Friday 30 August

Main Hall

8:15 - 9:15

Plenary Lecture 5

8:15 **PL5** Scaling Up Integrated Surveillance to Combat Arbovirus Transmission and Emergence, A Perspective from Kenya
Rosemary Sang
AAS/ICIPE (Kenya)

Introducer: Kyoko Sawabe (National Institute of Infectious Diseases)

ICE2024 Kyoto Special Movie

16:15 - 16:30

Ingenuity on the earth

Insects staring through a filming always amaze us. What do they see? What are they thinking? What drives them? Although we cannot stand in the same perspective as the insects, we have recorded them just as they are. Japan's only public broadcaster, NHK's popular natural history program "Darwin's Amazing Animals' has, with the huge help of many entomologists, selected the best footages around the world from archives over almost 20 years. We dedicate this special movie to all entomologists and all insects.

16:30 - 17:30

Plenary Lecture 6

16:30 **PL6** Learning from Insect Intelligence - From a Nature-Centered Perspective -
Ryohei Kanzaki
Research Center for Advanced Science and Technology, The University of Tokyo (Japan)

Introducer: Sakiko Shiga (Osaka University)

Closing Ceremony

17:30 - 18:00

RoomA

Symposium 14-17

9:45 - 15:30

Fruit fly management technologies

Chair: Pattara Opadith (Kyoto University), Stefano De Faveri (Queensland Department of Agriculture and Fisheries), Atsushi Honma (Okinawa Pref. Pl. Prot. Cent./Ryukyu Sankei)

9:45 **14-17-01** Population structure of the Japanese orange fly, *Bactrocera tsuneonis* (Diptera: Tephritidae)
Pattara Opadith

10:15 **14-17-02** Comparative genome yields insights into host diversity and differentiation in a wide variety of Tephritidae flies
Shaokun Guo

10:30 **14-17-03** Establishment of CRISPR/Cas9 system and its application in Y specific gene for *Bactrocera dorsalis* population management
Jiao Qiao

10:45 **14-17-04** Exploring the function and structure of Tephritid Y chromosomes to develop new control methods.
Dimitris Rallis

11:00 **14-17-05** Killing two bugs with one stone: reproductive interference between two fruit fly pests and its potential application for SIT
Atsushi Honma

11:15 **14-17-06** The interspecific mating tests among three Tephritid flies (Diptera: Tephritidae) pests in the laboratory and the assessment of pest management
Chuan-Jie Hong

11:30 **14-17-07** Mating imcompatibility among three populations of *Bactrocera dorsalis* complex (Diptera: Tephritidae)
Tomoki Hisaoka

11:45 **Poster Session**

13:30 **14-17-08** From studies to applications: the development of invasion mechanism and key phytosanitary technology on fruit flies in China
Zhihong Li

13:45 **14-17-09** Potential overwintering of *Bactrocera dorsalis* in different areas of Europe
Vasilis G. Rodovitis

14:00 **14-17-10** Insulin Signaling Disruption: A Gateway to induce Insecticide Susceptibility in *Drosophila melanogaster*
Montserrat Robles

14:15 **14-17-11** Studies on the small acreage of area-wide integrated pest management for the melon fly in Taiwan
Yu Bing Huang

14:30 **14-17-12** Optimizing application density for effective male annihilation technique against methyl eugenol and cuelure responding tephritid fruit flies
Nicholas Chirivas Manoukis

14:45 **14-17-13** Mating competitiveness of methyl eugenol-insensitive oriental fruit flies (*Bactrocera dorsalis* (Hendel))
Ju-Chun Hsu

15:00 **14-17-14** Potential Olfactory-related Genes Associated With Methyl Eugenol in Mature Male *Bactrocera dorsalis* (Hendel)
Mao-Nan Yeh

15:15 **14-17-15** Development of an autodissemination device for spreading entomopathogenic fungi, *Beauveria bassiana*, to melon fly (*Zeugodacus cucurbitae*)
Sarah Kirstin Pennington

Annex Hall1

Symposium 14-18 — 9:45 - 11:45

ad hoc session

Chair: Yingke Wu (University of Peking), Atle Wibe (NORSØK - Norwegian Centre for Organic Agriculture)

9:45 **14-18-01** Optimization of Case9 in homing gene drives
Yingke Wu

10:00 **14-18-02** Combination of Nanoparticles and Entomopathogenic fungi against fruit fly, *Bactrocera dorsalis*, (diptera: tephritidae)
Shahbaz Ahmad

10:15 **14-18-03** Breaking the treadmill in *Tuta absoluta* management: knowledge building towards implementation of evidence based IPM
Emmanouil Roditakis

10:30 **14-18-04** Pattern recognition and detection of damage to crops of stink bugs using AI
Shion Amagi

10:45 **14-18-05** Exploring variation in cabbage stem flea beetle adult feeding and larval resistance in *Brassica napus* varieties: exploitation for breeding resistant varieties
Patricia Ortega Ramos

11:00 **14-18-06** Testing combined measures to control the strawberry blossom weevil *Anthonomus rubi*
Atle Wibe

11:15 **14-18-07** Next-generation molecular diagnostics for monitoring major agricultural pests, alien invasive species, and disease vectors
Konstantinos Mavridis

11:30 **14-18-08** Toxicity, repellent and antifeedant activity of carlina oxide nanoemulsion on *Philaenus spumarius*, the main vector of *Xylella fastidiosa*
Simona Tortorici

Symposium 14-19 — 13:30 - 15:30

Visual Sense and Optical Control Measures for Integrated Pest Management

Chair: Mika Murata (Institute for Plant Protection, NARO), Ken-ichiro Honda (a former Director General of Institute of Vegetable and Floriculture Science, NARO, Japan), Susumu Tokumaru (Kyoto Prefectural Agriculture, Forestry and Fisheries Technology Center)

13:30 **14-19-01** Recent progress in optical pest control using light and color
Masami Shimoda

13:45 **14-19-02** Relationship between spectral sensitivity of the compound eye and attractant light wavelength in the green chafer
Atsushi Nagayama

14:00 **14-19-03** A new insect light trap based on the edge effect of insect phototaxis
Mantaro Hironaka

14:15 **14-19-04** Mechanisms underlying the lethal effects of blue light on insects
Atsuki Kobayashi

14:30 **14-19-05** Mechanisms of optical manipulation on natural enemies using UV or near-UV LED light
Young-Gyun Park

14:45 **14-19-06** In the presence of red light, the host plants lose their attractability to the melon thrips
Mika Murata

15:00 **14-19-07** Advanced insect nets: Red-colored nets effectively control micro pest
Susumu Tokumaru

15:15 **14-19-08** Attract, confuse, repel: Basics of visual perception and possibilities of optical manipulation of insect pests
Niklas Stukenberg

Annex Hall2

Symposium 14-20 — 9:45 - 11:45

ad hoc session

Chair: Mar Vilanova (Instituto de Ciencias de la Vid y del Vino - ICW), Wen - Po Chuang (National Taiwan University)

9:45 **14-20-01** Thrips and virus management in Taiwan: impact of transmission mode
Yi-Ju Chen

10:00 **14-20-02** Unraveling the impact of entomopathogenic nematodes application in aerial pest control in grape quality: assessment of must volatile compounds
Mar Vilanova

10:15 **14-20-03** Are physically acting bioinsecticides practically and economically compatible with open-field agriculture?
Aimee Jane Tonks

10:30 **14-20-04** EARLY DETECTION AND CONTROL MEASURES OF RED PALM WEEVIL IN MALAYSIA
Azlina Zakaria

10:45 **14-20-05** Pyramiding *BPH* genes in rice maintains resistance against the brown planthopper under climate change
Wen-Po Chuang

11:00 **14-20-06** A New Feature of the Laboratory Model Plant *Nicotiana benthamiana*: Dead-End Trap for Sustainable Field Pest Control
Wenhao Han

11:15 **14-20-07** Compositional optimization of miticidal activity, ecotoxicity, and phytotoxicity in rosemary essential oils for controlling *Tetranychus urticae*
Junho Yoon

11:30 **14-20-08** Unraveling the role of Herbivore-Induced Plant Volatiles (HIPVs) in citrus plant defenses: mitigating the impact of citrus pests through volatile exposure
Raul Ortells Fabra

Symposium 14-21 — 13:30 - 15:30

A New Era of Pest Management, New Approaches from Innovative Methods

Chair: Kyoko Sawabe (National Institute of Infectious diseases), Tomoyuki Hashimoto (Japan Environmental Sanitation Center)

13:30 **14-21-01** Comparisons of dominant species of rodents and their resistance factors to anticoagulant rodenticides between Japan, the United States and Europe.
Satoru Nagaoka

13:45 **14-21-02** Insect pest control using new generation sex pheromones and technologies
Maria Konstantopoulou

14:00 **14-21-03** The difference of required pest control concerning about foreign substances between Japan and other contries
Kohjiro Tanaka

14:15 **14-21-04** Detecting Cereal Leaf Beetle (*Oulema* sp.) Damage on Winter Wheat: A Fusion of Proximal Remote Sensing and Advanced Machine Learning
Sandra Skendžić

14:30 **14-21-05** Real-Time Monitoring of Flying Insects in Industrial Food Facilities
Kakurou Kanno

14:45 **14-21-06** Innovative Approaches to Varroa Mite Management in Australia
Fazila Yousuf

15:00 **14-21-07** Biology and management of nuisance caddisflies (Trichoptera) in the Uji River, Kyoto, Japan
Goro Kimura

15:15 **14-21-08** Advancing mosquito repellent research: innovations in non-biting efficacy testing and formulation analysis on skin-applied repellents
Mingeun Son

Room C-1

Symposium 14-22

9:45 - 11:45

Sterile Insect Technique (SIT): promoting operational success across programs and irradiation platforms

Chair: Chao Chen (University of Florida)

9:45 **14-22-01** A new target of SIT in Okinawa, Japan: West Indian sweet potato weevil *Euscepes postfasciatus*. Its reproductive biology.
Chihiro Himuro

