second Reed Beetle in Israel
David Furth
- 18:00 **7-5-16** Museum collections are the most important basis for studying Donaciinae
Elisabeth Geiser

- 10:45 **16-1-05** Oxidative stress in insects in times of global change.
Daniel González-Tokman
- 11:00 **16-1-06** Surviving the heat: An investigation of the Heat Shock Response in three *Polistes* species from different climates
Astrid Bay Amstrup
- 11:15 **16-1-07** Honey bees in the desert summer: a comfortable dry heat or deadly oven?
Jon F Harrison
- 11:30 **16-1-08** Solar radiation alters heat balance and thermoregulation in a flying desert bee
Meredith Grace Johnson

Symposium 16-2

13:30 - 18:15



Low temperature biology: molecular mechanisms, physiological processes, and organismal consequences

Chair: Brent Sinclair (University of Western Ontario), Nick Teets (University of Kentucky)

13:30	16-2-01 Mechanisms of freeze tolerance in <i>Gryllus veletis</i> Brent Sinclair	15:30	Coffee Break
13:45	16-2-02 How do freeze-tolerant crickets protect their cytoskeleton? Jantina Toxopeus	16:15	16-2-09 Comparisons of stress tolerance and transcriptomic response to sublethal freezing in the larvae of the Antarctic midge, <i>Belgica antarctica</i> , from three different populations Yuta Kawarasaki
14:00	16-2-03 Mitochondrial protection and damage in frozen crickets Stefane Saruhashi	16:30	16-2-10 Parental thermal environment affects caterpillar resilience to winter warm spells and late frosts Mariana Abarca
14:15	16-2-04 Mitochondrial membranes as targets of cold and freezing injury in cold sensitive insects. Vladimir Kostal	16:45	16-2-11 Presentation Withdrawn
14:30	16-2-05 Sustained mitochondrial ATP-synthesis at low temperature is associated with organismal cold tolerance in <i>Drosophila</i> Clara Garfiel Byrge	17:00	16-2-12 Extreme warming influences the overwintering success of a major forest insect pest Eric Moise
14:45	16-2-06 Sub-lethal pesticide exposure increases tick cold tolerance and overwintering survival Kennan J Oyen	17:15	16-2-13 Thermal reaction norms of survival and development as well as acclimation responses: contrasting laboratory <i>versus</i> natural responses in <i>Drosophila suzukii</i> Bréa Raynaud-Berton
15:00	16-2-07 Exploring the mechanisms of cold-induced immune activation in insects Mahmoud El-Saadi	17:30	16-2-14 The “Supercool” Freeze Tolerant Maggot, <i>Tetanops myopaeformis</i> Madison A. Floden
15:15	16-2-08 The importance of cross-tolerance in a polyextremophile: the Antarctic midge, <i>Belgica antarctica</i> Cleverson Lima	17:45	16-2-15 The cryopreservation of Anopheles mosquitos Courtney Grula
		18:00	16-2-16 Multiple Stress For Bess Beetle Overwintering Success Leigh Boardman

Room E

Symposium 16-3

9:45 - 11:45



Arthropod saliva: from basic science to practical applications

Chair: Eric Calvo (NIAID/NIH)

9:45	16-3-01 Whitefly salivary miRNA effector suppress plant defense by cross-kingdom gene silencing Xiao-Wei Wang	10:45	16-3-05 The gall of an aphid : Novel salivary secreted proteins hijack plant gene expression Aishwarya Korgaonkar
10:00	16-3-02 Manipulation of pea by the pea aphid, <i>Acyrtosiphon pisum</i> Akiko Sugio	11:00	16-3-06 Anopheline anti-platelet protein (AAPP) plays a vital role in mosquito blood feeding Shigeto Yoshida
10:15	16-3-03 Giant leaps start with small steps: Saliva research for the tiny biting midge vector, <i>Culicoides sonorensis</i> Barbara S Drolet	11:15	16-3-07 Unraveling the Role of Mosquito Salivary Glands proteins: CRISPR/Cas9-Mediated Disruption of Serpin 25 Reveals Implications for Female Mosquito Reproductive Biology Bianca Burini
10:30	16-3-04 <i>Myzus persicae</i> polyphagy involves a combination of targeting conserved plant processes and a sophisticated regulation of effector gene expression Saskia A Hogenhout	11:30	16-3-08 Characterization of pro-viral proteins in secreted saliva of <i>Varroa destructor</i> Sanghyeon Kim

Symposium 16-4

13:30 - 15:30



Neuroecology of mosquitoes beyond human-seeking

Chair: Olena Riabinina (Durham University), Thomas Schmitt (University of Wuerzburg)

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| 13:30 | 16-4-01 Sexual dimorphisms in auditory function and processing in mosquitoes
Azusa Kamikouchi | 14:30 | 16-4-05 Comparative study of cuticular hydrocarbon profiles of <i>Anopheles</i> mosquitoes and their potential ecological and evolutionary implications
Olena Riabinina |
| 13:45 | 16-4-02 Landing mechanisms of houseflies and mosquitoes
Sanjay P Sane | 14:45 | 16-4-06 Investigating Sabethini Mosquitoes and the Loss of Blood-Feeding
Tiffany Pan |
| 14:00 | 16-4-03 Sugar feeding by invasive mosquito species on ornamental and wild plants
Chloe Aude lahondere | 15:00 | 16-4-07 The neuromodulation of blood-feeding behaviour in <i>Anopheles stephensi</i>
Prashali Bansal |
| 14:15 | 16-4-04 Sensory neurobiology of egg laying in <i>Aedes aegypti</i> mosquitoes
Ben Matthews | 15:15 | 16-4-08 Reciprocal functions for neuropeptide F and RYamide in regulating host seeking by the mosquito <i>Aedes aegypti</i>
Xiaoyi Dou |

Symposium 16-5

16:15 - 18:15



PIWI proteins and PIWI-interacting (pi)RNAs in insects

Chair: Dulce Santos (KU Leuven), Luc Swevers (NCSR "Demokritos")

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| 16:15 | 16-5-01 Application of piRNA-Triggered Gene Silencing in the Phloem-Feeding Whitefly <i>Bemisia tabaci</i> B mitotype NAF-ME cryptic species
Alex Sutton Flynt | 17:15 | 16-5-05 Roles of PIWI proteins and PIWI-interacting RNAs in non-gonadal somatic tissues of the silkworm, <i>Bombyx mori</i>
Takashi Kiuchi |
| 16:30 | 16-5-02 The piRNA pathway is required for BmNPV replication in silkworm
Min Feng | 17:30 | 16-5-06 Distribution of Nonretroviral Endogenous Viral Elements (nrEVEs) in the genome of arboviral vectors and their possible impact on immunity
Mariangela Bonizzoni |
| 16:45 | 16-5-03 Temporal Dynamics in Ovary Development: Unveiling Narrowly Expressed piRNAs in <i>Blattella germanica</i>
Josep Bau | 17:45 | 16-5-07 Elucidation of the mechanism of piRNA cluster formation using silkworm cultured cells
Xiao Qi |
| 17:00 | 16-5-04 piRNA function on <i>Blattella germanica</i> oocyte maturation and embryogenesis
Núria Farrús | 18:00 | 16-5-08 Unveiling piRNA expression patterns in insects using the novel piRNA Annotation Tool (piRAT)
Guillem Ylla |

Room F

Symposium 2-1

9:45 - 11:45



Insect Bio Digital Transformation (Insect BioDX)

Chair: Hidemasa Bono (Hiroshima University), Keisuke Okuhara (Hiroshima University), Kakeru Yokoi (Institute of Agrobiological Sciences, National Agriculture and Food Research Organization)

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|-------|--|-------|---|
| 9:45 | 2-1-01 Opening remarks and General Introduction
Hidemasa Bono | 10:15 | 2-1-03 Gene function analysis using silkworm gene network model
Takahiro Kusakabe |
| 10:00 | 2-1-02 The superoxide dismutases of insects; their role and function in the pupal period.
Hiroko Tabunoki | 10:30 | 2-1-04 Improvement of the genome editing technologies in the silkworm
Takuya Tsubota |

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|-------|---|-------|--|
| 10:45 | 2-1-05 Aiming at building the better strains of the honey bee <i>Apis mellifera</i>
Shotaro Mine | 11:15 | 2-1-07 New high-quality genome assembly and annotation for the imperiled Loammi skipper butterfly (<i>Atrytonopsis loammi</i>)
Rachel L Walsh |
| 11:00 | 2-1-06 Genome analysis of the pupal parasitoid of the stable fly, <i>Spalangia cameroni</i> (Hymenoptera: Spalangidae)
Hiromitsu Araki | 11:30 | 2-1-08 Genome sequencing revealed the pseudogenization of visual genes in trechine beetles living in caves
Takuma Niida |

Symposium 15-1

13:30 - 18:15



Transitioning Insecticide Science Technologies for the Development of Novel Chemistries

Chair: Daniel Swale (University of Florida), Troy D Anderson (University of Nebraska), Yoshihisa Ozoe (Shimane University)

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|-------|---|-------|---|
| 13:30 | 15-1-01 Interaction of recombinantly expressed fall armyworm ABCC2 variants with Bt Cry toxins unveils resistance mutations in extracellular loops impairing pore formation
Ralf Nauen | 16:30 | 15-1-09 Functionality of mosquito ABC transporters and strategies to improve insecticide delivery
Troy D Anderson |
| 14:00 | 15-1-02 Estimation of the mode of action of a new insecticide candidate, NNI-2101, by using the genomic analysis of the mutant <i>Caenorhabditis elegans</i>
Motofumi Nakano | 16:45 | 15-1-10 Development of novel mechanism aphicides to prevent horizontal transmission of non-persistent plant pathogens
Daniel Swale |
| 14:15 | 15-1-03 Pyrethrins act as feeding deterrents by irritating the insect oral taste organs through the intrinsic neurotoxic actions
Takeshi Kojima | 17:00 | 15-1-11 Exploring cys-loop ligand-gated ion channels, superfamilies of pesticide targets
Andrew Jones |
| 14:30 | 15-1-04 Verification of the binding site of fluralaner in vivo using CRISPR/Cas9
Chunqing Zhao | 17:15 | 15-1-12 Molecular mechanisms of gene expression variation associated with resistance in a polyphagous pest
Thomas Van Leeuwen |
| 14:45 | 15-1-05 Chordotonal organ modulators as insecticides and beyond
Jia Huang | 17:30 | 15-1-13 Identification and characterization of cytochrome p450s putatively associated with fluvalinate resistance in <i>Varroa</i> mites
Si Hyeock Lee |
| 15:00 | 15-1-06 The Mode of Action of Insecticidal Alkylsulfones
Andrew James Crossthwaite | 17:45 | 15-1-14 The genomics of adaptation to natural and synthetic xenobiotics in the aphid <i>Myzus persicae</i>
Chris Bass |
| 15:15 | 15-1-07 Molecular understanding of target site actions of neonicotinoid insecticides
Kazuhiko Matsuda | 18:00 | 15-1-15 Identifying determinants of the antagonism of γ -aminobutyric acid-gated chloride channels by fluralaner
Yoshihisa Ozoe |
| 15:30 | Coffee Break | | |
| 16:15 | 15-1-08 Functional in vivo tools for the characterization of novel targets and the development of selective insecticides
Stefanos Mastis | | |

Room G

Symposium 20-1

9:45 - 11:45



ad hoc session

Chair: Aleksandra Janiszewska (University of Lodz), Vazrick Nazari (University of Padova)