10:00 **14-22-02** Presentation Withdrawn

10:15 **14-22-03** The importance of dosimetry in optimizing radiation doses received by insects for sterile insect technique
Philip Rudolph Beukes

10:30 **14-22-04** Enhancing the sterile insect technique (SIT) for *Aedes albopictus* management: an assessment of quality control measures and post-capture longevity in transported males
Antonios Michaelakis

10:45 **14-22-05** Deciphering molecular response to irradiation in a lepidopteran pest of tree nuts for sterile insect technique evaluation
Raman Bansal

11:00 **14-22-06** SIT in practice: enhancing the longterm sustainability of a commercial SIT programme
Sean Thackeray

11:15 **14-22-07** Investigating endogenous factors influencing radiosensitivity and male quality of irradiated *Aedes aegypti* males: strain geographical origin
Hadian Iman Sasmita

11:30 **14-22-08** Impact of sterile male releases on *Drosophila suzukii* population growth and fruit infestation in greenhous strawberry
Ghais Zriki

Symposium 14-23

13:30 - 15:30

Exploring sustainable nematode management in APAC

Chair: Lu Ren (Bayer crop science), Dinesh Kumar (Bayer Crop Science Ltd)

13:30 **14-23-01** Problems of Nematode to agriculture in Japan and East Asian countries
Hideaki Iwahori

14:00 **14-23-02** Agricultural important nematode diseases and Integrated Nematode managements(INM) in China
Deliang Peng

14:15 **14-23-03** Current situation and approaches to solving the nematode problems of important crops and their management in India
Raman Kumar Walia

14:30 **14-23-04** Velum® the New Global Standard for Nematode Control
Sascha Eilmus

14:45 **14-23-05** Efficient control of Nematode by LVS application of Velum® Prime SC using drone
Masashi Ataka

15:00 **14-23-06** Exploitation of green manure for sustainable nematode control and soil health
Koki Toyota

15:15 **14-23-07** Sustainable Nematode Control, A Balance Between the Social, Environmental and Economic Needs
Qiang Chen

Room C-2

Symposium 7-17

9:45 - 11:45

Biology and Evolution of Social Insect Symbionts

Chair: Taisuke Kanao (Yamagata University), Ales Bucek (Institute of Entomology)

9:45 **7-17-01** Insights into diversification and ecology of termitophilous rove beetles
Taisuke Kanao

10:00 **7-17-02** Co-phylogenomics of termitophilous rove beetles (subfamily Aleocharinae) and their termite hosts
Oscar Fernando Saenz Manchola

10:15 **7-17-03** Genomic signatures of convergent transitions from free-living to termitophilous lifestyle in rove beetle
Ales Bucek

10:30 **7-17-04** The strategy of termitophilous rove beetles to maximize food acquisition by aggregating around the queens of host termites
Tomohiro Nakazono

10:45 **7-17-05** Evolutionary entrenchment of a myrmecophilous lifestyle: the metabolic basis of obligate parasitism in rove beetles
Joani W Viliunas

11:00 **7-17-06** Geographic variation in biological interactions in a range expanding myrmecophilous butterfly
Yui Nakabayashi

11:15 **7-17-07** Semiochemical Attraction: The role of sex pheromones in the speciation of California *Polyergus mexicanus* kidnapper ants
Elizabeth Cash

11:30 **7-17-08** Biomechanical adaptations enable phoretic mite species to occupy distinct spatial niches on host burying beetles
Syuan-Jyun Sun

Symposium 7-18

13:30 - 15:30

Dispersal polymorphism and polyphenism in insects: diversity in motion

Chair: Bart A Pannebakker (Wageningen University & Research), Jun Abe (Kanagawa University)

13:30 **7-18-01** Dispersal and sex allocation in the parasitoid wasp *Melittobia*
Jun Abe

13:45 **7-18-02** Insights into the critical periods and molecular mechanisms underlying nutritional polyphenism in the cherry-oat aphid *Rhopalosiphum padi*
Aurelie Etier

14:00 **7-18-03** Phase-polyphenism in desert locusts: Density-dependent mating
Koutaro Ould Maeno

14:15 **7-18-04** Environmental sensitivity of insect dispersal traits
Rudolf J Schilder

14:30 **7-18-05** Body color polyphenism in *Diaphorina citri*
Jiayao Fan

14:45 **7-18-06** Experimental evidence that local interactions select against selfish behaviour
Michael Boots

15:00 **7-18-07** Is the flight ability of beetles likely to degenerate in mountainous forests?: a case study with the genus *Synuchus* (Coleoptera: Carabidae) in Japan.
Takashi Shimizu

15:15 **7-18-08** Comparison of flight behavior among laboratory and field strains of *Tribolium castaneum*
Souta Sone

Room D

Symposium 16-15

9:45 - 15:30

Dormancy, Diapause, and Allied Seasonal Responses

Chair: Daniel A Hahn (University of Florida), Shin G Goto (Osaka Metropolitan University), Greg Ragland (University of Colorado, Denver)

9:45 **16-15-01** Brain neural mechanisms for the circadian clock-based photoperiodic control of reproduction in the bean bug *Riptortus pedestris*
Masaharu Hasebe

10:00 **16-15-02** Experimental warming alters solitary bee phenology and synchrony with floral resources
Nicole E Rafferty

10:15 **16-15-03** Chracterizing the Functional Integration of Physiological and Behavioral Changes During Monarch Butterfly Migration
Delbert André Green II

10:30 **16-15-04** Internal coincidence of melatonin and melatonin receptor oscillations for photoperiodic time measurement and endocrine switch of pupal diapause in *Antheraea pernyi*
Makio Takeda

10:45 **16-15-05** Seasonal adaptations of forest insects - why diapause matters
Martin Schebeck

11:00 **16-15-06** Nymphal diapause is possibly regulated by a neuropeptide allatotropin and a TGF-β ligand Myoglianin in the cricket, *Svercacheta siamensis*
Tsugumichi Shinohara

11:15 **16-15-07** The size of corpora allata determines the initiation of reproductive diapause in the cabbage beetle *Colaphellus bowringi*
Kou Wang

11:30 **16-15-08** Z chromosomal involvement in delayed exit from diapause of *Cydia pomonella* using linkage analysis
Christian Oehlmann

11:45 **Poster Session**

13:30 **16-15-09** Tissue-specific molecular signatures of diapause in the Asian longhorned beetle, *Anoplophora glabripennis*
Alex S Torson

13:45 **16-15-10** Winters restrict a climate change-driven butterfly range expansion despite rapid evolution of two seasonal timing traits
Karl Gotthard

14:00 **16-15-11** Involvement of diapause hormone in maternal decisions for embryonic diapause in the band-legged ground cricket *Dianemobius nigrofasciatus*
Yuta Shimizu

14:15 **16-15-12** Metabolome of diapause-destined alfalfa leafcutting bee, *Megachile rotundata,* prepupae differs from those undergoing direct development
Kendra J Greenlee

14:30 **16-15-13** Analysis of daily expression of circadian clock genes and spontaneous firing activity in pars lateralis neurons of the blow fly, *Protophormia terraenovae*
Souta Toyoda

14:45 **16-15-14** Two overwintering strategies shape the life-cycle seasonality of an Antarctic insect
Mizuki Yoshida

15:00 **16-15-15** Winter diapause as a temperature-dependent rate process
Loke von Schmalensee

15:15 **16-15-16** Mechanisms of diapause in the eastern spruce budworm
Katie Marshall

Room E

Symposium 16-16 — 9:45 - 11:45

Interactive neuropeptide communications in biology and physiology

Chair: Shinji Nagata (The University of Tokyo)

9:45 **16-16-01** Endocrine control of nutritionally selective feeding in cricket
Shinji Nagata

10:00 **16-16-02** Comparative genomics of neuropeptide signaling offers the development of target-specific insecticidal strategy
Yoonseong Park

10:15 **16-16-03** A neuropeptide reshapes peripheral olfactory perception to arbitrate between mating and foraging behavior
Hongbo Jiang

10:30 **16-16-04** Corticotropin-releasing factor-like diuretic hormone and glycoprotein hormone act as gonad-inhibiting hormones in adult female, *Rhodnius prolixus.*
Angela B Lange

10:45 **16-16-05** Insulin signaling in the western tarnished plant bug, Lygus hesperus
Andrew Nuss

11:00 **16-16-06** Neuropeptides and insect phenotypic plasticity: insights from locusts
Li Hou

11:15 **16-16-07** Is it possible that insect neuropeptides may influence physiology of mammalian cells?
Pawel Marciniak

11:30 **16-16-08** Male accessory gland-projecting neurons reinforce reproductive fitness by increasing the production of seminal fluid proteins in male *Drosophila*
Ryo Hoshino

Symposium 16-17 — 13:30 - 15:30

Neuropeptide signalling in insects: diverse and pleiotropic actions

Chair: Jean-Paul Paluzzi (York University), Meet Zandawala (University of Nevada Reno)

13:30 **16-17-01** Characterization of the ion transport peptide signaling system in *Drosophila*
Meet Zandawala

13:45 **16-17-02** Circadian clock-related neuropeptide candidates in the pea aphid: comprehensive characterization and evolutionary insights.
Francesca Sara Colizzi

14:00 **16-17-03** Pigment Dispersing Factor (PDF) in Nematocera — A comparative study
Nils Reinhard

14:15 **16-17-04** Neuropeptide Y-like regulation of blood feeding and nutrient utilization in *Ae. aegypti* mosquitoes
Laura Duvall

14:30 **16-17-05** Neuropeptide that regulates reproductive behavior of fruit fly *Drosophila melanogaster* and brown planthopper *Nilaparvata lugens*
Shun-Fan Wu

14:45 **16-17-06** State-dependent modulation of Insulin-Producing Cells in *Drosophila*
Jan M Ache

15:00 **16-17-07** Circadian neuropeptidomics for the analysis of coupling factors controlling multiscale behavioral rhythms in *Drosophila melanogaster*
Susanne Neupert

15:15 **16-17-08** Neurohormonal regulation of the Malpighian 'renal' tubules in the adult mosquito, *Aedes aegypti*
Jean-Paul Paluzzi

Room F

Symposium 19-4 — 9:45 - 15:30

Robotics-inspired biology: Adaptive locomotion of insects and robots

Chair: Hitoshi Aonuma (Kobe University), Dai Owaki (Tohoku University), Shunsuke Shigaki (National Institute of Informatics)

9:45 **19-4-01** Transitions and tradeoffs in different flapping strategies for insect flight
Simon Sponberg

10:15 **19-4-02** Adaptive odor source localization behavior in silkmoth, *bombyx mori*, enhanced by multisensory information
Shunsuke Shigaki

10:30 **19-4-03** Hoverfly navigation behaviour using a 3D virtual environment with low delay
Yuri Ogawa

10:45 **19-4-04** The honey bee sting: From high-speed filming to 3D printing
Fiorella Esquivel

11:00 **19-4-05** Bio-hybrid aerial odor-detecting robot for odor source localization
Daigo Terutsuki

11:15 **19-4-06** Neural control for complex behaviors of insect-inspired robots: From adaptive locomotion to object transportation and navigation
Poramate Manoonpong

11:30 **19-4-07** Post-amputation Gait Recovery with Prosthetic Legs in the Cricket - a Robotics-inspired Approach
Dai Owaki

11:45 **Poster Session**

13:30 **19-4-08** Data-driven dynamical analysis for walk-swim switching in a terrestrial insect
Kazuki Sakura

13:45 **19-4-09** Morphological adaptations and locomotion strategies in mole crickets
Omer Yuval

14:00 **19-4-10** Modeling the interplay between active sensing and locomotor control during exploratory navigation behavior of centipedes
Kotaro Yasui

14:15 **19-4-11** Spin control in grasshoppers and crickets
Gregory Sutton

14:30 **19-4-12** Design and application of new 3D printed ant nests bio-inspired by oak galls
Daniele Giannetti

14:45 **19-4-13** Odor Learning System Based on Reservoir Computing Using Insect Electroantennogram
So Moriya

15:00 **19-4-14** A new protocol for honey bee neuropiles volume measurement base on micro-computed tomography
Shang-Jui Fu

15:15 **19-4-15** Constructive approach to investigate ultra-fast movement in the trap-jaw ant
Hitoshi Aonuma

Room G

Symposium 15-6 — 9:45 - 15:30

Pesticide exposure and effects for insect pollinators

Chair: Nigel Raine (University of Guelph)

9:45 **15-6-01** Evaluating the exposure of wild bees to pesticides in and near agricultural areas using multiple matrices
Michelle Hladik

10:00 **15-6-02** Toxicological surveys reveal pesticide contamination of butterfly host plants in the modified landscapes of California's Central Valley
Angie Lenard

10:15 **15-6-03** Linking pollen use by foraging bees to map locations of exposure and develop reduced risk management across landscapes
Neal M Williams

10:30 **15-6-04** Evaluating Insecticide Drift Effects on Non-target Arthropods in Flower Strips: Bridging the Regulatory Gap in Ecological Risk Assessment
Vera Zina

10:45 **15-6-05** Multiple fungicides are acutely toxic to honey bee larvae at field-realistic exposure concentrations.
Angelica B. Sanchez

11:00 **15-6-06** Investigating physiological mechanisms of sublethal imidacloprid-induced precocious foraging in honey bee workers
Wan Yi Chen

11:15 **15-6-07** Effect of glyphosate on honeybee foraging performance
Casey C Forster

11:30 **15-6-08** From exposure to impact: pesticide residues in soil and their effects on on hibernating bumblebee queens
Nigel Raine

11:45 **Poster Session**

13:30 **15-6-09** Tech for pollinator health: Scalable, low-cost, and accessible tools for quantifying the complex effects of pesticides and other stressors on bees
James DeWitt Crall

13:45 **15-6-10** Can dietary fats improve honey bee (*Apis mellifera*) resilience to pesticides?
Jaya Sravanthi Mokkapati

14:00 **15-6-11** Mechanisms of recovery after exposure to contact insecticides in the presence of food
Erin D Scully

14:15 **15-6-12** A cytochrome P450 insecticide detoxification mechanism is not conserved across the Megachilidae family of bees
Angela Hayward

14:30 **15-6-13** Enhancing Honeybee Resilience: Curcumin as an Antidote to Mitigate Carbaryl-Induced Harm and Promote Sustainable Pollination
Yongrak Kang

14:45 **15-6-14** Insecticide detoxification through mutual cooperation between a host insect and a symbiont bacterium
Yuya Sato

15:00 **15-6-15** Evaluation of environmental toxicity of Broflanilide in rice field
Gu Ai Xie

15:15 **15-6-16** Towards a refined environmental risk assessment for bees
Simone Tosi

Room H

Symposium 11-7

9:45 - 11:45

Harnessing Insect Pollination to Enhance Nutrition and Economic Benefits in Global South

Chair: Subramanian Sevgan (International Centre of Insect Physiology and Ecology), Menale Kassie (International Centre of Insect Physiology and Ecology (ICIPE))

9:45 **11-7-01** Honey bee (*Apis mellifera*) colony size affects response to climatic variation
Adrian Fisher II

10:00 **11-7-02** Quantitative assessment of the impact of landscape structure on pesticide exposure risk to the Japanese honey bee (*Apis cerana japonica*)
Yoshiko Sakamoto

10:15 **11-7-03** Reproductive and behavioral consequences of climate change related plant stress on bumble bees (*Bombus impatiens*)
Caleb Bryan

10:30 **11-7-04** Estimating potential climate change effects on pollinating insects: a multi-taxa study in South Korea
Sunho Kwon

10:45 **11-7-05** Enhancing ground-nesting bee habitats with artificial nesting structures
Freya Marie Jackson

11:00 **11-7-06** Sublethal effects of entomopathogenic fungi on hoverflies: implications for their learning, foraging, and fitness
Mandela Fernandez-Grandon

11:15 **11-7-07** Pollination Dynamics in the Lomas Ecossytem of Atiquipa, Arequipa, Peru, and Floral Visitors of *Nasa urens* (Loasaceae) by various moths
Akira A. Wong Sato

11:30 **11-7-08** A Theory of How Blue Vane Traps Attract and Catch Native Pollinators
Michael Banfield

Symposium 11-8

13:30 - 15:30

Leveraging insect physiology for mass rearing practices

Chair: Jacinta Kong (Carleton University)

13:30 **11-8-01** Insects as food and feed and the physiology of insect performance
Heath MacMillan

14:00 **11-8-02** Housefly behaviour and welfare under mass rearing for livestock feed
Marrit Van Der Bruggen

14:15 **11-8-03** Mass Rearing and Quality Control Parameters for Tephritid Fruit flies and Key Associated Parasitoid in Africa
Sunday Ekesi

14:30 **11-8-04** Bioconversion of mycotoxin-contaminated cereals by *Tenebrio molitor* larvae (Coleoptera: Tenebrionidae)
Rosemarie Tedeschi

14:45 **11-8-05** Stress and hormetic responses have age-related developmental effects that can impact mass rearing practices
Giancarlo Lopez-Martinez

15:00 **11-8-06** Impact of viral infection on the reproduction of the black soldier fly (*Hermetia illucens*)
Elisabeth Herniou

15:15 **11-8-07** Endosymbionts in reared insects: transfer, persistence and phenotypes
Ary Hoffmann

Room B-1

Symposium 18-10 — 9:45 - 11:45

ad hoc session

Chair: Jessica Awad (University of Hohenheim), Meri Vellamo Lähteenaro (Stockholm University / Swedish Meseum of National History)

9:45 **18-10-01** Phylogenomic analysis of *Stylops* reveals the evolutionary history of a Holarctic Strepsiptera radiation parasitizing wild bees
Meri Vellamo Lähteenaro

10:00 **18-10-02** The ground beetles in the trees: phylogeny and evolutionary diversification of the lebiomorph Harpalines.
Beulah Hannah Garner

10:15 **18-10-03** Evolutionary patterns and processes determining the diversity and distribution of neotropical butterflies
Pavel Matos

10:30 **18-10-04** Biogeography and systematics of the widespread dragonfly genus *Orthetrum* (Odonata: Anisoptera: Libellulidae)
Violet Magoma Onsongo

10:45 **18-10-05** Presentation Withdrawn

11:00 **18-10-06** Evolution of freshwater insects: decoding Osmyloidea (Neuroptera) origins
Alice C Assmar

11:15 **18-10-07** Disparification and extinction trade-offs shaped the evolution of Permian to Jurassic Odonata
Isabelle Deregnaucourt

11:30 **18-10-08** Museums to Molecules: Revision of platygastrid genera requires old and new methods
Jessica Awad

Symposium 18-11 — 13:30 - 15:30

New discoveries through consilience in orthopteran systematics

Chair: Maria Marta Cigliano (La Plata National University)

13:30 **18-11-01** Taxonomy and natural history are needed to study evolutionary research questions: the case-study of Eneopterinae crickets
Tony Robillard

13:45 **18-11-02** Ixalidiidae –a new family of Acridoidea (Orthoptera) from Africa
Claudia Susanne Margarete Hemp

14:00 **18-11-03** Unlocking an evolutionary chorus: A comprehensive phylogeny of Tettigoniidae (Insecta: Orthoptera)
Jackson B. Linde

14:15 **18-11-04** The phylogeny of pygmy mole crickets (Orthoptera: Tridactylidae) and their relatives using phylogenomic data
Brandon Woo

14:30 **18-11-05** Food plant and olfactory perceptions in the three sympatric species of New Zealand alpine grasshoppers
Mari Nakano

14:45 **18-11-06** Orthopteran studies in Mexico: consilience among museum specimens, old field notes, recent fieldwork, iNaturalist and local communities' engagement
Ricardo Marino-Perez

15:00 **18-11-07** Global diversity patterns in Orthoptera
Maria Marta Cigliano

15:15 **18-11-08** nil
Hazrat Said

Room B-2

Symposium 18-12

9:45 - 11:45

Biodiversity and evolution of Heteroptera (Hemiptera)