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|------|--|-------|--|
| 9:45 | 20-1-01 Entomological knowledge in ancient Mesopotamia
Vazrick Nazari | 10:00 | 20-1-02 Calorimetry-Assisted Degree Day Modeling
Lisa G Neven |
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|-------|---|-------|--|
| 10:15 | 20-1-03 Electromagnetic Wave Simulation in Insects: A Computed Tomography (CT) Data Approach
Felipe Oliveira Ribas | 11:00 | 20-1-06 Adaptation of stonefly (Plecoptera) life cycle to water temperatures-egg stage
Mayumi Yoshimura |
| 10:30 | 20-1-04 Australian Cercopoid Phenology in a Biosecurity Context
Cait Jade Selleck | 11:15 | 20-1-07 Factors determining the occurrence of polyxenic ectoparasite in birds inhabiting different ecological niches
Aleksandra Janiszewska |
| 10:45 | 20-1-05 Determining plant hosts of chilli thrips during summer in Florida woodlands
Chastity L Perry | 11:30 | 20-1-08 Vertical stratification in forest arthropod abundance and diversity: From local food preference in ants to global patterns across major arthropod taxa
Benjamin David Blanchard |

Symposium 15-2

13:30 - 18:15



Bioinspired pest control

Chair: Martin G Edwards (Newcastle University), Joerg Romeis (Agroscope)

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|-------|--|-------|--|
| 13:30 | 15-2-01 Insect multitrophic interactions for bionspired plant protection
Francesco Pennacchio | 15:30 | Coffee Break |
| 14:00 | 15-2-02 Present global status of Bt plants and future improvements
Sergey Ivashuta | 16:15 | 15-2-08 Assessing environmental risks of synthetic gene drives
Joerg Romeis |
| 14:15 | 15-2-03 Dimpropridaz (Axalion®): a chordotonal organ modulator with a new mode of action
Barbara Wedel | 16:30 | 15-2-09 Species-selective agonists of juvenile hormone receptor - en route to environmentally friendly IGRs
David Sedlak |
| 14:30 | 15-2-04 Decreased electrophysiological responses to essential oils based on gustatory habituation in <i>Spodoptera litura</i>
Hyo Eun Jeon | 16:45 | 15-2-10 Developing pest-resistant plants through genome editing
Angharad Margaret Roscoe Gatehouse |
| 14:45 | 15-2-05 Sublethal Effects of Philippine Actinomycete Strain, <i>Streptomyces angustmyceticus</i> CGS B11, against <i>Aedes aegypti</i> (Diptera: Culicidae)
Kathleen T. Dizon | 17:00 | 15-2-11 RNAi-based biological control as a promising strategy for sucking pests management
Jinzhi Niu |
| 15:00 | 15-2-06 Nanocarrier mediated delivery of insecticides into tarsi enhances insect mortality
Juan Pablo Giraldo | 17:15 | 15-2-12 From Genes to Fields: A Role for RNAi in IPM and Sustainable Agriculture
Martin G Edwards |
| 15:15 | 15-2-07 <i>Wolbachia</i> wisdom: Unleashing CifAB cytoplasmic incompatibility for confined gene drives in mosquitoes
Carol Li | 17:30 | 15-2-13 Unique P450 genes are evolved for the drive of cross resistance in field generalist pests
Sichun Zheng |
| | | 17:45 | 15-2-14 MicroRNA-mediated insecticide resistance in <i>Spodoptera frugiperda</i> : Unraveling the role in chlorantraniliprole susceptibility
Rashmi Manohar Mahalle |
| | | 18:00 | 15-2-15 RNAi-based biopesticides against the 28-spotted ladybeetle <i>Henosepilachna vigintioctopunctata</i>
Huipeng Pan |

Room H

Symposium 11-1

9:45 - 11:45



The role of pollen lipids in bee nutrition: from larvae to landscapes.

Chair: Philip Stevenson (Royal Botanic Gardens, Kew), Sharoni Shafir (The Hebrew University of Jerusalem), Geraldine Wright (University of Oxford)

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|-------|---|-------|---|
| 9:45 | 11-1-01 Lipid landscapes for bees: pollen sterols and fatty acids vary dramatically across plant taxa and characterise the lipidome of wild bees.
Philip Stevenson | 10:45 | 11-1-05 Honeybee colonies provided with essential dietary sterols from engineered yeasts do not collapse
Geraldine Wright |
| 10:00 | 11-1-02 Do pollen sterols constrain the diet of wild bees in urban areas?
Yan Yang | 11:00 | 11-1-06 Don't overeat: food lipid content shapes protein-lipid regulation in nurse honey bees
Spencer T Behmer |
| 10:15 | 11-1-03 Exploring the ecological role of sterols in bee-plant interactions
Maryse Vanderplanck | 11:15 | 11-1-07 Does fat identity matter? The effect of different fatty acids on bumble bee consumption and fitness
Fabian A. Ruedenauer |
| 10:30 | 11-1-04 Cascading effects of nutritional imbalance in a honey bee colony.
Sharoni Shafir | 11:30 | 11-1-08 Variation in the pollen diet of European managed bee species in agro-ecosystems
Clément Tourbez |

Symposium 11-2

13:30 - 18:00



Pollination consilience: key roles of forests for pollinator conservation in anthropogenic landscapes

Chair: Michael Ulyshen (USDA Forest Service), Margaret Mayfield (The University of Melbourne)

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|-------|--|-------|--|
| 13:30 | 11-2-01 Bringing forest ecology to bumble bee conservation
John M Mola | 15:30 | Coffee Break |
| 13:45 | 11-2-02 Australian stingless and solitary bee foraging ecology in subtropical forests
Rachele S Wilson | 16:15 | 11-2-09 Conservation corridors protect butterfly diversity within timber plantation landscapes
James Stephen Pryke |
| 14:00 | 11-2-03 Temporal dynamics of plant-pollinator networks in tropical montane ecosystems in the Andes
Jan Klecka | 16:30 | 11-2-10 Bees Sampled Along a Vertical Gradient in Forests of Massachusetts, USA, Demonstrate Bee Community Variation by Forest Stand Composition and Ecoregion
Joan Milam |
| 14:15 | 11-2-04 Exploring the Relationship Between Canopy, Ground Cover, and Avocado Pollinators in orchards in Western Australia
Miyuki Taniguchi | 16:45 | 11-2-11 Habitat fragmentation and agricultural context modify pollination dynamics in an annual wildflower community
Manuel Sevenello |
| 14:30 | 11-2-05 Hiding inequalities behind richness: how urban landscapes shape wild bee communities.
William Fiordaliso | 17:00 | 11-2-12 Neglected pollinators vs commercial management bees: handling time as a proxy to evaluate pollination success in apple orchards
Rodrigo M. Barahona-Segovia |
| 14:45 | 11-2-06 Supporting fly pollinators in crop agroecosystems
Abby E Davis | 17:15 | 11-2-13 Newly Discovered Cold Tolerant Bee That Favours Life in the Subalpine Woodland of Australia's Highest Mountains
Joshua Coates |
| 15:00 | 11-2-07 Pollinator distribution and community composition in response to anthropogenic land-use changes and the roles of forests in agricultural landscapes
Gaku Hirayama | 17:30 | 11-2-14 Global Trends in Climate Suitability for Pollinating Insects: Ups and Downs in a Warming World
Ehsan Rahimi |
| 15:15 | 11-2-08 Land cover influences on the effects of a plant volatile on pollination
Yahel Ben-Zvi | | |

Sunday 25 Aug

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17:45 **11-2-15** Landscape genomics of invasive bumblebees (*Bombus terrestris*) across the island of Tasmania, Australia.
Rachael Y Dudaniec

Room B-1

Symposium 18-1

9:45 - 11:45



Quantitative morphological adaptive evolution of beetles and related groups

Chair: Ming Bai (Institute of Zoology, Chinese Academy of Sciences)

9:45 **18-1-01** The Evolution of Coxa-Trochanteral Joints in Beetles
Jenny Hein

10:15 **18-1-02** Investigation on the two different morphological forms of *Ochlerotatus (Finlaya) koreicus* (Diptera: Culicidae), a potential vector of dengue fever
Jungyoon Lee

10:30 **18-1-03** Morphological Adaptations Associated with Leaf Rolling Behavior in Attelabid Weevils
Haruki Moriai

10:45 **18-1-04** Genomics clarify evolution and systematics of lepidopteran mimicry ring in eastern Africa: focus on day-flying *Aletis* moths (Geometridae: Sterrhinae)
Pasi Sihvonen

11:00 **18-1-05** The diversity and evolution of flightless morphs in lepidopteran moths: an ontogenetic perspective
Shuhei Niitsu

11:15 **18-1-06** Mandibular rods: the form and function of a novel synapomorphy for the hymenopteran infraorder Proctotrupomorpha.
Robert Luke Kresslein

11:30 **18-1-07** Comparative morphology of leafhopper nymphs (Hemiptera, Cicadellidae)
Dmitry A Dmitriev

Symposium 18-2

13:30 - 18:15



Building a better insect tree of life

Chair: Dominic A Evangelista (University of Illinois, Urbana-Champaign), Manpreet K Kohli (Baruch College, CUNY)

13:30 **18-2-01** Assessing phylogenomic support for a renewed fly tree of Life
Brian Wiegmann

13:45 **18-2-02** Jaws Unearthed: A Hidden Secret Unveiled in the Tanypodinae's Subfamily Reunion
Fabio Laurindo Da Silva

14:00 **18-2-03** Thoroughly sampled acalyptrate fly phylogenomics emphasising Ephydroidea and Sphaeroceroidea
Keith M Bayless

14:15 **18-2-04** Integrating genomes and legacy marker data to estimate the Drosophilidae Tree of Life
Anton Suvorov

14:30 **18-2-05** Comparative embryological study of stoneflies: embryological groundplan and phylogeny of Plecoptera (Insecta)
Shodo Mtow

14:45 **18-2-06** The Systematics and Conservation of Plecoptera
Anna Eichert

15:00 **18-2-07** Building large phylogenies within a Bayesian framework: applications for metabarcoding data and backbone trees.
Nicolas Chazot

15:15 **18-2-08** Quantifying the Darwinian Shortfall
Douglas Chesters

15:30 **Coffee Break**

16:15 **18-2-09** The phylogeny of insects: An update on the 1KITE project
Paul B Frandsen

16:30 **18-2-10** Illuminating blind spots in cockroach phylogeny : new data on two enigmatic and undersampled families (Blattodea: Tryonicidae, Oulopterygidae)
Julien Malem

16:45 **18-2-11** Phylogenomic reconstruction of the Aphididae phylogeny: ancient rapid radiations are still difficult to resolve in the phylogenomics era
Christopher Owen

17:00 **18-2-12** Phylogenomics sheds light on the phylogeny, biogeography and host-plant associations of ceutorhynchine weevils (Coleoptera: Curculionidae)
Harald Letsch

17:15 **18-2-13** Preliminary phylogeny of Coenagrionoidea: Exploring their biogeography within the South Pacific
Laura Sutherland

17:30 **18-2-14** A Revised Phylogeny of the Super-family Petalurida (Odonata: Anisoptera)
Ethan Richard Tolman

17:45 **18-2-15** Gossamerwings Damselflies Take Flight: A Phylogenetic Journey of Euphaeidae (Odonata)
Pungki Lupiyaningdyah

18:00 **18-2-16** Evolutionary history and divergence times of Odonata (dragonflies and damselflies)
Manpreet K Kohli

Room B-2

Symposium 3-1

9:45 - 11:45



Adaptive strategies of natural enemies including viruses and parasitoids interacting with insects

Chair: Guo-Hua Huang (Hunan Agricultural University), Madoka Nakai (Tokyo University of Agriculture and Technology)

9:45 **3-1-01** Advances in ascoviruses: biological characteristics and potential to be biocontrol agents and expression vectors
Guo-Hua Huang

10:00 **3-1-02** Can adaptive strategies of ascoviruses to insects be deciphered from the function of genes encoded in their genome?
Madoka Nakai

10:15 **3-1-03** Identification and Functional Characterization of *Toxoneuron nigriceps* Ovarian Proteins Involved in the Early Suppression of Host Immune Response
Rosanna Salvia