Chair: Christiane Weirauch (University of California, Riverside), Felipe Moreira (Fundação Oswaldo Cruz), Wenjun Bu (Nankai University)

9:45 **18-12-01** Does extreme body size variation in feather-legged assassin bugs (Holoptilinae) represent an adaptive radiation?
Daniel J. Bardey

10:00 **18-12-02** Rearranging Veliinae (Heteroptera: Veliidae) classification under a phylogenetic context, with focus on the American genera
Felipe Moreira

10:15 **18-12-03** *Dysdercus decussatus* Boisduval (Hemiptera: Pyrrhocoridae) may possibly be a ring species: Distribution of the two forms in and around the Ryukyu Islands of Japan
Katsuyuki Kohno

10:30 **18-12-04** A helix distribution pattern caused by a sequential ring speciation
Chenguang Zheng

10:45 **18-12-05** Sticky killers – the evolution of resin use in Australian assassin bugs (Hemiptera: Reduviidae)
Nikolai Tatarnic

11:00 **18-12-06** Interspecific genetic variability and preferable climatic conditions of three widely distributed Palearctic species (Insecta: Heteroptera: Miridae)
Anna A Namyatova

11:15 **18-12-07** Placing the villain: What is *Halyomorpha halys* and where does it fit? (Heteroptera: Pentatomoidea: Pentatomidae)
Marcos Roca-Cusachs

11:30 **18-12-08** Using UCEs to advance spatial phylogenomic research on Miridae
Christiane Weirauch

Symposium 18-13

13:30 - 15:30

Bee diversity in East and Southeast Asia: systematics and status of the fauna

Chair: Rin Krichilsky (American Museum of Natural History & Columbia University), Sheng-Shan Lu (Taiwan Forestry Research Institute)

13:30 **18-13-01** A checklist to assess the current status of bee diversity in Taiwan
I-Hsin Sung

13:45 **18-13-02** Bee fauna in agroecosystem in Korea relative to pollination
Chuleui Jung

14:00 **18-13-03** Unveiling the diversity and status of a Southeast Asian bee fauna: Insights from Singapore
Zestin Soh

14:15 **18-13-04** Diversity of Bee Pollination in Response to Climatic Variables in Nepal
Kedar Devkota

14:30 **18-13-05** Diversity and Utilization of Stingless Bee Species in Thailand
Kanokwan Klaithin

14:45 **18-13-06** The elevational distribution and ecology of the elusive northern Borneo montane honeybee, *Apis nuluensis*
Sze Huei Zoe Yek

15:00 **18-13-07** Pleistocene glaciation shapes population and color pattern diversity in a highly polymorphic bumble bee mimicry group
Jixiang Cui

15:15 **18-13-08** How can biogeography, life history, and community science inform conservation of Asian bee species?
John S Ascher

Room I

Symposium 3-10

9:45 - 11:45

Development of new technologies for biological control and IPM in greenhouses.

Chair: Junichiro Abe (NARO), Eizi Yano (Agri-Soken Inc.), Alberto Urbaneja (Instituto Valenciano de Investigaciones Agrarias (IVIA))

9:45 **3-10-01** Advancing from zoophytophagous predator-induced plant defenses to innovative inter-plant communication-based control method
Meritxell Perez-Hedo

10:15 **3-10-02** Companion plants for enhanced pest control in tomato crops
Alberto Urbaneja

10:30 **3-10-03** Development of *N. tenuis* banker plant system augmented with IPM techniques to regulate whitefly densities on tomato plants under greenhouse conditions in Japan.
Junichiro Abe

10:45 **3-10-04** Development of practical banker plant systems for aphid control in Japan.
Koukichi Nagasaka

11:00 **3-10-05** Violet light complements biological control tools in enhancing *Nesidiocoris tenuis* predation potential on whiteflies in protected systems; an integrative approach to whitefly control
David Wari

11:15 **3-10-06** Toward the optimization of alternative plant diversity for managing *Nesidiocoris tenuis* in cold tomato greenhouses
Antonio Gugliuzzo

11:30 **3-10-07** How to select the most suitable omnivorous predator for biological control in protected crops
Luciana Tavella

Symposium 3-11

13:30 - 15:30

The viability of entomopathogenic nematodes and their symbionts-derived by-products as biological control agents

Chair: Ayako Kusakabe (University of Arizona), Raquel Campos-Herrera (ICVV-CSIC)

13:30 **3-11-01** Boosting Agents to Enhance Biocontrol Efficacy of Entomopathogenic Nematodes
David Shapiro-Ilan

14:00 **3-11-02** The potential of entomopathogenic nematodes and their symbiont derived products for pest control in orchards and in horticulture
Apostolos Kapranas

14:15 **3-11-03** Entomopathogenic nematodes and their symbiotic bacteria by-products to manage *Lobesia botrana* (Lepidoptera: Tortricidae) in vineyards
Raquel Campos-Herrera

14:30 **3-11-04** Nematicidal efficacy of insect-killing *Photorhabdus* by-products for control of plant parasites
Ayako Kusakabe

14:45 **3-11-05** Enhanced entomopathogenic potency of *Steinernema monticolum* KHA701 through augmented symbiotic bacterial diversity.
Taiki Sugiyama

15:00 **3-11-06** Chemical cues from entomopathogenic nematodes influence plant-insect interactions and enhance biological control
Anjel Helms

15:15 **3-11-07** Viability of entomopathogenic nematodes in insect pest management: a chemical ecology perspective
Ivan Hiltpold

Room J

Symposium 13-9

9:45 - 11:45

Confronting the threat of arbovirus infections and their vectors

Chair: Kyoko Sawabe (National Institute of Infectious diseases), Chizu Sanjoba (The University of Tokyo)

9:45 **13-9-01** Understanding the Dynamics of Dengue Fever Outbreaks: An Analysis of Travel History, Vector Density, and Transmission in Tainan City, Taiwan.
Ting-Chun Shih

10:00 **13-9-02** Vector and host diversity shape West Nile virus transmission in urban green spaces along an urban-rural transect
Christopher M. Stone

10:15 **13-9-03** Overwintering of Japanese encephalitis virus and its vector mosquito *Culex tritaeniorhynchus* Giles in Japan
Ryusei Kuwata

10:30 **13-9-04** Potential for expanding exposure risks to *Ixodes spp.* and their associated pathogens in Japan based on spatial modeling approaches
Patrick Kelly

10:45 **13-9-05** Tick-borne viruses in Asia as a threat to emerging human infectious diseases
Daisuke Kobayashi

11:00 **13-9-06** Blowflies are the potential vector for transmission of the HPAI virus
Ryosuke Fujita

11:15 **13-9-07** Impact of biting midges as vectors of livestock diseases
Tohru Yanase

11:30 **13-9-08** Electropenetrography: A new tool to study probing and ingestion behaviors of biting midges
Anastasia Cooper

Symposium 13-10

13:30 - 15:30

Mosquito Biology and Genetic Biocontrol

Chair: Omar Akbari (UCSD), Yoosook Lee (University of Florida), John M. Marshall (University of California, Berkeley)

13:30 **13-10-01** Uncovering Dengue Virus Host Factors: Paving the Way for Innovative Antiviral Strategies
Shin-Hong Shiao

13:45 **13-10-02** The taste of humans, nectar, and egg-laying sites: gustation in the Asian tiger mosquito
Lisa S. Baik

14:00 **13-10-03** Fibrinopeptide A from host blood induces blood-feeding arrest in *Aedes aegypti*
Chisako Sakuma

14:15 **13-10-04** The regulation of the amino acid metabolism after a blood meal in *Aedes aegypti*
Yusuke Kato

14:30 **13-10-05** Temporal Population Dynamics of *Aedes albopictus* (Diptera: Culicidae) in Campus: A Case Study in Taiwan
Yi'En Leong

14:45 **13-10-06** The role of reactive oxygen species (ROS) in maintaining epithelial cells in mosquito midgut after blood-feeding
Emi Maekawa

15:00 **13-10-07** Polyandry in the wild: High rates of female remating in natural populations of *Aedes* mosquitos has implications for vector control in a dengue-endemic urban city.
Tyrone Tan

15:15 **13-10-08** Effect of temperature on *Wolbachia* during *Culex quinquefasciatus* embryo development
Jovany Barajas

Room K

Symposium 5-8

9:45 - 11:45

The unknowns of the causes, consequences, and patterns of insect decline

Chair: Eliza Grames (Binghamton University)

9:45 **5-8-01** Prevalence of Allee effects in terrestrial arthropods: a meta-analysis
Manuela Branco Simões

10:00 **5-8-02** Savanna dung beetle dynamics: trophic networks and impacts of herbivore loss
Finote Gijsman

10:15 **5-8-03** Impacts of artificial light at night on moth community structure in Hong Kong
Victoria Elizabeth Amaral

10:30 **5-8-04** Tropical Biodiversity Redistribution and Paradigm Shift in Conservation
Cheng-Hao Lin

10:45 **5-8-05** Effects of farming management at the landscape scale on pollinators and natural enemies and associated crop pests. A review.
Ronan Marrec

11:00 **5-8-06** Biodiversity monitoring in tropical dry forests: assessing local perturbation effects on hyperdiverse leafminer insect communities using DNA metabarcodes and barcodes
Antonio Hernandez Lopez

11:15 **5-8-07** Considering the risk of pesticide exposure across an already stressed populations
Chris Halsch

11:30 **5-8-08** Drivers of insect biodiversity loss: a unified, multidimensional conceptual network
Eliza Grames

Symposium 5-9

13:30 - 15:30

Making sense of global insect biodiversity: species discovery and monitoring using DNA-based methods.