10:30 **3-1-04** The Relationship Between Endosymbiotic *Wolbachia* and Host Autophagy Mechanism in *Laodelphax striatellus* and *Ostrinia scapularis* through Autophagic Chemical Treatment
Achmad Gazali

10:45 **3-1-05** Tritrophic interactions between tomato plants, plant virus, aphids and their parasitoids: Viruses induced plant volatiles detected by aphid parasitoids
Panagiotis Mylonas

11:00 **3-1-06** Establishment of an oral inoculation method to compare susceptibility of different local populations of the Coconut rhinoceros beetle to *Oryctes rhinoceros* nudivirus.
Koichi Sugimoto

11:15 **3-1-07** Fungus-virus interactions during the control of *Oryctes rhinoceros*
Ok Shin Malagayo Jean

11:30 **3-1-08** Screening and characterization of the putative host factor for executing behavioral manipulation by baculovirus
Ryuhei Kokusho

Symposium 3-2

13:30 - 18:15



Classical Biological Control of Arthropod Pests: Theoretical Premise and Practical Challenges

Chair: Jian J Duan (U.S. Department of Agriculture), Mark Hoddle (University of California Riverside), Nicole F Quinn (University of Florida / Institute of Food and Agricultural Research)

13:30 **3-2-01** Using invasion theory to guide natural enemy introductions
Daniel S Gruner

13:45 **3-2-02** Taxonomic preparedness in parasitoid Hymenoptera: an essential element in effective biological control
Matthew L Buffington

14:00 **3-2-03** Semiochemicals and biological control, and their role in natural enemy introductions
Donald C Weber

14:15 **3-2-04** Factors influencing the performance of *Ganaspis brasiliensis* G1 in Northern Italy as part of a biological control project against *Drosophila suzukii*
Gianfranco Anfora

14:30 **3-2-05** Effect of Simulated Heatwaves on *Tamarixia triozae*: Impacts on Development, Survival, and Biocontrol Efficacy Against Invasive Pest *Bactericera cockerelli*
Nimali Inoka Suwandharathne

14:45 **3-2-06** Functional response of *Diachasmimorpha longicaudata* (Hymenoptera: Braconidae) on *Bactrocera dorsalis*, *Ceratitis cosyra* and *Ceratitis capitata*
Shepard Ndlela

15:00 **3-2-07** Effects of genetic variation and directional selection on performance of mass-reared parasitoid
Yannick Outreman

15:15 **3-2-08** Classical biological control in the aftermath of invasion: a case study with an invasive wood borer
Jian J Duan

Sunday 25 Aug

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Sunday 25 Aug

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|-------|---|-------|---|
| 15:30 | Coffee Break | 17:15 | 3-2-13 Next steps for biological control of insects pests in Canadian Prairie field crops
Haley Catton |
| 16:15 | 3-2-09 Presentation Withdrawn | 17:30 | 3-2-14 Prioritising Australian scale insects for prey-specificity testing of <i>Neoleucopis</i> spp, potential biological control agents of giant pine scale.
Umar Kombo Lubanga |
| 16:30 | 3-2-10 Classical biological control of BMSB in apple orchard; a successful story?
Claudio Ioriatti | 17:45 | 3-2-15 Survey of native egg parasitoid and its variation to the invasive litchi stink bug, <i>Tessarotoma papillosa</i> , in the orchards of southern Taiwan.
Chun-Chun Chang |
| 16:45 | 3-2-11 Classical biological control of orange spiny whitefly <i>Aleurocanthus spiniferus</i> in Greece
Maria Vasiliki Giakoumaki | 18:00 | 3-2-16 Shoot the Moon: current situation in biological control and new technologies for genetic improvement of biological control agents
Norihide Hinomoto |
| 17:00 | 3-2-12 Classical biological control of <i>Toumeyella parvicornis</i> : challenges and perspectives for a potential candidate
Lucrezia Giovannini | | |

Monday 26 Aug

Room I

Tuesday 27 Aug

Symposium 13-1

9:45 - 11:45



Ecology of biting flies: development of new control strategies

Chair: Gerard Duvallat (University Paul-Valery Montpellier3), Theeraphap Charoenwiriayapap (Kasetsart University)

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|-------|---|-------|--|
| 9:45 | 13-1-01 Relationship between flight activity of the stable fly, <i>Stomoxys calcitrans</i> (Diptera: Muscidae) and evasive behavior of cattle
Tatsuo Fujioka | 10:45 | 13-1-05 Stable fly management: a new IPM approach tested at a Donkey Sanctuary in Spain
Gerard Duvallat |
| 10:00 | 13-1-02 Paint it black: The relative importance of reflective intensity, colour, and polarization for stable fly attraction
Emmanuel Hung | 11:00 | 13-1-06 House fly behavioral resistance: current understanding, challenges, and future directions
Amy Murillo |
| 10:15 | 13-1-03 Spatio-temporal Distribution of <i>Stomoxys</i> species in Beef Farms, Bangkok, Thailand
Ratchadawan Ngoenklan | 11:15 | 13-1-07 Detection of <i>Leucocytozoon</i> in black fly, <i>Simulium chumpornense</i> and biting midges, <i>Culicoides peregrinus</i> from southern Thailand
Sorawat Thongsahuan |
| 10:30 | 13-1-04 Lethal toxicity of native botanical insecticides for control of <i>Stomoxys</i> spp. (Diptera: Muscidae) in Thailand
Krajana Tainchum | 11:30 | 13-1-08 Short-range attraction, landing, and post-landing behaviour of host-seeking <i>Anopheles</i> mosquitoes: implications for malaria vector control tools
Manuela Carnaghi |

Wednesday 28 Aug

Thursday 29 Aug

Symposium 13-2

13:30 - 18:15



The Global Bed Bug Resurgence, 20 Years On

Chair: Stephen Lindsay Doggett (NSW Health Pathology), Dini Michele Miller (Virginia Tech University)

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|-------|--|-------|---|
| 13:30 | 13-2-01 20 Years of Research in the Global Bed Bug Resurgence
Stephen Lindsay Doggett | 14:30 | 13-2-04 Bed bug (<i>Cimex lectularius</i> L.) fecal spot production as a measure of environmental contamination and population size.
Dini Michele Miller |
| 14:00 | 13-2-02 Evolution of Bed Bug Standard of Care Through a Litigation Review
Jeffrey M Lipman | 14:45 | 13-2-05 Insights into the immune transcriptome of the common bed bug, <i>Cimex lectularius</i> : tissue-specific transcriptomic profiles and responses to pathogens
Sanam Meradj |
| 14:15 | 13-2-03 Efficiency of MALDI-TOF MS at identifying <i>Cimex</i> bedbugs and discriminating immature stages
Philippe Parola | 15:00 | 13-2-06 Symbiont-mediated insecticide tolerance in the tropical bed bug, <i>Cimex hemipterus</i>
Veera Singham K Genasan |

Friday 30 Aug

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|-------|---|-------|---|
| 15:15 | 13-2-07 Bed bugs resistant to pyrethroids or organophosphates in Japan
Osamu Komagata | 17:15 | 13-2-12 Bed bug detection and control: Lab and field evaluation of a lateral flow strip for bed bug detection and a new insecticidal dust for pest management
Alexander Ko |
| 15:30 | Coffee Break | 17:30 | 13-2-13 Control Efficacy of Steam and Diatomaceous Earth Dust Against Tropical Bed Bug, <i>Cimex hemipterus</i> (F.)
Desen Wang |
| 16:15 | 13-2-08 Stability of <i>kdr</i> mutations of voltage-sensitive sodium channel gene in the common bed bug, <i>Cimex lectularius</i>
Susie Cho | 17:45 | 13-2-14 Evaluation of Vikane® Fumigation for Tape-and-Sealed and Tarped Structures to Determine the Cost of Bed Bug Elimination (<i>Cimex lectularius</i> L.) in Single Family Homes
Morgan M. Wilson |
| 16:30 | 13-2-09 8 years in public housing, Oslo, Norway. What we learned about bed bugs
Espen Roligheten | 18:00 | 13-2-15 The impact of independent insecticide efficacy studies on defining best practice for pest managers undertaking bed bug elimination services
David Lilly |
| 16:45 | 13-2-10 Twenty years after bed bug resurgence in low-income housing: Effective management strategies and challenges in the U.S.
Changlu Wang | | |
| 17:00 | 13-2-11 Research in Repellents against <i>Cimex lectularius</i>
Aijun Zhang | | |

Room J

Symposium 5-1

9:45 - 11:45



Long-term perspectives: Quaternary & Archaeological Entomology

Chair: Michael A. Monzon (Rutgers, the State University of New Jersey), Lauren M Weidner (Arizona State University), Philip Iain Buckland (Umeå University)

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|-------|--|-------|--|
| 9:45 | 5-1-01 Archaeoentomology and the Columbian Exchange: the transformation of the North American Insect Fauna during the Colonial Period.
Allison Bain | 11:00 | 5-1-05 AI as a Catalyst in Entomological Research by Simplifying Species Identification
Hossein Shirali |
| 10:15 | 5-1-02 History and Prospects of Quaternary Entomology in Japan
Shigehiko Shiyake | 11:15 | 5-1-06 Neotropical paleoclimate, Andean orogeny, and the Isthmus of Panama: UCEs illuminate the evolution of the "pyramid ants" (Formicidae: <i>Dorymyrmex</i>)
Jill T Oberski |
| 10:30 | 5-1-03 Entomological Time Travel: application imaging methods in paleoentomology
Agnieszka Soszynska | 11:30 | 5-1-07 Big Data and Fossil Insects for studying climates, environments and human impact
Philip Iain Buckland |
| 10:45 | 5-1-04 Early Holocene environments in northern Sweden: landscape transformation on local and regional scales
Love Eriksson | | |

Symposium 5-2

13:30 - 15:30



ad hoc session

Chair: Marija Ivković (University of Zagreb), Rasmus Erlandsson (Stockholm University)

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|-------|---|-------|--|
| 13:30 | 5-2-01 Climate-driven changes and lessons from long term research: Diptera species turnover and dominance shifts
Marija Ivković | 14:00 | 5-2-03 Detection of recent temporal change in genetic diversity and structure for a population of endangered butterfly, <i>Luehdorfia japonica</i>
Shouhei Ueda |
| 13:45 | 5-2-02 Coleoptera species diversity in two tropical deciduous forests in Mexico based on metagenetic data
Diana Patricia Zavala-De La Rosa | 14:15 | 5-2-04 Preliminary comparative evaluation of eDNA as a tool for odonate diversity assessment in different biogeographic regions
Rhema Uche-Dike |

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| 14:30 | 5-2-05 Influence of distance to water on insect community composition and species abundance along a climate gradient
Rasmus Erlandsson | 15:00 | 5-2-07 Bugs and Bergmann's rule: a cross-taxon large-scale study reveals idiosyncratic altitudinal and latitudinal body size patterns for different insect taxa
Mark Jun M. Alcantara |
| 14:45 | 5-2-06 Variation in insect taxonomic diversity across landscapes of southern Western Ghats
Manish Ravi | 15:15 | 5-2-08 Testing Sampling Efficiency of Citizen Science Biodiversity Approach and Exploring its Potential for Discovering Insect Diversity
Kaiyun Zheng |

Symposium 5-3

16:15 - 18:15



Grassland insects in East Asia: life history, population, phylogeography, and conservation

Chair: Atsushi Ohwaki (J.F. Oberlin University), Naoyuki Nakahama (University of Hyogo)

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|-------|---|-------|--|
| 16:15 | 5-3-01 Introduction of the symposium and grassland insects in Japan
Atsushi Ohwaki | 17:30 | 5-3-05 Mowing management enhances population growth rate and carrying capacity of the butterfly <i>Plebejus argyrognomon</i> : An experimental test.
Hidenori Deto |
| 16:45 | 5-3-02 Habitat changes of the endangered butterflies during the last three decades in Korea
Sei-Woong Choi | 17:45 | 5-3-06 The time machine: how natural history collections help us investigate insect declines.
Andres Arce |
| 17:00 | 5-3-03 Population genetic structure of an endangered butterfly, <i>Leptidea amurensis</i> (Lepidoptera: Pieridae) in Japan using microsatellite markers
Rinnosuke Fukuda | 18:00 | 5-3-07 A historical change of Japanese semi-natural grasslands in the Anthropocene as a major factor causing reduction of endangered grassland insects
Takeshi Suka |
| 17:15 | 5-3-04 Conservation genomics of two semi-natural grassland endangered insects in Japan
Naoyuki Nakahama | | |

Room K

Symposium 8-1

9:45 - 11:45



Progress towards genome editing and gene drives in non-model organisms

Chair: Monika Gulia-Nuss (University of Nevada, Reno), Michael Pham (University of Nevada, Reno)

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|-------|---|-------|--|
| 9:45 | 8-1-01 Current Progress in Genetic Tool and Protocol Development for the Lyme disease vector, <i>Ixodes scapularis</i>
Michael Pham | 10:45 | 8-1-04 DIPA-CRISPR updated: an engineered Cas9 for increased gene knock-in efficiency
Yu Shirai |
| 10:15 | 8-1-02 Applying lessons learned from genetic manipulation in the flatworm <i>Macrostomum lignano</i> to <i>Ixodes</i> ticks
Jakub Wudarski | 11:00 | 8-1-05 A formulation based approach for CRISPR-Cas9 gene editing in difficult to transform arthropods
Sander De Rouck |
| 10:30 | 8-1-03 Using the CRISPR/Cas9 system to uncover conserved and novel roles of HOX-gene function in non-model nematodes
Philipp H Schiffer | 11:15 | 8-1-06 Presentation Withdrawn |
| | | 11:30 | 8-1-07 CRISPR/Cas9-based split homing gene drive for genetic suppression of the global crop pest, <i>Drosophila suzukii</i>
Amarish Kumar Yadav |

Symposium 20-2

13:30 - 15:30



Biotremology I - Behavioural and Sensory Ecology

Chair: Johannes Strauss (Justus Liebig University, Giessen), Takuma Takanashi (Forestry and Forest Products Research Institute), Valerio Mazzoni (Fondazione Edmund Mach)

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|--|---|
| <p>13:30 20-2-01 The sensory basis for vibrational behaviours: Functional morphology and diversity of vibration receptor organs in insect
Johannes Strauss</p> <p>14:00 20-2-02 The role of vibratory signals in the multimodal courtship displays of jewel bugs
Hiromi Mukai</p> <p>14:15 20-2-03 Influence of vibrational cues on G1 <i>Ganaspis</i> cf. <i>brasiliensis</i> host searching behaviour
Lorenzo Fellin</p> | <p>14:30 20-2-04 How and why bees use vibrations to harvest pollen?
Mario Vallejo-Marin</p> <p>14:45 20-2-05 Buzz-pollinating bees deliver amplified thoracic vibrations to flowers through periodic biting
Charlie Woodrow</p> <p>15:00 20-2-06 Unravelling female swarming behavior on the basis of male participation and mating status.
Sofia Vielma</p> <p>15:15 20-2-07 Recognizing and localizing vibrational signals in a complex environment
Jernej Polajnar</p> |
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Symposium 20-3

16:15 - 18:15



Biotremology II - Applied Biotremology

Chair: Valerio Mazzoni (Fondazione Edmund Mach), Takuma Takanashi (Forestry and Forest Products Research Institute), Johannes Strauss (Justus Liebig University, Giessen)

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|--|---|
| <p>16:15 20-3-01 A new Lexicon for Biotremology to bridge the gap with Chemical Ecology
Valerio Mazzoni</p> <p>16:30 20-3-02 Machine language tools to distinguish calls of male and female <i>Diaphorina citri</i> Kuwayama (Hemiptera: Liviidae) in citrus trees with multiple duetting pairs and foragers
Richard Mankin</p> <p>16:45 20-3-03 <i>Cacopsylla pyricola</i> uses substrate-borne vibrations to communicate with and attract mates (Hemiptera: Psyllidae)
Dowen Jocson</p> <p>17:00 20-3-04 Feasibility and future perspective of vibrational mating disruption
Rachele Nieri</p> | <p>17:15 20-3-05 Applications of vibrations for sustainable pest management of <i>Bemisia tabaci</i>
Ryuhei Yanagisawa</p> <p>17:30 20-3-06 Control of the whitefly <i>Bemisia tabaci</i> by combining <i>Nesidiocoris tenuis</i> with a new insect pest control device using non-contact vibration generated by ultrasonic transducers
Chihiro Urairi</p> <p>17:45 20-3-07 'Going big' on vibrational pest control by increasing exposure duration and plant size against aphid pests
Jean-Philippe Parent</p> <p>18:00 20-3-08 Behavioral responses of a shiitake mushroom pest to vibrations: towards more sustainable control approaches of fungus gnats
Sabina Avosani</p> |
|--|---|

Room 554

Symposium 12-1

9:45 - 11:45



Global macroecology of insect invasions

Chair: Andrew M Liebhold (USDA Forest Service Northern Research Station), Helen F. Nahrung (University of the Sunshine Coast)

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|--|--|
| <p>9:45 12-1-01 Expats and aliens abroad: reciprocal insect invasions between the United States and Australia
Helen F. Nahrung</p> <p>10:00 12-1-02 Global composition and interceptions of (invasive) <i>Eucalyptus</i>-feeding insects
Andy G Howe</p> | <p>10:15 12-1-03 Plant invasions drive insect invasions
Cleo Bertelsmeier</p> <p>10:30 12-1-04 The impact of colonial history on ant invasions
Aymeric Bonnamour</p> |
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|-------|--|-------|---|
| 10:45 | 12-1-05 Asymmetrical introductions between Europe and China of non-native insects associated with woody plants
Alain Roques | 11:15 | 12-1-07 Evolution as the weakness of an empire: Isolation and new introductions as disruptors of the invasiveness of Argentine ants in Europe.
Iago Sanmartín-Villar |
| 11:00 | 12-1-06 Why so many Hemiptera invasions?
Andrew M Liebhold | 11:30 | 12-1-08 Genomic insights from the recent American invasion of Lebeck Mealybug offers clues to its global success
Tracy Erin Liesenfelt |

Symposium 12-2

13:30 - 15:30



Alien Pest Invasions: Strategies for Managing New Pest Introductions Driven by Trade, Travel, and Climate Change

Chair: Yu Takeuchi (North Carolina State University), Godshen Pallippambil Robert (North Carolina State University)

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|-------|--|-------|---|
| 13:30 | 12-2-01 Collaborating with industry to facilitate safe international trade
Lauren E Quevillon | 14:30 | 12-2-05 A quantitative pest risk assessment of the shoot and fruit borer, <i>Leucinodes orbonalis</i> Guenée (Lepidoptera: Crambidae), for the European Union
Ewelina Barbara Czwienczek |
| 13:45 | 12-2-02 Are interception records in ports and airports potential predictors of establishment of exotic insect pests in France?
Philippe Reynaud | 14:45 | 12-2-06 Combining climatic and host data to predict establishment risk of a frequent invader, the Japanese cedar longhorned beetle
Kristy M McAndrew |
| 14:00 | 12-2-03 Analysis of Quarantine Forest Pest Monitoring Techniques and Results in Croatia: A Five-Year Synopsis
Nikola Zorić | 15:00 | 12-2-07 Predicting the distribution of twelve invasive termites under climate change and urbanization: a socioeconomic perspective
Edouard Duquesne |
| 14:15 | 12-2-04 Developing decision support systems and frameworks for tracking non-native pests
Godshen Pallippambil Robert | 15:15 | 12-2-08 Investigating the impacts and adaptation strategies and current and emerging agricultural pests in the face of climate change
Yu Takeuchi |

Symposium 8-2

16:15 - 18:15



Advancing vector borne diseases identification, incrimination and control in the genomics era.

Chair: Emma Louise Collins (London School of Hygiene and Tropical Medicine), Matthew Higgins (London School of Hygiene and Tropical Medicine), Grayson Brown (Puerto Rico Science, Technology, and Research Trust)

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|-------|--|-------|--|
| 16:15 | 8-2-01 Using genomics to inform vector borne disease programmes
Susana Campino | 17:15 | 8-2-05 Population genetics of insecticide resistance in the <i>Culex pipiens</i> complex within the USA
Andrea Gloria-Soria |
| 16:30 | 8-2-02 Utilising worldwide comparative genomics to explore insecticide resistance in <i>Aedes aegypti</i>
Emma Louise Collins | 17:30 | 8-2-06 Sequencing and bioinformatics pipelines for the detection of molecular markers of acaricide resistance in ticks
Jordan T Bird |
| 16:45 | 8-2-03 "Resistance is futile...or is it?": the impact of next-generation malaria vector control tools on the evolution of insecticide resistance
Louisa Alexandra Messenger | 17:45 | 8-2-07 In-trap DNA contamination: tsetse (<i>Glossina sp.</i>) xenomonitoring methods can result in over-estimates of <i>Trypanosoma brucei</i> infection
Isabel Saldanha |
| 17:00 | 8-2-04 The Use of Genomic Information on Insecticide Resistance in Applied Vector Management Programs
Grayson Brown | 18:00 | 8-2-08 Identification and characterization of densovirus endogenous sequences in the whitefly <i>Bemisia tabaci</i>
Kai-Heng Wei |

Room 555

Symposium 4-1

9:45 - 11:45



De-coding the Role of Insect Communication in IPM: Present Research and Future Directions

Chair: Justin George (USDA-ARS), Rupesh Kariyat (University of Arkansas)

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|-------|---|-------|--|
| 9:45 | 4-1-01 The Building Blocks of Efficacious Semiochemical Pest Management in Crop Protection.
Agenor Mafra Neto | 10:45 | 4-1-05 Decoding the semiochemically-mediated interactions among an invasive insect pest, a pathogen, and their fruit host
Cesar Rodriguez-Saona |
| 10:00 | 4-1-02 Integrating semiochemicals and trap crops towards developing an attract-and-kill strategy against tarnished plant bug, <i>Lygus Lineolaris</i> , (Hemiptera:Miridae) in cotton.
Justin George | 11:00 | 4-1-06 Revisiting push-pull intercropping: The 'push' intercrop <i>Desmodium</i> does not deter ovipositing <i>Spodoptera frugiperda</i> but decimates their offspring
Anna Laura Erdei |
| 10:15 | 4-1-03 Using chemical ecology and ecophysiology to understand herbivory X drought interactions in Soybean, and its impact on host and herbivore growth and defense traits.
Rupesh Kariyat | 11:15 | 4-1-07 Optimizing the use of parasitoids in pest management through elucidating the chemical and genetic basis of their sex pheromones
Jan Buellesbach |
| 10:30 | 4-1-04 Decoding direct and indirect sorghum defenses against sap-sucking aphids
Joe Louis | 11:30 | 4-1-08 Complex chemical communication: multifunctional signals in a coreid bug
Geoffrey Broadhead |

Symposium 6-1

13:30 - 18:15



New developments in entomological precision nutrition

Chair: Stuart Wigby (University of Liverpool), Andrew William McCracken (University of Liverpool), Juliano Morimoto (University of Aberdeen)