Chair: Ayco J. M. Tack (Stockholm University)

13:30 **5-9-01** Separating signal from noise in DNA metabarcoding of insect samples
Fredrik Ronquist

13:45 **5-9-02** To spike-in or not to spike-in? Improving abundance estimations from metabarcoding data
Ela Iwaszkiewicz-Eggebrecht

14:00 **5-9-03** Comparing model performance for taxonomic classification of unknown DNA barcodes
Johanna Orsholm

14:15 **5-9-04** The LIFEPLAN project: Using semi-automated sampling methods to quantify terrestrial biodiversity at the global scale
Deirdre Kerdraon

14:30 **5-9-05** Metagenetics for the estimation of biodiversity and monitoring of insect communities in tropical deciduous forests in Mexico
Alejandro Zaldívar-Riverón

14:45 **5-9-06** Insect communities, climate and landscape differentially drive ecosystem functioning in a temperate and tropical region
Ayco Tack

15:00 **5-9-07** *Nation-wide monitoring in Sweden reveals the impact of the environment on arthropod feeding guilds and their parasitoid communities.*
Robert Goodsell

15:15 **5-9-08** Pesticides distribution in soil and invertebrates within Mediterranean agriculture and transfer to predatory insects trough diet
Lucija Šerić Jelaska

Room 554

Symposium 12-4

9:45 - 11:45

Biology, ecology, and management of invasive forest insects

Chair: Dinka Matosevic (Croatian Forest Research Institute), Eckehard Brockerhoff (Swiss Federal Research Institute WSL)

9:45 **12-4-01** Resistance of mixed species forests to invasive insect pests
Hervé Jactel

10:00 **12-4-02** Urban Tree Guard- Safeguarding European urban forests and trees through improved biosecurity
Dinka Matosevic

10:15 **12-4-03** Tree cover increases bird predation on insects and enhances biotic resistance of urban trees
Marco Basile

10:30 **12-4-04** Establishing a biological control program against the giant pine scale *Marchalina hellenica* (Hemiptera: Marchalinidae) in Australia: the next steps
Dimitrios N. Avtzis

10:45 **12-4-05** The invasive box tree moth: management and impact on non-target butterfly community
Serena Gallizia

11:00 **12-4-06** European ash (Fraxinus spp.) chemical response to ash dieback (Hymenoscyphus fraxineus) and emerald ash borer (Agrilus planipennis)
Donnie Peterson

11:15 **12-4-07** Recent detections of non-native ambrosia beetles (Coleoptera: Scolytinae) in Switzerland and adjacent countries
Eckehard Brockerhoff

11:30 **12-4-08** Know them to stop them: the first world database on bio-ecology and distribution of Scolytines
Massimo Faccoli

Symposium 12-5

13:30 - 15:30

Advancing Fruit Fly Biosecurity Research: Applying New Tools in Microbial Ecology, Genomics, and Chemical Ecology

Chair: Sheina Biason Sim (USDA-ARS), Dong H Cha (USDA-ARS), Charles Mason (USDA-ARS)

13:30 **12-5-01** Applying Science to Respond to Fruit Fly Domestic Emergencies in the United States: Case Study of an Outbreak in California
Corinna Bazelet

13:45 **12-5-02** Emering tools for exploring gene regulation in non-model insect systems
Scott Geib

14:00 **12-5-03** Applying genomics for species identification of the mango fruit fly complex (Diptera: Tephritidae)
Carlos Congrains

14:15 **12-5-04** A comprehensive study on invasion, genetics, and dispersal dynamic of *Bactrocera dorsalis* in Southern Italy and implications for European agriculture
Francesco Nugnes

14:30 **12-5-05** Using genomics to characterize sex chromosomes in economically important tephritid species.
Sheina Biason Sim

14:45 **12-5-06** Developing new female attractants for improved monitoring of *Bactrocera dorsalis*
Dong H Cha

15:00 **12-5-07** Discerning temporal and location-mediated effects on pest tephritid microbiomes
Charles Mason

15:15 **12-5-08** Shoot Fire Ants with Wasabi and Silicone: The Current State of *Solenopsis invicta* Invasion in Japan and Novel Countermeasures to Protect Global Trade"
Yoshiaki Hashimoto

Room 555

Symposium 6-4

9:45 - 15:30

Hormonal Regulation of Development

Chair: Marek Jindra (Biology Center CAS), Tetsuro Shinoda (Fukushima University)

9:45 **6-4-01** The evolution of juvenile hormone in insects from an embryonic hormone to the chief controller of metamorphosis
James W Truman

10:00 **6-4-02** The adult specifier *E93* knockout firebrats exhibit delayed adult transition
Kei Inada

10:15 **6-4-03** New data on the regulation of hemimetabolan metamorphosis
Xavier Belles

10:30 **6-4-04** Juvenile hormone regulates distinct developmental programs of larval and imaginal tissues
Matej Milacek

10:45 **6-4-05** Hormone regulation of limb regeneration in cockroaches
Chonghua Ren

11:00 **6-4-06** The interplay of insulin and juvenile hormone in insect aging
Marc Tatar

11:15 **6-4-07** Impact of juvenile hormone signaling on the immune competence
Tereza Dolejšková

11:30 **6-4-08** Juvenile Hormone Modulates Pheromone Detection and Courtship Behavior in *Drosophila melanogaster*
Jing Wang

11:45 **Poster Session**

13:30 **6-4-09** Day/night cycles regulate pheromone acuity to gate rhythmic courtship behavior
Chih-Ying Su

13:45 **6-4-10** Juvenile Hormone mediated chromatin remodeling of gene repression- mechanistic insight into synergistic action of downstream factors
Tusar Tirtha Saha

14:00 **6-4-11** JH receptor signaling studied live in real time
Sarka Tumova

14:15 **6-4-12** Two bHLH transcription factors determine prothoracic gland development and the critical weight checkpoint during *Drosophila* metamorphosis
Wen Liu

14:30 **6-4-13** Deciphering the roles of the two ecdysone-induced protein E74 isoforms as intermediate factors in the 20E-EcR gene regulatory cascade in mosquito reproduction.
Sourav Roy

14:45 **6-4-14** A novel transcription factor Dumpless1 in stretch follicle cells regulates nurse cell dumping via integrinβPS
Huimin Deng

15:00 **6-4-15** Identification of a potent inhibitor of ecdysteroid biosynthesis
Eisuke Imura

15:15 **6-4-16** Neuroendocrine regulation of calcium homeostasis during development in the fruit fly *Drosophila melanogaster*
Naoki Okamoto

Room 509

Symposium 17-6

9:45 - 11:45

Social insects and their temporal organization in physiology and behavior

Chair: Taro Fuchikawa (Osaka Metropolitan University), Haruna Fujioka (Okayama University)

9:45 **17-6-01** Circadian clock genes in termites and their expression patterns in the subterranean termite *Reticulitermes speratus*
Taro Fuchikawa

10:00 **17-6-02** Arrhythmic activity and regulation of clock gene oscillation in ants
Haruna Fujioka

10:15 **17-6-03** The colony environment and brood care interact to influence circadian brain gene expression in *Apis mellifera* and *Bombus terrestris*
Tzvi S Goldberg

10:30 **17-6-04** Collective nest-site selection, excavation and emigration of a neotropical ant, *Ectatomma ruidum*
Purbayan Ghosh

10:45 **17-6-05** Bumblebees radically transform social structures in response to queen loss.
Dee Ruttenberg

11:00 **17-6-06** Phased contests in bumble bees and their role in the formation of hierarchy
Jin Ge

11:15 **17-6-07** Social dominance and succession in *Polistes canadensis* – an aggression-mediated cooperative breeding insect system
Owen Richard Corbett

11:30 **17-6-08** The loss of sociality in spiders, how do they get solitary?
Tristan Robineau

Symposium 20-11

13:30 - 15:30

East-to-west differentiation among spongy moth populations and its implications for biosurveillance

Chair: Maki N. Inoue (Tokyo University of Agriculture and Technology), Michel Cusson (Laval University)

13:30 **20-11-01** Genomics-based assessment of the geographic origins of European spongy moths (*Lymantria dispar dipar*) intercepted in unregulated regions of Canada.
Sandrine Picq

14:00 **20-11-02** Population dynamics and geographical distribution of *Lymantria dispar* in Japan
Maki N. Inoue

14:15 **20-11-03** Genomics-based reassessment of the species status of the Hokkaido spongy moth, *Lymantria umbrosa*
Michel Cusson

14:30 **20-11-04** Advances in Molecular Diagnostics of Spongy Moth (*Lymantria dispar*)
Yunke Wu

14:45 **20-11-05** The potential for northern expansion of Lymantria dispar L. populations in continental Asia
Vyacheslav Martemyanov

15:00 **20-11-06** The ability of the spongy moth to rapidly change from a deciduous to a coniferous diet
Sergey Viktorovich Pavlushin

15:15 **20-11-07** Sex determination mechanism in the spongy moth
Masataka Suzuki

Room 510

Symposium 10-8

9:45 - 11:45

ad hoc session

Chair: Filip Husnik (Okinawa Institute of Science and Technology), Vince Martinson (University of New Mexico)

9:45 **10-8-01** Host-Symbiont Extended Phenotypes: Alterations in gene expression and physiology observed only in the symbiotic state
Vince Martinson

10:00 **10-8-02** Comparative metagenomics of the tick *Haemaphysalis longicornis* in its native range and in North America where it has recently invaded
Robert Jory Brinkerhoff

10:15 **10-8-03** Phylosymbiosis of the coconut rhinoceros beetle's (*Oryctes rhinoceros*) population genetics and microbiome
Chiao-Jung Han

10:30 **10-8-04** Parallel evolution of Bacteroidota into highly integrated endosymbionts of scale insects (Hemiptera: Coccomorpha)
Jinyeong Choi

10:45 **10-8-05** Understanding the response of leafhopper-bacteria symbioses to climate change
Younghwan Kwak

11:00 **10-8-06** Good parenting of oil-collecting bees: microbial defense in nests of *Centris* bees?
Elif Kardas

11:15 **10-8-07** Host Phylogeny Structures the Gut Bacterial Community Within *Galerucella* Leaf Beetles
Yueqing An

11:30 **10-8-08** Integrating omics with 3D imaging in the tripartite nested mealybug symbiosis
Filip Husnik

Symposium 10-9

13:30 - 15:30

ad hoc session

Chair: Kaoru Tsuji (Kobe University), Kevin Vogel (University of Georgia)