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|-------|--|-------|--|
| 13:30 | 6-1-01 Presentation Withdrawn | 15:30 | Coffee Break |
| 13:45 | 6-1-02 The context dependent perception of dietary lipids
Marko Brankatschk | 16:15 | 6-1-09 Gustatory receptor mediated feeding preference in the <i>Bactrocera dorsalis</i>
Bao Dong |
| 14:00 | 6-1-03 Effect of switching in different nymphal stages between pollen and <i>Ephestia kuehniella</i> eggs in the survival and fecundity of <i>Orius laevigatus</i> : regulated deficit feeding
María del Carmen Reche Guillermo | 16:30 | 6-1-10 A complete energy budget for a generalist herbivore caterpillar, <i>Spodoptera littoralis</i>
Awawing Anjwengwo Andongma |
| 14:15 | 6-1-04 Bumblebees adjust their nutrition to face temperature variation
Mathieu Lihoreau | 16:45 | 6-1-11 Nutritional immunology in insects
Fleur Ponton |
| 14:30 | 6-1-05 Testing the consequences of adaptations to macronutrient balance in <i>Drosophila melanogaster</i>
Kwang Pum Lee | 17:00 | 6-1-12 Antibiotics, the microbiome and nutrient processing – understanding how interactions between diet and the microbiome affect bee health
Ruth Archer |
| 14:45 | 6-1-06 Macronutrients interact with sterols to mediate mating-dependent lifespan and fertility in male <i>Drosophila melanogaster</i>
Andrew William McCracken | 17:15 | 6-1-13 Metabolite profiling links lysine to thermotolerance in insects
Fumiaki Obata |
| 15:00 | 6-1-07 Glutamine enhances sucrose taste through a gut microbiota-gut-brain axis in <i>Drosophila</i>
Qiaoping Wang | 17:30 | 6-1-14 Does What You Eat Affect How You Mate? Disentangling the Interactions Between Diet-Induced Phenotypic Plasticity and Adult Reproductive Strategies in Black Soldier Flies.
Qihui Zhang |
| 15:15 | 6-1-08 Artificial rearing and biorational management of pest flies in the era of precision nutrition
Carlos Pascacio-Villafán | 17:45 | 6-1-15 miR-275/305 cluster is essential for maintaining energy metabolic homeostasis by the insulin signaling pathway in <i>Bactrocera dorsalis</i>
Ziniu Li |

18:00 **6-1-16** A novel design and analysis for examining the effects of several nutritional components on life-history traits.
John Hunt

Room 509

Symposium 17-1

9:45 - 11:45



Aging and longevity of social insects

Chair: Eisuke Tasaki (Niigata University), Mamoru Takata (Kyoto University), Kenji Matsuura (Graduate School of Agriculture, Kyoto University)

9:45 **17-1-01** Ageing in termites and the effect of sociality
Judith Korb

10:15 **17-1-02** Nutrition influences task allocation and life history trade-offs in ants
Abel Bernadou

10:30 **17-1-03** Regulation of olfactory neural development and longevity in ants
Hua Yan

10:45 **17-1-04** Social isolation is a cause of short life span through oxidative stress in ants, *Camponotus fellah*
Akiko Koto

11:00 **17-1-05** Comparative Longevity of Ant Workers Across Phylogenies: A Hierarchical Analysis of Field and Laboratory Observations
Hannah Riskas

11:15 **17-1-06** *PLIN2*-induced ectopic lipid accumulation promotes muscle ageing in gregarious locusts
Siyuan Guo

11:30 **17-1-07** Individual vs. Social Influences - What determines longevity in social insects?
Liliana Rebekka Fischer

Symposium 17-2

13:30 - 18:15



From Digestion to Microbiome-Driven Behavior: Gut Functions and Symbiosis in Social Insects

Chair: Gaku Tokuda (University of the Ryukyus), Nathan Lo (The University of Sydney), Eyal Privman (University of Haifa), Ryo Miyazaki (National Institute of Advanced Industrial Science and Technology)

13:30 **17-2-01** Endogenous digestive system in termites
Hirofumi Watanabe

13:45 **17-2-02** Unexpectedly diverse symbiotic protist community of *Reticulitermes tibialis*: Implications for symbiont inheritance and coevolution
Gillian Gile

14:00 **17-2-03** Disrupting a long-standing symbiotic relationship: artificial manipulation of protist community composition in termite gut and its effects on host traits
Tatsuya Inagaki

14:15 **17-2-04** Diverse and complex cellular symbioses between cellulolytic protists and prokaryotes in the termite gut
Yuichi Hongoh

14:30 **17-2-05** Bioprospecting the higher termite (Termitidae) gut digestion system for improved lignocellulose utilisation
Magdalena Calusinska

14:45 **17-2-06** Complete genomes reconstructed with HiFi metagenomic reveal the function of the dominant gut bacteria of a Nasute termite
Thomas Bourguignon

15:00 **17-2-07** Unraveling the potential of unexplored internal and external microbial symbionts of the xylophagous termite *Sphaerotermes*
Anna Prokhorova

15:15 **17-2-08** Termite bioreactors and rock & roll ants: exploring the ecology, evolution, and function of fungus-farming insects
Hongjie Li

15:30 **Coffee Break**

16:15 **17-2-09** Nutritional symbiosis: elucidating the role of gut microbiota in the herbivorous ant *Dolichoderus thoracicus*
Shu-Ping Tseng

16:30 **17-2-10** Fungal infection alters collective nutritional intake of ant colonies
Enikő Csata

16:45 **17-2-11** Impacts of the gut microbiome on honey bee (*Apis mellifera*) physiology
Waldan Kwong

17:00 **17-2-12** Combinatorial effects of gut microbes on physiology and behavior of honey bees
Ryo Miyazaki

17:15 **17-2-13** Outer Membrane Vesicle Characterisation of the *Apis mellifera* Gut Microbiome Reveals Putative Cell to Cell Communication Mechanisms
Rodney Eyles

17:30 **17-2-14** Social, ecological, and developmental drivers of a global gut microbiome invasion phenomenon in bumble bees
Tobin Hammer

17:45 **17-2-15** From Pollen to Putrid: Comparative Metagenomics Reveals How Microbiomes Support Dietary Specialization in Vulture Bees
Jessica Maccaro

18:00 **17-2-16** How do fungal mutualists affect social behaviour of a facultatively eusocial ambrosia beetle?
Eleonora Vittoria Fontana

Room 510

Symposium 10-1

9:45 - 11:45



Biology of insect bacteriocytes and microbial symbionts

Chair: Shuji Shigenobu (National Institute for Basic Biology), Takema Fukatsu (National Institute of Advanced Industrial Science and Technology (AIST)), Alex Wilson (University of Miami)

9:45 **10-1-01** The Evolution of the Symbiotic Interface
Alex Wilson

10:00 **10-1-02** Evolutionarily conserved metazoan pathways have evolved new functions and regulate bacteriocytes' dynamics in the context of symbiosis
Mélanie Ribeiro Lopes

10:15 **10-1-03** The bacteriocytes of females and males in whitefly *Bemisia tabaci* have differentiated development fate
Nana Li

10:30 **10-1-04** Genome editing and multi-omics analysis towards an understanding of bacteriocyte endosymbiosis in aphids
Shuji Shigenobu

10:45 **10-1-05** On the evolutionary developmental origin and molecular bases of bacteriocyte symbioses in lygaeoid stinkbugs
Yu Matsuura

11:00 **10-1-06** One Tribe Residing in Fairyland of Symbiosis: Amazing Diversity of Bacteriome Symbiosis in Spittlebugs
Ryuichi Koga

11:15 **10-1-07** Intra-nuclear *Rickettsia*: Attempt to identify genes responsible for nuclear invasion
Yudai Nishide

11:30 **10-1-08** Biological and nutritional roles of bacteriocytes, urocytes, and adipocytes in the fat body of the German cockroach *Blattella germanica*
Tomohito Noda

Symposium 10-2

13:30 - 18:15



Extended phenotypes emerging across insects, plants and microbes

Chair: Takuya Sato (Kyoto University), Susumu Katsuma (The University of Tokyo), Takema Fukatsu (National Institute of Advanced Industrial Science and Technology (AIST)), Carolyn Elya (Harvard University)

13:30 **10-2-01** Molecular mechanisms underlying baculovirus-induced host behavior manipulation
Susumu Katsuma

13:45 **10-2-02** Neural mechanisms of fruit fly behavioral manipulation by the killer fungus *Entomophthora muscae*
Carolyn Elya

14:00 **10-2-03** Hijacked! Investigating the molecular strategies used by a zombie-making fungus to manipulate carpenter ant behavior.
Charissa de Bekker

14:15 **10-2-04** Adaptive and maladaptive consequences of enhanced polarotaxis for the extended phenotype of nematomorph parasites in human-dominated environments
Takuya Sato

14:30 **10-2-05** Behavioural and proteomic analysis of the water-entry behaviour in crickets (*Acheta domesticus*) infected with the nematomorph *Paragordius varius*.
Louise Coates

14:45 **10-2-06** Brain manipulation of mammalian host by intracellular parasite, *Toxoplasma gondii*
Yoshifumi Nishikawa

15:00 **10-2-07** Why do some vertically transmitted viruses kill male hosts?
Daisuke Kageyama

15:15 **10-2-08** Commonality and difference in male-killing mechanisms caused by insect symbionts
Toshiyuki Harumoto

Sunday 25 Aug

Monday 26 Aug

Tuesday 27 Aug

Wednesday 28 Aug

Thursday 29 Aug

Friday 30 Aug

Daily schedules

Sunday 25 Aug

15:30 **Coffee Break**

16:15 **10-2-09** Evolutionary and genomic insights into male-killing and non-male killing *Spiroplasma* endosymbionts associated with the pea aphid
Jean-Christophe Simon

16:30 **10-2-10** Identification of the gall-inducing peptide from a gall-inducing aphid, *Schlechtendalia chinensis*
Tomoko Hirano

16:45 **10-2-11** Manipulation of Plant Morphology by Gall-Forming Social Aphids
Mayako Kutsukake

17:00 **10-2-12** Venom proteins of the endoparasitoid wasp *Asobara japonica* induce epithelial cell death in the host *Drosophila* species and ensure parasitism success
Ryusuke Niwa

17:15 **10-2-13** Exploitation of behavioral fever as a defense strategy against parasitoids
Jianhua Huang

17:30 **10-2-14** Symbiont-induced modification of host's adaptive phenotypes
Takema Fukatsu

17:45 **10-2-15** Paleocene origin of a streamlined digestive symbiosis in leaf beetles
Marleny Garcia Lozano

18:00 **10-2-16** Identification of plant virus proteins responsible for the manipulation of host phenotype and vector behavior
Quentin Chesnais

Monday 26 Aug

Tuesday 27 Aug

Wednesday 28 Aug

Thursday 29 Aug

Friday 30 Aug

Monday 26 August

Event Hall

Poster 1

11:45 - 13:30



Apiculture and Sericulture

- P0001 Pebrine detection in wild silkworms using Artificial Intelligence and Machine Learning models.
Vijay Nageshappa
- P0002 Bmo-miR-3351 modulates glutathione content and inhibits BmNPV proliferation by targeting *BmGSTe6* in *Bombyx mori*
Shi-Huo Liu
- P0003 Pro-Gln-Gln Triplet Tandem Repeat Protein Predominantly Constituting the Underwater Cocoon of the Aquatic Grass Moth (Crambidae: Acentropniae)
Jeongjun Lee
- P0004 How does the silkgland of Japanese oak silkmoth, *Antheraea yamamai* larvae develop?-To elucidate the concentration dynamics of radiocesium in the silk-
Toshimasa Mitamura
- P0005 Composition of aquatic fibers - a comparison of caddisfly silks
Lenka Rouhova
- P0006 Transcriptome analysis of midgut, fat body and salivary glands of Eri silkworm *Samia ricini* (Saturniidae: Lepidoptera) fed on different host plants and artificial diet.
Mohammed Muzeruddin Baig
- P0007 Cytotoxin-mediated silk gland organ dysfunction diverts resources to enhance silkworm fecundity by potentiating nutrient-sensing IIS/TOR pathway
Eiji Kotani
- P0008 Efficient gene replacement at the silkworm fibroin heavy chain gene by TALEN-based homologous recombination
Yoko Takasu
- P0009 Japanese honey bees swarmed more often between 2000 and 2022
Kiyohito Morii
- P0010 Caste differences in the dopaminergic system during metamorphosis in eusocial bees
Takafumi Onuma
- P0011 Analysis of substances that Japanese honey bees smear on their hive entrance to protect the hive from Asian giant hornets.
Yoshitaka Sumimiya
- P0012 Rapid identification of pests, silk, microsporidia, and polyhedrosis viruses by mass spectrometry
Hideyuki Kajiwara
- P0013 Analysis of putative virulence determinants of *Melissococcus plutonius* causing European foulbrood
Mariko Okamoto
- P0014 Morphometry and Microscopic Analysis of Reproductive Organs of *in-vitro* Rearing Stingless Bee Queen, *Heterotrigona itama* (Apidae: Meliponini)
Atsalek Rattanawanee
- P0015 Function of DNA G-quadruplex structure during development of *Bombyx mori*
Kangkang Niu
- P0016 Emerging mite threat to honey bees: managing the latest pest challenge in Asia
Madison Sankovitz
- P0017 An Effective Chemical Permeabilization of Silkworm Embryos
Keiro Uchino
- P0018 Laboratory evaluation of selected essential oils against *Varroa destructor*
Orlando Campolo
- P0019 Determination of sex and age differences in the chemical composition of honey bee (*Apis mellifera* L.) cuticle using FTIR-ATR spectroscopy
Lidija Svecnjak
- P0020 Centre for information and improvement of knowledge about pollinating insects - project concept and its implementation
Aleksandra Splitt
- P0021 Comparative analysis of honey attributes across Central Asia, Korea, and New Zealand
Hyeonjeong Jang