13:30 **10-9-01** Symbiont-mediated immune priming in the kissing bug *Rhodnius prolixus*
Kevin Vogel

13:45 **10-9-02** Diversity in symbiont-mediated killing and its intersection with parasitoid development underpin protective efficacy in an insect-bacterial defensive symbiosis.
Roy Attila Kucuk

14:00 **10-9-03** Exposure to Fusarium graminearum infected wheat volatiles alters Sitobion avenae behaviour and visual cue perception
Amma Simon

14:15 **10-9-04** A novel intracellular symbiont with vertical transmission that is widespread across insect orders
Jürgen C Wierz

14:30 **10-9-05** Aphid transmission of yellow dwarf viruses recently reported in Australia
Narelle Nancarrow

14:45 **10-9-06** Virus dynamics between honeybees and bumblebees in a sub-alpine wildflower system
Nina Ariadne Sokolov

15:00 **10-9-07** Bacteria in honeybee crops are decoupled from those in floral nectar and bee mouth.
Kaoru Tsuji

15:15 **10-9-08** Diversity and virulence of *Beauveria bassiana* cryptic species associated with *Gonipterus* sp. 2 in South Africa
Michelle Schroder

Friday 30 August

Event Hall

Poster 23 11:45 - 13:30

Medical and Veterinary Entomology

P0836 An entomological survey of horsefly (Diptera: Tabanidae) in livestock farms in Tokachi, Hokkaido prefecture, Japan.
Keisuke Suganuma

P0837 Feeding behavior of Tabanid flies (Diptera: Tabanidae) on cattle
Kanchana Thinnabut

P0838 The effect of physical and chemical cues on the behavioral preference of gravid biting midge, *Forcipomyia taiwana* (Diptera: Ceratopogonidae)
Yi-Pey Luo

P0839 Apparent densities of Stomoxinae in the north-eastern KwaZulu-Natal Province, South Africa
Molefe Percy Moyaba

P0840 Investigation of flight densities of adult blackflies and plans for their control in the Betsumata Area of the upper reaches of the Ukawa River, Niigata Prefecture, Japan
Kimio Hirabayashi

P0841 Seasonal dynamics and diel activity of Muscid flies (Diptera: Muscidae) of veterinary significance across the lower Gangetic plains of Eastern India
Debjani Ghosh

P0842 Larvicidal activity of sodium alginate-encapsulated essential oils toward *Aedes aegypti* and *Culex quinquefasciatus*
Liang-de Kuo

P0843 Surveying and Predicting the Elevational and Latitudinal Shift of Dengue Mosquito Vectors in Taiwan
Chin-Gi Huang

P0844 Bed bug behavior and desiccant dust; can repellent effects be avoided?
Anders Aak

P0845 Characterization of human scent components toward optimizing a bed bug (*Cimex lectularius*) lure
Charles Kwadha

P0846 Modeling reduction of malaria transmission in a spatially explicit setting using homing suppression gene drive in mosquito
Weitang Sun

P0847 Humidity matters: Refining vector-borne disease predictions in the face of climate-induced mosquito movements
Lorna Amy Glenn

P0848 Analysis of Japanese Encephalitis Virus Vectors and Molecular Epidemiology in Taiwan from 2015 to 2022
Shiu-Ling Chen

P0849 A cost-effective RNA extraction and RT-qPCR approach to detect California serogroup viruses from pooled mosquito samples
Marc Avramov

P0850 Characterizing arthropod-borne diseases associated with rodents on islands.
Jia-Yi Li

P0851 Environmental factors and host assemblage affect arthropod disease vectors of scrub typhus
Kuan-Lun Liu

P0852 Estimating nationwide distribution of sand fly, the vector of leishmaniasis in Turkey
Yuki Shoshi

P0853 A folate-Mettl3-N^6-methyladenosine axis facilitates DENV-2 infection in *Aedes aegypti*
Luoluo Wang

P0854 Isolation and characterization of Iwanai Valley virus, a new tick-borne nairovirus from *Ixodes ovatus* ticks in Hokkaido, Japan.
Ryo Matsumura

P0855 Analyzing the Effect of Chemical Control for Dengue Vector Mosquitoes in Tainan City, Taiwan.
Yen-Chieh Chiu

P0856 Comparison of arthropod-borne virus susceptibilities to wild animal-derived cultured cells
Makoto Takeishi

P0857 First isolation and molecular characterization of West Nile Virus lineage-1a in mosquitoes (Diptera: Culicidae) of Southen Iran
Mohammad Saaid Dayer

P0858 Characterisation of the tissue and strain-specific microbiota of members of the *Anopheles funestus* Giles (Diptera: Culicidae) group
Chia-Yu Chen

P0859 The Genetic Regulation of Mating Stimuli on the Gonotrophic Cycle of *Aedes albopictus*
Rie Mukai

P0860 Validation of reliable reference genes for RT-qPCR expression studies in six *Anopheles* Hyrcanus Group species
Ju Hyeon Kim

P0861 Mosquitoes of Northern Europe
C. Lorna Culverwell

P0862 Ticks feeding on human blood produce high levels of alpha-gal, the causal factor of alpha-gal syndrome (AGS)
Paulina Maldonado-Ruiz

P0863 Feeding site choices by immature *Rhipicephalus* (*Boophilus*) *microplus* on cattle and implications for improving detection at border inspections
Phillip E. Kaufman

P0864 Bacteria associated with the life history of *Culicoides oxystoma* Kieffer (Diptera: Ceratopogonidae), a vector of bluetongue virus
Ankita Sarkar

P0865 The size of the larval rearing container and diet amount for house fly (*Musca domestica*) rearing.
Ubon Tangkawanit

P0866 *In vitro* evaluation of the antibacterial and anticancer activity of the peptide fraction extracted from *Hermetia illucens* hemolymph
Carmen Scieuzo

P0867 Revolutionary effects of fumigants and metered dose aerosols using broflanilide against pyrethroid-resistant bed bugs; *Cimex lectularius*.
Rino Yasudai

P0868 Efficacy of TENEBENAL™ (broflanilide) against bed bugs with low susceptibility to synthetic pyrethroid and organophosphorus insecticides.
Masatoshi Suzuki

P0869 Assessment of wing geometric morphometrics as a tool for species identification of human-biting black flies (Diptera: Simuliidae) in Thailand
Kittipat Aupalee

P0870 Assessing Risk of Tick-Borne Pathogens from Passive and Active Surveillance within Central Europe
Michael W Dunbar

P0871 Rearing a vector colony; the impact of dietary water content on larval and pupal development in *Stomoxys calcitrans*
Melanie Nicholls

P0872 Degree-Days and Off Host Longevity of Cattle Fever Ticks, *Boophilus spp.* (Acari: Ixodidae) in South Texas Pastures.
Charluz Arocho

P0873 Maggot Therapy for Chronic Wounds: A Systematic Review
Wan-Hsuan Li

P0874 Geographical distribution and genetic characteristics of bisexual and parthenogenetic *Haemaphysalis longicornis* in the Republic of Korea
Jiseok Kim

P0875 Characterization of chitin and chitosan derived from the diptera *Hermetia illucens* for application in cosmetic and pharmaceutical fields
Micaela Triunfo

P0876 When a common threat attaches to its rare host—The historical and on-going studies of tick infestation in giant pandas.
Xueyang Fan

P0877 Antimicrobial properties of the chitosan from different developmental stages of the bioconverter insect *Hermetia illucens*
Anna Guarnieri

P0878 Genetic structure of *Culicoides peregrinus* Kieffer, a potential BTV vector in India
Arjun Pal

P0879 A novel geostatistical map of malaria patients with correlation to distribution indicators in southern Iran
Maryam Kamali

P0880 Life table indicators of the *Anopheles stephensi* mosquito in the waters of four regions of Iran
Mehdi Shabanipoor

Poster 24 — 11:45 - 13:30

Pest Management

P0881 Efficacy of spray program and Tank-mixing of Acetylated Glyceride (BEMIDETACH™) against tea green leafhopper, *Jacobiasca formosana*
Susumu Takaysu

P0882 Evaluation of biological control efficacy by PCR with fluorescent-labeled primers
Ritsuko Murakami

P0883 Evaluation of trap crop, *Solanum melongena* var. Kang Kob against solanum fruit fly, *Bactrocera latifrons* (Hendel) (Diptera: Tephritidae)
Wigunda Rattanapun

P0884 Emergence Patterns of Adult Corn Rootworm and Associated Injury to Bt Short-Stature Maize
Devin Radosevich

P0885 Efficiency of six plant essential oils as wood preservative against *Coptotermes gestroi* (Wasmann) (Isoptera: Rhinotermitidae)
Manop Tarasin

P0886 Colony Suppression or Possible Colony Elimination of the Subterranean Termite, *Coptotermes formosanus*, by Discontinuous Soil Treatment Using Fipronil
Shuji Itakura

P0887 Development of Alginate Hydrogel Baits for Management of *Anoplolepis gracilipes*
Ching-Chen Lee

P0888 Discovery and Development of Fenmezoditiaz
Devendra Vyas

P0889 Predominance of the fall armyworm in maize fields in Sub-Saharan Africa and its impact on local farmers' food production perception
Tarô Adati

P0890 Insect Damage and Economic Yield Loss in Mississippi Cotton.
Whitney Crow

P0891 A mutation in Orco exhibits deficiencies in olfactory sensitivity and fertility in the migratory brown planthopper, *Nilaparvata lugens*
Xinyang Liu

P0892 High-quality chromosome-level genome assembly of *Sclerodermus* sp. 'alternatusi'
Yi Wan

P0893 Why the IOBC tiered method should not be used to determine compatibility of biocontrols and pesticides
John D Stark

P0894 Surrogate species in pest management: protecting natural enemies
John E. Banks

P0895 Resistance mechanisms to fipronil in CRISPR/Cas9-mediated A2'N substitution in the rdl of *Laodelphax striatellus* (Fallén)
Huijie Wu