Poster 2

11:45 - 13:30



Chemical Ecology

- P0022 Developing new sustainable tools for pest control: Decoding the chemical ecology of the cork oak borer, *Cororebus undatus*
Sofia Branco
- P0023 Unveiling the Indian meal moth's sex pheromone perception: Age, mating status, and behavioral implications
Jacqueline M Maille

- P0024 Ligand-binding properties of odorant binding protein 6 in *Lasioderma serricorne* to sex pheromone and plant volatiles
Guiyao Wang
- P0025 Investigation on chemically mediated behaviour of *Liriomyza* leafminers.
Soo Jean Park
- P0026 Possible use of 2-octenal, one of the alarm pheromones of rice-ear bugs, *Leptocorisa chinensis* for their management under field conditions
Ken-ichi Yamashita
- P0027 Study on the function of benzoate esters in the interaction between rice and brown planthopper
Huijing Li
- P0028 Plant components that mediate oviposition behavior in *Eurema mandarina*
Hisashi Omura
- P0029 Nesting materials shape community: Stingless bee nest chemistry and their microbial tenants
Shao-Xiong Chui
- P0030 Sex pheromone of the azalea mealybug: absolute configuration and kairomonal activity
Yuma Sugawara
- P0031 The importance of fine-scale patterns and intraindividual variation in chemically mediated plant-pollinator interactions.
Gwen Melissa Bode
- P0032 Host plant chemical response to oviposition by damselfly (*Lestes*)
Radana Chytilová
- P0033 Insect-induced volatile interactions between Scots pines in a polluted free-air environment
Tihomir Simin
- P0034 Volatile organic compounds, tolerant varieties and entomopathogenic fungi: three potential methods for wireworms' control
Fanny Ruhland
- P0035 Comprehensive identification of female sex pheromones in Erebininae moths
Tareq A. S. Abubaker
- P0036 Roots to shoots: rhizospheric bacterium enhances anti-herbivore defences in wild and cultivated tomatoes
Diego Martins Magalhães
- P0037 Shape-shifting Floral Scent: Temporal Variation of Prey Signals Attracts Wasps to the Generalist Plant *Serjania glabrata*
Jonas Konicek
- P0038 Exploring the oviposition mechanism of the guava fruit fly (Diptera: Tephritidae) using olfactory cues
Tengda Guo
- P0039 First Identification of (+)-(7R)-Actinidine from Rove beetles (Coleoptera: Staphylinidae) and its Biosynthetic Pathway.
Yu Takatani
- P0040 Hexanal-oxidizing activity in the antennae of *Leptoglossus occidentalis*, (Hemiptera: Coreidae) correlates with inactivation of its alarm pheromone
Koji Noge
- P0041 Discovery and exploitation of an herbivore susceptibility gene to improve rice yield in the field
Peng Kuai
- P0042 A plant-derived phytochemical in the frass of a stem-boring pest elicits defenses in rice plants
Shuting Chen
- P0043 Odor sensors to detect and identify agricultural pests for crop protection
Carla Marques Arce
- P0044 Identification of a new gustatory receptor BminGR59b tuned to host wax in a specialist, *Bactrocera minax* (Diptera: Tephritidae)
Changying Niu
- P0045 Small hive beetle, *Aethina tumida* (Coleoptera: Nitidulidae): cuticular chemical profile and possible chemical mimicry in a honeybee pest
R Andrew Hayes
- P0046 Differences in male mate recognition between invasive and native Japanese *Anoplophora*: Do males recognize female contact pheromones of congeneric species?
Hiroe Yasui
- P0047 A high-quality genome of the bella moth (*Utetheisa ornatatrix*) reveals pyrrolizidine alkaloid sequestration genes (Lepidoptera: Erebidae)
Ana Isabel Lopez
- P0048 Chemical defenses of *Physalis angulata* leaves
Masanori Morimoto
- P0049 Responses of plant herbivores and natural enemies to plant volatiles
Savvina Toufexi
- P0050 Screening of a specific jasmonic acid agonist for rice resistance to herbivores
Junli Xiao
- P0051 The Cornell Chemical Ecology Core Facility: How we can help YOU with quantitative analysis of small molecules
Danielle L Dryer
- P0052 Exaptation followed by adaptation: The capacity to sense spiroacetals has led to the evolution of host plant specialization in Megachilidae bees
Katharina Brandt
- P0053 Beetle volatiles trigger allergy in humans? A preliminary investigation on the volatiles from an aggregating indoor pest *Luprops tristis*
Sajidha Mohammed
- P0054 Genome-wide identification and expression of olfactory-related genes in stored-product psocid *Liposcelis bostrychophila* (Psocoptera: Liposcelididae)
Dandan Wei
- P0055 Structure activity relationship for insect antifeedant activity of melampolides from glandular trichomes of yacón leaf
Yusuke Nakajima

- P0056 From homeostasis to bravery: How social aphids chemical cues trigger flexible division of labor
Shigeru Matsuyama
- P0057 IR76b regulates the oviposition preference for acetic acid in *Bactrocera dorsalis*
yuanyuan peng
- P0058 Do Green Leaf Volatiles Directly Affect the Performance of Herbivores?
Rika Ozawa
- P0059 Impact of Feeding on Sorghum Polyphenolic Treated Diet on Population Production in Stored Product Pests.
Rupinder Singh
- P0060 Expression map of olfactory and gustatory receptors in the moths *Spodoptera littoralis* and *S. frugiperda*
Camille Meslin
- P0061 In silico approaches expand the chemical space of insect odorant receptors
Emmanuelle Jacquin-Joly
- P0062 HONEYBEE WORKERS DISPLAY TASK-RELATED AND SUBSPECIES-SPECIFIC PATTERNS IN THEIR CUTICULAR HYDROCARBON PROFILES
Thomas Schmitt

Poster 3

11:45 - 13:30



Conservation, Biodiversity and Biogeography

- P0063 The Odonata fauna of the Imperial Palace, Tokyo
Takuya Kiyoshi
- P0064 Quantitative morphology of lacewing larvae demonstrates the decline in diversity of Neuroptera, where other methods can not
Gideon T. Haug
- P0065 *Oxya yezoensis* as a useful indicator of radiocesium transfer in a grassland ecosystem a decade after the Fukushima Dai-ichi Nuclear Power Plant accident
Sota Tanaka
- P0066 Effects of wing color change caused by alien host plant on mating behavior of a lycaenid butterfly, *Tongeia fischeri*
Karen Hisai
- P0067 How *Blattella nipponica* adapted the various environment in Japan.
Hiroki Matsumoto
- P0068 Evolutionary genomics of the Japanese honeybee, *Apis cerana japonica*
Takeshi Wakamiya
- P0074 Developing a long-term insect biodiversity monitoring program for a South African semi-arid savanna ecosystem
Michelle G. Au
- P0075 The risk assessment of genetic disturbance in Japanese rhinoceros beetle (*Trypoxylus dichotomus*) by a phylogeographic approach
Tomo Hamano

- P0076 Distribution and ecology of the two net spinning caddisfly species in the small mountainous watershed, Japan.
Kaori Kochi
- P0077 Investigating the effect of habitat degradation on saproxylic arthropod diversity and ecosystem functions in the peat swamp forests of Brunei Darussalam
Sean Yap
- P0078 Sampling methodology for insect biodiversity assessment on marginal land – a case study
Željko Milovac
- P0079 Diversity and abundance of saproxylic insect species in logging residue piles in Estonia
Ivar Sibul
- P0080 Soil biodiversity and energy flux in organic and conventional paddy fields in winter
June Wee

- P0069 Biology and conservation of the European stag beetle (*Lucanus cervus*): recent advances and lessons for similar species
Arno Thomaes
- P0070 Pollinator conservation in low- and middle-income countries: the case of Morocco
Ahlam Sentil
- P0071 Multi-scale drivers of dragonfly distribution across Africa
Charl Deacon
- P0081 Active versus passive Forest Rewilding: Traditional and Molecular Approaches to Monitor Soil Biome Community Structural Responses During Reforestation
Coskun Guclu

- P0072 Indian Drosophilid Taxonomy: Multidimensional Approaches toward saving Taxonomy and Taxonomist
Rajendra Singh Fartyal
- P0073 Soil invertebrates contribute to litter decomposition and plant nitrogen uptake
Xiaoyi Zeng
- P0082 How many Darwin wasps are out there? Estimation of Oriental fauna diversity and conservation approaches
Alexey Reshchikov
- P0083 Testing the power of citizen science: German Heteroptera challenge 2023 on the online biodiversity platform observation.org
Viktor Hartung

- P0084 Adapting and Applying a Modified Dragonfly Biotic Index for Assessing Freshwater Ecosystems in Central Europe
Eva Bilkova
- P0085 Exploring the unseen: Neotropical Diversity of *Metopomyza* Enderlein and *Phytomyza* Fallén (Diptera: Agromyzidae) in Mid-Elevation Cloud Forests of Costa Rica
Stephanie Boucher
- P0086 Termite-mediated ecosystem functions on seedling growth and survival during drought across primary and logged tropical rainforests
Nok Lam Yuen
- P0087 Comparison of butterfly and dragonfly abundances and diversity inside and outside deer enclosure fences
Shota Izumi
- P0088 Specificity and species diversity of Collembola communities on fallen branches
Hiro Kasai
- P0089 Multi-perspective imaging and 3D modeling of insects using acoustic levitation
Nathalie Klug
- P0090 Combining camera trapping and deep learning for labor-saving monitoring of perching *Sympetrum* dragonflies
Akira Yoshioka
- P0091 *Apis dorsata*'s Waggle Dance Detection in Natural Conditions Using Video-based Deep Learning
Sylvain Grison
- P0092 Checklist of Dung Beetles of Singapore (Coleoptera: Scarabaeidae: Scarabaeinae)
Zann Jiexin Teo
- P0093 Spillover and board infectivity of two thelastomatid nematodes in cultured cockroaches
Ming-Chung Chiu
- P0094 Urbanization of the Mexican cloud forest: Orchid Bees Diversity and Function
Alvaro Hernández
- P0095 Which characteristics of spoil heaps shape the communities of diurnal butterflies?
Adam Mikunda
- P0096 Evaluating Microclimatic Conditions for Invertebrate Pollinators along Urban Wildlife Corridors
Nicole A. S.-y. Dorville
- P0097 Garden butterfly survey: urban butterfly populations over 8 years in Kyoto.
Osamu Imura
- P0098 Urbanisation drives inter- and intraspecific variation in flight-related morphological traits of diving beetles (Coleoptera: Dytiscidae) at different landscape scales
Wenfei Liao
- P0099 Exploring the causal relationship between insecticide use and sharp population declines of the dragonfly *Sympetrum frequens* in Japan
Kosuke Nakanishi
- P0100 Insecticide fipronil exposure and water temperature rise sharply decrease the abundance of Odonata nymphs in experimental paddies
Naoto Ishiwaka
- P0101 Invisible Mass Mortality of Parasitoids: Impact of the Fungicide Benomyl in Host Diets on the Parasitoids of Herbivorous Caterpillars
Kazusa Egawa
- P0102 Exploitative interspecific competition between distribution-expanding and native species of large-bodied diving beetles during the larval stages
Taichi Fukuoka
- P0103 The year of the microhymenoptera – Assessing the phenology of parasitoid Hymenoptera from mass samples
Maura Haas-Renninger

Poster 4

11:45 - 13:30



Development and Reproduction

- P0104 Lysine promotes mutual dependence between whitefly and two intracellular symbionts
Xiyu Bao
- P0105 Knock-in alleles of Insulin receptor tagged by fluorescent proteins mCherry or EYFP for expression and functional analyses in *Drosophila melanogaster*
Takashi Adachi-Yamada
- P0106 Lytic polysaccharide monooxygenases are novel critical enzymes participate in chitin degradation in insect
Mingbo Qu
- P0107 Two key structural proteins that determine mechanical properties of the locust mandible
Tian Liu
- P0108 Functions of groups I and II chitinases, TcCHT5 and TcCHT10, in turnover of chitinous serosal cuticle during embryogenesis in *Tribolium castaneum*
Myeongjin Kim
- P0109 Discovery Novel and Potent Chitinase inhibitors via Rational Design and Structure-Based Virtual Screening
Xi Jiang
- P0110 Molting-related Proteases in the Brown Planthopper, *Nilaparvata lugens*
Yucheng Xie
- P0111 A chitin-binding protein with elastic motifs: the functions of resilin and the mechanism of its polymerization
Miyuna Hagiwara

Poster presentations

Sunday 25 Aug

- P0112 Pharmacological experiments on wing pattern development of Lepidoptera
Andrei Sourakov
- P0113 Expressions of sugar transporters/trehalases in relation to PTH-stimulated ecdysteroidogenesis in the silkworm, *Bombyx mori*
Shi Hong Gu
- P0114 The super elongation complex acts downstream of *kriippel homolog 1* to control reproduction in the cabbage beetle *Colaphellus bowringi*
Yu-Lian Zhao

Monday 26 Aug

- P0115 Endocrinal regulation of resource allocation in stag beetles
Kazuya Ohtagaki
- P0116 An MD-2-related lipid-recognition protein is required for insect reproduction and integument development.
Yanyuan Bao
- P0117 The biosynthetic pathway of insect steroid hormone: conversion of oxidized derivatives of 7-dehydrocholesterol into ecdysone
Hajime Ono

Tuesday 27 Aug

- P0118 Hormonal regulation of stage-specific cuticular formation in the red flour beetle, *Tribolium castaneum*
Koichiro Tada
- P0119 Hormonal regulation of sexually dimorphic development of the Japanese mealybug *Planococcus kraunhiae*
Chieka Minakuchi

Wednesday 28 Aug

- P0120 High-throughput RNAi screening uncovers pathways interacting with juvenile hormone signaling
Raveendra Babu Mokhamatam
- P0121 Juvenile hormone acts via a membrane protein to promote vitellogenin secretion from fat body cells to hemolymph
Baojuan Zeng
- P0122 Functional analyses of Fat-Hippo pathway genes in stag beetles
Taisei Ashimori

Thursday 29 Aug

- P0123 Developmental mechanisms underlying “sharpness” of mandibles in stag beetles
Leon Nozawa
- P0124 NADPH oxidase 5 is essential for molting and oviposition in a rice planthopper *Nilaparvata lugens*.
Luyao Peng
- P0125 Diversity and functions of protein glycosylation in insect development
Kristof De Schutter

Friday 30 Aug

- P0126 Influence of sorghum starch composition on *Rhyzopertha dominica* (F.) and *Sitophilus oryzae* (L.) development
Deanna Scheff

- P0127 The vertical transmission of parthenogenesis-induction *Wolbachia* in *Encarsia formosa*
Ce Li
- P0128 Origins of sperm dimorphism in Lepidoptera: insights from monomorphic sperm of bagworm moths
Andrew J Mongue
- P0129 Exploring the roles of *germ cell-less* in germ line development of the milkweed bug *Oncopeltus fasciatus*
Jonchee A. Kao
- P0130 Characterization of the *doublesex* gene in the rice stem borer, *Chilo suppressalis* (Walker)
Di Guo
- P0131 The neuropeptide corazonin and its receptor *crzR* regulate the post-mating response of brown planthopper.
Ning Zhang
- P0132 Reproductive Senescence in the Pollinator, *Megachile rotundata*
Jacob Pithan
- P0133 Caste-specific developmental characteristics during prepupal stages in the ant *Pheidole megacephala*
Hajime Yaguchi
- P0134 Daughterless is essential to complete differentiation from neuroepithelial cells into neural stem cells in the fruit fly, *Drosophila melanogaster*.
Takumi Suzuki
- P0135 The heights of passion: how pairs of dung-beetles coordinately move brood balls towards unknown destinations.
Claudia Tocco
- P0136 Life history of a ground cockroach *Opisthoptatia orientalis* and growth experiments using beer residues.
Hiroki Takekata
- P0137 Does larval compensatory growth reaction to restricted growth experience differ from that to smaller body sizes at birth?
Sugihiko Hoshizaki
- P0138 Knockout mutagenesis of an exocrine protein gene expressed in male internal reproductive organ of Eri silkmoth *Samia ricini*
Kei Otsuka
- P0139 The common bedbug *Cimex lectularius* as a model to study innate reproductive immunity
Christoph-Rüdiger von Bredow
- P0140 Deciphering limb regeneration potential in ladybird beetles
Shivali Pandita
- P0141 Effects of different body parts of crickets on reproductive success rate and gene expression
Ayaka U Takashima



Ecology and Evolution

- P0142 Can aggregation - basis of successful aposematism - be maintained in an aposematic leaf beetle that is moving dynamically within a host plant field?
Nicole Kalberer
- P0143 Fine-scale population structure of *Aedes aegypti* in southern Taiwan inferred by genome-wide SNPs
Hung-Yi Wang
- P0144 Effects of photoperiod duration on diapause in the Alfalfa Leaf Cutting Bee (*Megachile rotundata*)
Joshua D Rinehart
- P0145 Realized flower constancy: optimal foraging of bumble bees for balancing retrieval and skipping costs and its possible consequences for floral diversity
Kentaro Takagi
- P0146 Female attelabid weevils recognize leaf asymmetry for making leaf rolled cradles (Attelabinae, Attelabidae, Coleoptera).
Kazuhiko Sakurai
- P0147 Frequency analysis of the wingbeat and flight tone in paper wasps
Iori Morimoto
- P0148 Heading maintenance during sun orientation is influenced by visual stimuli but not motor state in *Drosophila melanogaster*
Ysabel Giraldo
- P0149 Using automated pheromone traps, stable isotopes, and atmospheric transport modelling to characterize long-distance dispersal of a forest defoliator.
Jean-Noel Candau
- P0150 Host preference and reproductive strategies of *Galleria mellonella*
Takaki Hinata
- P0151 The study of Social Wasps Populations in Seoul, South Korea, 2023
Hyeonsuk An
- P0152 Long-term changes of moths in the high mountains compared to the lowlands of southern Korea
Chang-Gyu Park
- P0153 Assessment of Ecological health based on Benthic Macroinvertebrate in 15 Streams, Korea
Myeoung cheol Kim
- P0154 Assessment of Ecological health based on Benthic Macroinvertebrate in 15 Streams, Korea
Myeoung cheol Kim
- P0155 Egg maturation strategies in Cynipoidea (Hymenoptera): a comparison between parasitoids and gall inducers
Yajiao Wu
- P0156 Are gall sizes of *Daphnephila truncicola* (Diptera: Cecidomyiidae) affected by parasitoids?
Shih Syuan Wang
- P0157 Comparison of preference and electrophysiology to the environmental chemicals produced in the fruit fermentation between *Drosophila melanogaster* and *Drosophila suzukii*
YeongHo Kim
- P0158 Developmental mechanisms of psyllid spherical galls on the leaves of *Machilus japonica* var. *kusanoi*
Yao De Shan
- P0159 Structural variations in Rhus gall aphid genomes
Yiyuan Li
- P0160 Emergence time as a method of resource partitioning in mycophagous insects
Rohit Bangay
- P0161 Exploring genes responsible for male mandibular reduction in island stag beetles *Prosopocoils Hachijoensis*.
Kodai Kishino
- P0162 Ecological Traits of Three Species of *Xiphydria* Woodwasps from Japan: Host Tree Species and Eggs, Symbiotic Fungi and Mucus found in their bodies
Ryu Takagi
- P0163 Impulsive bees vs. cautious bees: can individual variation in learning speed explain the contrasting foraging tactics of bumble bees?
Nozomi Takeuchi
- P0164 Does sexual selection maintain female-limited polymorphism in Batesian mimicry? Comparison of mating frequencies in *Papilio polytes*
Shuya Yoshioka
- P0165 Host plant nutritional quality and the insect immune response: a quantitative meta-analysis.
Su'ad Yoon
- P0166 Ecosystem size or allochthonous resources influence the food chain length of an insect community in plant litter patches in a forested stream.
Shuhei Tachikake
- P0167 Every day, the same bryophyte lunch: is it boring or dangerous?
Michaela Drgová
- P0168 Occurrence history and development of a phenology Model for egg hatching of walking-stick insect, *Ramulus mikado* (Phasmatodea: Phasmatidae) in Korea
Youngwoo Nam
- P0169 Ongoing hybridization between two invasive termite pest species (*Coptotermes*)
Ericka E. Helmick
- P0170 Diversification of Neotropical termites
Menglin Wang
- P0171 Diversification of sex determination gene *doublesex* in termites
Kokuto Fujiwara

P0172 Phylogeny and parallel evolution analysis of Australian wood-feeding and soil-burrowing cockroaches
Zhuzhi Zhang

P0173 Uncovering cryptic diversity of termites in the arid region of southern Africa
Felicitas Gunter

P0174 Comprehensive expression analysis of chemosensory genes during soldier differentiation in *Zootermopsis nevadensis*
Takumi Hanada

P0175 Unravelling the three axes of termite antipredator defences: A comparative analysis of morphological, chemical and behavioural defences of Australian termites
Hannah Smart

P0176 Ecological survey of *Sitophilus oryzae* and *Sitophilus zeamais* in Japan
Shiori Koga

P0177 Effects of biochar infused water on oviposition behavior and larval development in *Aedes aegypti*
Nicole S Rodrigues

P0178 Maladaptive photoperiodic response observed in a range-expanding moth *Milionia basalis pryeri* in southern Kyushu, Japan
Yoshinori Shintani

P0179 Life history of *Tachina nupta* (Diptera: Tachinidae), which parasitizes lepidopteran larvae by 'waiting for host passing'
Masayoshi Noma

P0180 High temperature heat stress dependency of inbreeding depression and thermal resistance in aphids
Nousheen Parven

Poster 6

11:45 - 13:30



Genetics and Genomics

P0181 Species-specific markers for quick identification of important rice plant hoppers
Srinivasa Narayana

P0182 Population Genomics Analysis of *Rhynchophorus ferrugineus* across its native and invasive range
Neelu Begum