P0896 Modifying water release from a hydropower dam to reduce nuisance insects: responses of a net-spinning caddisfly along the lower Colorado River
Michael Cavallaro

P0897 Artificial selection for a diamide in diamondback moth(*Plutella xylostella*)
Taku Hamamoto

P0898 The efficacy of flonicamid against cotton jassid (*Amrasca biguttula biguttula*)
Tatsuya Kani

P0899 Seasonal changes and proportions of two reproductive forms of onion thrips on different crops
Kanako Shirotsuka

P0900 Evaluation of Insecticide Seed Treatments in Furrow Irrigated Rice for Control of Rice Billbug *(Sphenophorus pertinax)*
Chase Floyd

P0901 Positive allosteric-like action of essential oils on insect tyramine receptors
Takuma Yoshikawa

P0902 Effect of temporary closure on insect catch in museum during COVID-19 pandemic
Rou-Ling Yang

P0903 Varietal preferences of broad bean seed beetles (*Bruchus rufimanus*) and lygus bugs (*Lygus* spp.) in faba beans (*Vicia faba*)
Angela Ploomi

P0904 Collateral effects of a fungicide on a non-target moth, *Lobesia botrana*: evolution of responses in a context of global warming
Tessie Garinie

P0905 Contending with a perennial pest: Developing biologically-based strategies for the diamondback moth (*Plutella xylostella*) in the United States
Tom R Bilbo

P0906 Presentation Withdrawn

P0907 Landscape effects on flea beetle abundance and damage to canola on the Canadian Prairies
Alejandro C. Costamagna

P0908 Monitoring and Physical Controlling of Bloodsucking Arthropods at the Taipei Zoo
Yu Hao Wang

P0909 Unravelling the wing shape variation of the destructive greater wax moth (*Galleria mellonella*) in Croatia
Helena Viric Gasparic

P0910 Impact of two *Fusarium* mycotoxins in the *Triticum aestivum-Fusarium* spp.-*Sitobion avenae-Chrysoperla carnea* system
Roberto Romani

P0911 Intelligent monitoring system of stable flies based on sticky trap and cell phone vision
Satoshi Kamitani

P0912 Current status of control and insecticide susceptibility in the fall armyworm in Japan
Sachiyo Sanada-Morimura

P0913 Multiplex PCR primer design for monitoring parasitism rate of parasitoid wasps in *Aleurocanthus* species (Hemiptera: Aleyrodidae) in Japan
Jessica Adelaide Kapojos

P0914 Advancements in Artificial Diets and Co-culture for optimizing *Harmonia dimidiate* commercial production via object detection and trajectory tracking algorithm
Yu-Shian Huang

P0915 Potential insecticidal activity of garlic (*Allium sativum* L.) essential oil against the Egyptian cotton leafworm, *Spodoptera littoralis* (Boisduval) on pepper plants.
Gaetano Giuliano

P0916 Integrative Management Approach to Combat the Wheat Stem Sawfly in the Great Plains of North America.
Henrique Victor Vieira

P0917 How do riparian buffers along rivers affect insect pest outbreaks in oil palm plantations?
Li Yuen Chiew

P0918 Effect of temperature on development, survival, and reproductive strategies of brinjal shoot and fruit borer (*Leucinodes orbonalis:* Lepidoptera)
Anu Jayaweera

P0919 Determinants of subtype-selectivity of Paraherquamide A on *Caenorhabditis elegans* nicotinic acetylcholine receptors
Makoto Ihara

P0920 Susceptibility of Potato tuber moth, Phthorimaea operculella (Zeller) (Lepidoptera: Gelechiidae) to selected insecticides in South Africa.
Tayla Swanepoel

P0921 Integrated Pest Management on an ecological scale is needed for sustainable control of Phthorimaea spp. in South Africa.
Hannalene du Plessis

Poster 25

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Pesticides, GM Crops, Resistance and Toxicology

P0922 Effects of RDL GABA receptor point mutants on susceptibility to isoxazoline and meta-diamide insecticides in *Drosophila melanogaster*
Tianhao Zhou

P0923 Photopharmacological tools for pesticide and insect behavior modulation
Xusheng Shao

P0924 A novel systemic insecticide, dimpropyridaz (Axalion®) and its application to horticultural crop in Japan
Koshi Gunjima

P0925 Development of standard efficacy testing methods for contact insecticides and poison baits against the German cockroaches, *Blattella germanica*
Bohun Jeong

P0926 Preference and avoidance by the arrowhead scale of nano- and bulk-size micronutrients applied to mandarin orange leaves
SiYi Gao

P0927 *JHAMT* and *Met R* target gene silencing through dsRNA delivery on methoprene resistance, *Aedes aegypti* mosquitoes
Ramkumar Govindaraju

P0928 Contact and fumigant toxicity of two essential oils against the *Cydalima perspectalis* (Walker, 1859) (Lepidoptera: Crambidae)
Mina Kouhjani Gorji

P0929 Association between spinosad resistance and maltase in *Rhyzopertha dominica* (Coleoptera, Bostrichidae)
Mei-Er Chen

P0930 A novel R81S mutation in the nicotinic acetylcholine receptor β1 subunit confers resistance to neonicotinoid insecticides in the aphid *Myzus persicae*
Jianhui Qin

P0931 Genome-wide analysis of detoxification genes conferring diamide insecticide resistance in *Spodoptera exigua* identifies CYP9A40
Juil Kim

P0932 Deciphering the mechanism of deltamethrin resistance in *Callosobruchus chinensis* through transcriptomic approach
Pankaj Sharma

P0933 Sublethal effects of acequinocyl on *Tetranychus urticae* (Acari: Tetranychidae)
Tetsuya Hirota

P0934 Functional genetic analysis of complex insecticide resistance mechanisms in mosquitoes
Mengling Chen

P0935 *CYP304A1* up-regulation and a novel mutation I345V in nAChR a9 synergistically contribute to insecticide resistance in *Bactrocera dorsalis*
Bo Liu

P0936 Genotyping entire coding sequence of the voltage gated sodium channel gene, *vgsc*, using hybridization capture enrichment
Kentaro Itokawa

P0937 Impact of the exposure of sublethal dose of mosquito coil on the development of insecticide resistance in *Aedes aegypti*
Aikins Ablorde

P0938 Investigation of chlorantraniliprole resistance in *Spodoptera exigua* (Hubner) (Lepidoptera: Noctuidae) from Taiwan
Hsuan Shen Tu

P0939 Resistance of the bird-cherry oat aphid Rhopalosiphum padi to pyrethroids
Maohua Chen

P0940 Investigating the potential for RNA interference-based management of oilseed rape pests
Eve Veromann

P0941 Mechanisms of inhibiting insect feeding by an insecticidal protein
Ya-Zhou He

P0942 Studies on a novel insecticide, fluxametamide honeybee selectivity
Miho Asahi

P0943 Effect of chlorothalonil on *Drosophila melanogaster* reproduction
Darshika Madhujeewani Dissawa Dissawe Mudiyanselage

P0944 Insecticidal activity of plant extracts against house fly larvae (*Musca domestica* (L.))
Waranya Ardburai

P0945 Resistance evolution in *Helicoverpa zea* to Bt maize in the southern United States
Francis Reay-Jones

P0946 Corteva™ innovations for rice and vegetable pest management in Japan (Jemvelva® and Isoclast®)
Megu Oue

P0947 Potential of *Hermetia illucens* in entomoremediation of cadmium: from the perspective of toxicokinetic and tissue dynamics
Jie Zhang

P0948 Rising resistance: Alpha-cypermethrin and the future of rice bloodworm control in Australia
Jessica Hoskins

P0949 Safeguarding Heirloom Corn Varieties From Insect Pests: the Rise and Challenges of Bt-introgressed Traditional Maize in the Philippines
Merdelyn Caasi Lit

P0950 Synergistic effects of selected insecticides on Caribbean fruit fly, *Anastrepha suspensa*
Xiangbing Yang

P0951 Adaptation of silkworm to the toxic effects of MLX56 defense protein derived from mulberry latex and its functional evaluation
Takahiro Nishimori

P0952 Growth inhibition activity of 1-benzyl-2-methylbenzimidazole derivatives against silkworm larvae
Konatsu Inoue

P0953 Sublethal insecticide stress in an agricultural insect pest: the role of histone modification in phenotypic plasticity and resistance management
Blair Christensen

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Physiology, Neurobiology and Molecular Biology

P0954 Presentation Withdrawn

P0955 Tachykinin-related peptides affect reproduction-related processes in the mealworm beetle, *Tenebrio molitor*
Karolina Walkowiak-Nowicka

P0956 Regulation of post-mating refusal behavior by two neuropeptide signalings in crickets
Zhen Zhu

P0957 Control of wing polyphenism by insulin and ecdysone signaling in planthoppers
Haijun Xu

P0958 Involvement of Leucokinins in the regulation of feeding, development and reproductive behavior of the global pest fall armyworm, *Spodoptera frugiperda*
Hao Sun

P0959 Characterization of ecdysis triggering hormone and its receptor in *Bemisia tabaci*
Vikas Jindal

P0960 Presentation Withdrawn

P0961 Potential antiapoptotic properties of tachykinin-related peptides on haemocytes of *Tenebrio molitor* L. beetle
Natalia Konopińska

P0962 Sulfakinins, starvation and neck-ligation change metabolic parameters of insect oenocytes and heamolymph
Monika Szymczak-Cendlak

P0963 Influence of myosuppressin and RFamide related peptide 1 neuropeptides on contractility of mammalian cardiomyocytes
Marcin Cholewiński

P0964 The function of *Tenebrio molitor* neuroendocrine system in cold stress response
Ewelina Paluch-Lubawa

P0965 Hemolymph osmolality gates nociceptive transmission via atypical GPCR signaling
Yuma Tsukasa

P0966 Brain Soup: Quantifying the Number of Cells in the Brain of Australian Native Bees
Faelan Mourmourakis

P0967 Morphology and sound responses of mechanosensilla in lepidopteran larvae
Kazuko Tsuchihara