P0183 Evolution of Feeding Behavior and Gustatory Receptors in Bombycoid Moths
Christian Davis Couch

P0184 Mother Knows Best: Unraveling the Transcriptome of Female Desert Locust Accessory Gland After Mating
Vivian A Peralta Santana

P0185 Unraveling the genetic basis of host-alternation in aphids using comparative genomics and transcriptomics.
Theo Vericel

P0186 When do caveman statistics outperform machine learning? Old vs new in the analysis of insect RNAseq data
Benjamin Aaron Taylor

P0187 A population genomics approach to study the structure and evolution of native and introduced populations of the mountain wood ant *Formica paralugubris*
Lino Ometto

P0188 Comparative study of the repeatome in five Orthoptera species
Yuan Huang

P0189 Changes in gene expression during the molting cycle may disrupt worker development in hybrids of two *Coptotermes* termites
Kyung Seok Kim

P0190 Proteomic and transcriptomic profile of the black soldier fly larvae (*Hermetia illucens* L.) salivary glands
Cynthia Castro Vargas

P0191 Applying poly-moths to polymer waste: Investigating the polyethylene catabolic activity of two wax moth species, *Galleria mellonella* and *Achroia grisella*
Reginald Young

P0192 Aphid genomics: Introgression in invasives
Rebecca A Clement

P0193 Endogenous viral elements integrated in the genomes of *Bombyx mori* and *Samia ricini* are sources of PIWI-interacting RNAs (piRNA)
Shota Takeda

P0194 Presentation Withdrawn

P0195 Transcriptome analysis of response to heat stress of *Lasioderma serricorne* larvae
Jianwei Wang

P0196 Genetic Analysis of the Different Populations of Brown Planthopper, *Nilaparvata lugens* (Stål) (Hemiptera: Delphacidae) Collected from Luzon and Visayas, Philippines
Gelyn Danglay Sapin

P0197 Exploring the genetic basis of a unique sex determination system in blowflies
Diniz Lima Ferreira

P0198 Chromosome evolution in aphids
Thomas Mathers

P0199 Assessing incongruence of gene properties for phylogenetic inference with visualization method
Xiumei Lu

P0200 The dual role of TRA and TRA-2 proteins in splicing regulation of sex-determining genes
Kamoltip Laohakieat

P0201 Genetic basis of explosive benzoquinone biosynthesis in bombardier beetles.
Wendy Moore

- P0202 Presentation Withdrawn
- P0203 InsectBase 2.0: a comprehensive gene resource for insects
Shenyang Tang
- P0204 Whole Transcriptome Analysis of *Haemaphysalis longicornis* with Phlebovirus contamination in Korea
Jie Eun Park
- P0205 Improved draft genome assemblies of diverse members within the *Bemisia tabaci* species complex
Susan Seal
- P0206 Using DIPA-CRISPR to study the function of *Krüppel-homolog 1* in *Blattella germanica* embryos
Maria-Dolors Piulachs
- P0207 Kynurenine 3-monooxygenase as a useful target to set up CRISPR/Cas9 genome editing in *Spodoptera exigua*
Daniel Pinos
- P0208 The genes behind the scenes of visual mate preference
Kiana Kasmaii
- P0209 Presentation Withdrawn
- P0210 What forces shape you? The genomics toward the dark side
Xin Zhou
- P0211 Modification of the wing color pattern of *Drosophila guttifera* by developing the Gal4/UAS system
Masato Koseki
- P0212 Heterospecific penetrance of supergene in interspecific hybrids between *Papilio polytes* and *Papilio helenus*
Kota Aoki
- P0213 Research on specialization of forelegs using *Drosophila prolongata* as a model
Takumi Hiraishi
- P0214 The genetic architecture of the “low-locomotive” behavior of domesticated silkworm larvae
Kenta Tomihara
- P0215 Diversity and Role of the Silkworm Cocoon shell Protein Sericin-A
Muto Yamaoka
- P0216 Unique aspects of insect viviparity across genomics, physiology, and behavior
Joshua B Benoit
- P0217 Phylogenetic relationships of the groundnut/soya bean leaf miner populations from Africa, India and Australia based on the mtDNA gene sequences
Makhosi Buthelezi
- P0218 Characterization of *doublesex* gene in the stag beetle *Dorcus rectus*
Kanon Yamauchi
- P0219 Phylogenetic relationships of two closely related ticks, *Haemaphysalis megaspinosa* and *H. japonica*: testing the validity of mitochondrial barcoding
Mizue Inumaru
- P0220 Lineage-specific gene expansion of insect feminizing gene *transformer* in stag beetles
Itsuki Ohtsu
- P0221 Identification of a glycoside hydrolase mediating flavonoid uptake in *Bombyx mori* by QTL analysis
Ryusei Waizumi
- P0222 Coevolution of exaggerated male and female genitalia in *Carabus (Ohomopterus)* beetle: a role for sex-concordant genes
Shota Nomura
- P0223 Microsatellite based analysis reveals *Aedes aegypti* populations in of Saudi Arabia result from colonisation by both the ancestral African and global domestic forms
Abadi M. Mashlawi
- P0224 Comparative cytogenetics of Zoraptera
Marek Jankásek
- P0225 Patterns of endogenous non-retroviral RNA virus and its genomic context in the *Anopheles darlingi* genome
Margarita M. Correa
- P0226 Diversity of *Bemisia tabaci* Gennadius and their secondary endosymbionts in the Philippines
Barbara Laviña Caoili
- P0227 Identification of the pathogen infection trend in global honey bee colonies and its correlation with differential gene expression
Yeahji Jeong
- P0228 Gene duplication and functional differentiation of seven alkaline phosphatase genes in the silkworm, *Bombyx mori*
Masakazu Teramachi

Poster 7

11:45 - 13:30



Insect-Microbe Interactions

- P0229 Gut microbiota mediate phenols degradation in *Bactrocera minax* (Diptera: Tephritidae)
Shuai Cao
- P0230 Microbiome of the biological control agent *Nesidiocoris tenuis* (Hemiptera: Miridae)
Tetsuya Adachi-Hagimori
- P0231 What changes occur in the genomes of bacterial symbionts when they transition from plants to insects?
Pradeep Palanichamy
- P0232 Begomovirus β C1 protein promotes drought tolerance in plants
Guanping Chen

P0233 Requirement of the viral glycoprotein-encoding RNA for transmission of an emaravirus perilla mosaic virus by perilla rust mite (*Aculops thymi* Nalepa) (Acari: Eriophyidae)
Kenji Kubota

P0234 Effects of MAPK Cascade-Mediated Jasmonic Acid Defense on Herbivorous Insects
Siwen Wu

P0235 Relationship between the evolution of the symbiotic system with yeasts and the niche diversification in xylophagous stag beetles
Gaku Ueki

P0236 Identification of the Japanese pear rust mite *Eriophyes chibaensis* (Acari: Eriophyidae) as a vector for pear chlorotic leaf spot-associated virus in Asian and European pears
Sawana Takeyama

P0237 Jasmonate signaling regulates rice and brown planthopper interaction
Ran Li

P0238 A bordered plant bug, *Physopelta gutta*, establishes an obligate gut symbiosis with environmentally-acquired *Paraburkholderia*
Kazutaka Takeshita

P0239 FISH protocol for the detection of single viral DNA genomes (*LdMNPV*)
Irina Belousova

P0240 Transmission Dynamics of Honeybee Associated Viruses in Flowers, Pollen and Honeybees (*Apis mellifera*) During the Pollination of Californian Almonds
Sara Herrejon

P0241 Diurnal rhythmicity of salivary effector and osmoregulatory genes shapes aphid performance on wheat
Vamsi Nalam

P0242 Why so sensitive? Changes in protein sensitivity in the endemic Hawaiian leafhopper (Hemiptera: Cicadellidae: *Nesophrosyne*) due to Climate Change
Miguel F Estrada Caballero

P0243 Trojan Horse symbiont in an insect-microbe symbiosis
Kota Ishigami

P0244 *Bifidobacterium* and lactic acid bacteria are abundant in hindgut microbiota of overwintering Japanese honey bees (*Apis cerana japonica*)
Akihiko Suzuki

P0245 General Patterns of Microbiota in Lepidoptera: Effect of Phylogenesis and Guild
Kateřina Czajová

P0246 The microbial ecology of important stored products insect pests in Europe and North America
Hannah E Quellerhorst

P0247 Entomovectoring in action: discovering the potential of lacewings as fungus carrier for coffee berry borer control
Jéssica Letícia Abreu Martins

P0248 Differential gene expression in *Anasa tristis* in response to symbiont colonization but not phytopathogen infection
Sandra Yadira Mendiola

P0249 Weeds and other plants species as a potential risk for virus yellows transmission in sugar beet
Svenja Baensch

P0250 Localization and population dynamics of a phytopathogen moonlighting as a defensive insect symbiont
Shounak Jagdale

P0251 Bacterial and fungal community structure in *Culicoides* midge species reveals potential candidates for paratransgenic and biological disease control approaches
Amanda N Ramirez

P0252 Development of microinjection method for *Wolbachia* transinfection in the leafhopper *Matsumuratettix hiroglyphicus* (Matsumura), vectors of sugarcane white leaf disease
Kamonrat Suwanchaisri

P0253 Lipid metabolism associated with *Acetobacter* symbionts as adaptive systems against blue light toxicity in *Drosophila melanogaster*
Yuta Takada

P0254 Gut bacterial diversity in the larval midgut of fall armyworm, *Spodoptera frugiperda* (J.E. Smith) (Lepidoptera: Noctuidae) in Eastern India
Tamoghna Saha

P0255 Male-killing virus disrupts endocrine system of host males
Takumi Takamatsu

P0256 Cell-Based Analysis of Male-Killing *Wolbachia* Effects on Its Host *Ostrinia scapularis* (Lepidoptera: Crambidae)
Takafumi N Sugimoto

P0257 Microbial Dynamics and Developmental Niche Construction: Role of Symbiotic Microorganisms in Shaping the Ontogenetic Environment of Fruit Flies
Anna Evlanova

P0258 Facultative symbiont *Serratia symbiotica* affects the feeding behavior and locomotion of its host aphid *Aphis fabae*
Alisa Hamidovic

P0259 How aphid symbiont compromises the control efficiency of parasitic wasps?
Chen Luo

P0260 Egg-cellent Microbes: Using Microbes to Trap the Small Hive Beetle Pest (*Aethina tumida*) by Affecting Beetle Attraction and Oviposition Choice
Yin Xun Tan

P0261 Presentation Withdrawn

P0262 The tripartite symbiosis of termites, protists, and bacteria dates back to the last common ancestor with cockroaches
Naoya Maruoka

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|---|--|
| <p>P0263 Intestinal commensal bacteria promote <i>Bactrocera dorsalis</i> larval development through vitamin B6 synthesis pathway
Jian Gu</p> <p>P0264 Bacterial symbioses and heat protection in aphids: a partnership story
Kévin Tougeron</p> <p>P0265 Parasitism by endoparasitoids alters the microbiome and body odours of caterpillar hosts, with important consequences for higher tropic levels
Gabriele Gloder</p> <p>P0266 Virus as a symbiotic factor to facilitate the adaptation of a generalist herbivore through hijacking host cuticular proteins
Xin An</p> | <p>P0267 The endosymbiont <i>Serratia symbiotica</i> improves aphid fitness by disrupting the predation strategy of ladybeetle larvae
Zhengwu Wang</p> <p>P0268 The association between feeding ecology and gut symbionts of yellow crazy ant (Formicidae, <i>Anoplolepis</i>) in seminatural and urban areas
Yuan-Hung Chen</p> <p>P0269 Relationships between fungal garden substrate and larval growth in a beetle-yeast cultivation mutualism
Wataru Toki</p> |
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Sunday 25 Aug

Monday 26 Aug

Tuesday 27 Aug

Wednesday 28 Aug

Thursday 29 Aug

Friday 30 Aug