P0968 Integrating visual input in locust collective motion
Amir Ayali

P0969 Noxious chemical discrimination via TRP channels in *Tribolium castaneum*
Kenji Shimomura

P0970 Lipid droplets in the pheromone gland of moths.
Takeshi FUJII

P0971 Sexual dimorphism in the olfactory system of a diurnal moth
Mikael A Carlsson

P0972 Characterising an unusual nicotinic acetylcholine receptor from the pest diamondback moth, *Plutella xylostella*
Emily Armstrong

P0973 Characterizing time-resolved motion within the scolopidium and its role in the gating mechanism of insect auditory transduction
Atitheb Chaiyasitdhi

P0974 A genetic program promotes stress-induced organismal death in the fruit fly *Drosophila melanogaster*
Takashi Matsumura

P0975 Study on the Regulation of Wing Morph Differentiation in *Nilaparvata lugens* Stal by the FoxO/Histone Acetylation Pathway
Zhuoqi Liu

P0976 Heterologously-expressed BmOR1 functions as a receptor for the geometric isomer of bombykol
Kent Sato

P0977 Taxonomic study of intertidal rock-dwelling genus *Aegialites* (Coleoptera: Salpingidae: Aegialitinae) in Japan.
Haruna Nose

P0978 Biosynthesis of the pigments constructing the body colour of green lacewing insects
Shion Abe

P0979 Extinction and underlying mechanisms in classical conditioning in an insect
Kanta Terao

P0980 Various patterns in the forewing coloration of crickets
Hitomi Seike

P0981 Melittin, the lytic peptide from honeybee venom, is tolerated and employed in the honeybee body
Markéta Hejníková

P0982 Screening glutamate-gated chloride channel genes predominantly expressed in cuticular tissue across various insect species
HyunKyu Shin

P0983 Time-dependent effects of volatile organic compounds from the predatory bug *Orius strigicollis* on their behavior control
Yujiro Umezaki

P0984 The central organ of biosynthesis of blue pigments in Lepidoptera
Hiroto Sakai

P0985 Exploring the possibility of transcriptional regulation of louse nit sheath proteins by non-coding RNA in head louse
Doeun Lee

P0986 Investigating *in vivo* magnetoresponses using migratory insects
Guijun Wan

P0987 *Polyphylla laticollis manchurica*, an Endangered Species in Korea: Transcriptome Analysis
Jun Yang Jeong

P0988 Ultra and Macro Structures of Bombus impatiens
Yoshinori Aso

Poster 27

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Social Insects

P0989 Dynamics of Overwintering Honey Bee Gut Microbiome
Gagandeep Brar

P0990 HOW DO TERMITE QUEENS AND KINGS STAY HEALTHY FOR DECADES?
Mireille Vasseur-Cognet

P0991 Developmental transcriptomes predict adult social behaviors in the socially flexible sweat bee, *Lasioglossum baleicum*
Kennedy Omufwoko

P0992 Effect of regional and seasonal heavy metals on the expression of detoxification-related genes in honeybee, *Apis mellifera*
Youngho Kim

P0993 Nocturnal behavior and dietary specialization of *Vespa binghami* in South Korea
Moon Bo Choi

P0994 Social parasitism strategies in the spiny ant *Polyrhachis lamellidens*
Hironori Iwai

P0995 Relationship between worker fertility and reconstruction of division of labor in ants
Yasunari Tanaka

P0996 Both hormones and social context modulate queen pheromone production in socially variable sweat bees (Hymenoptera: Halictidae)
Callum Kingwell

P0997 Chemical Signatures of Reproduction and Nestmate Identity in the Socially Flexible Sweat Bee, *Lasioglossum baleicum*
Joanna Shoubaki

P0998 Comparative study of non-army ant doryline genera and the evolution of army ants.
Riou Mizuno

P0999 The ontogeny of ground nesting bee observation cages: early designs and new innovations
Eli Wyman

P1000 Eusociality without a nest: the evolution of altruistic behaviour in horned aphids
Keigo Uematsu

P1001 Applying Deep Learning Technology in the Optimization of Multi-hive-bees Tracking
Yi-Hua Li

P1002 Honey Bee Tracking and Behavior Analysis via Image Recognition and Machine Learning
Yi-Ti Chen

P1003 Exploring the Role of Tactile Signals in Dominance Hierarchies of Bombus impatiens
Anne Larsen

P1004 Physiological consequences of sociality: Insights from adipokinetic hormone in *Megalopta genalis*
David Cardona

P1005 The regulatory mechanism of foraging and orientation behaviors in termites
Yongyong Gao

P1006 The application of a low-power audio monitoring system to the surveillance of beehives
Chih-Li Chuang

P1007 Factors determining the expression of a simple visual response, beacon-aiming, in ants
Yusuke Notomi

P1008 Basic biology of *Plagiolepis* in Japan
Koshi Kawamoto

P1009 Pheromone mediated foraging and recruitment behavior in the red imported fire ant, *Solenopsis invicta* Buren
Yaya Li

P1010 Pheromone responsiveness associated with division of labor in ants
Kosuke Tateishi

P1011 Visitation, landing and damaging choice between leaves of distinct age and phyllotaxis by pollen starved buff-tailed bumble bee on vegetative plants
Emanuel Devers

P1012 Changes in wood ant distribution after a bark beetle outbreak in temperate mixed forests.
Izabela Sondej

P1013 The Relationship between the Population Structure of *Technomyrmex albipes* and the Geographical Distribution of Environmental Precipitation.
Chai Chia Wei

P1014 A general theory for ecological trait-strategy dimensions: are ants like plants?
Heloise Gibb

P1015 Japanese honey bee workers slap ants with their wings
Yugo Seko

P1016 Colony defense of prey hornets (*Vespa* spp.) against attack by predator giant hornet (*Vespa mandarinia*) – Prey detects predator body odor as kairomone
Masakazu Nishimura

P1017 A link between supercolony and chemical cues in the cryptic invasion of the black cocoa ant (*Dolichoderus thoracicus*)
Feng-Chuan Hsu

P1018 Behavioral and physiological phenotypes associated with swarming and reproduction of termites
Ganghua Li

P1019 Load Distribution Systems in Ants' Cooperative Transport: A Non-Contact Approach with Airborne Ultrasound Phased Array
Shumpei Hisamoto

P1020 Anti-pathogenic defense via antibiotic-producing *Streptomyces* inhabiting nest materials in the damp-wood termite *Hodotermopsis sjostedti*
Masaaki Nakashima

P1021 Evolutionary dynamics of selfish trait in colonies of termite: effects of colony-level traits
Kiyotaka Yabe

P1022 Chemical signals involved in reproductive dominance in *Bombus terrestris*
Xianhui Wang

P1023 Adaptation to intraspecific social environments can lead to species coexistence in an ant community
Kazuki Tsuji

P1024 Factors influencing queen body size in queen–size dimorphic ant *Temnothorax spinosior*
Keiko Hamaguchi

P1025 Ants switch the mode of food transportation depending on its nutritional contents
Seiji Higashino

P1026 From socialite to parasite: Transcriptomic and Genomic Expansion in a Socially Parasitic Wasp
Lewis Revely

P1027 *Ant-plant interactions mediated by extrafloral nectar: a multidimensional study on gains and losses*
Matteo Montagna

P1028 Symbiotic Relationship between Taiwanese species of the ant genus *Strumigenys* and *Ectomomyrmex* (Hymenoptera: Formicidae)
Pei-Shiuan Tsai

P1029 Evolution of odorant receptor repertoires across Hymenoptera
Shubham Gautam

P1030 Social interactions in the hive before and after the successful feeder location in honey bees
Midori Sakura

P1031 Effects of ultraviolet radiation on the flight and flower-visiting behavior of bumblebee, *Bombus ignitus*
Yuhi Muto

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Special Issue: Biomimetics and Robotics

P1032 Function and neuromuscular mechanism of abdominal movement in hawkmoth flight
Yuji Motegi

P1033 Analyzing an Odor Source Localization Behavior of an Adult Male Silkmoth, *Bombyx Mori*, in Complex Environments Utilizing a Virtual Reality Framework
Toshihiro Honda

P1034 Do crickets use polarization vision for phonotaxis?: a behavioral study employing an auditory and polarization vision virtual reality
Taisuke Ito

P1035 Safeguarding honey bees: early warnings of colony failure and remote monitoring
Théotime Colin

P1036 Development of an Automatic Insect Tracking Device for Measuring a Neural Signal during Free-walking
Ryoko Sekiwa

P1037 The Study on the Benefits of Intelligent Sustainable Green Walls System on Plant Growth, Ecological Conservation and Maintenance Management
Yuan-Hsiou Chang

Poster 29

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Others

P1038 Insect-produced vibrations on *Arabidospis thaliana* leaves by a piercing-sucking insect: Induction of direct defenses?
Ezio Peri

P1039 DETECTING VERTEBRATE SPECIES IN NATURAL SYSTEMS BY USING BLOOD SUCKING INSECTS AS DNA SOURCE
Carezza Botto-Mahan

P1040 Roles of One Glutathione S-Transferase in Protecting Honey Bee from Agrochemicals
Timothy Moural

P1041 Simulation of a large outbreak of desert locusts caused by cyclones
Mugito Takahashi

P1042 Improving the efficacy and efficiency of various pesticide application technologies through a synergy of field, lab, and human research
Julie A Peterson

P1043 Geographic variation in alternative male mating tactics in the Japanese scorpionfly *Panorpa japonica* (Mecoptera: Panorpidae).
Ryo Ishihara

P1044 The obelisk posture in perched dragonflies is a cooling down behavior -analysis through thermography observations-
Naomichi Tomita

P1045 Asexuality maybe not an evolutionary dead-end in the braconid parasitoid wasp *Meteorus pulchricornis*
Kaoru Maeto

P1046 Tactile and antennal sensory inputs appear to influence turn alternation behavior in the pill bug, *Armadillidium vulgare*
Yuko Ishida

P1047 Silk novel role in facilitated hatching of the Japanese bagworm moth *Eumeta variegata* (Lepidoptera: Psychidae)
Ryoko T. Ichiki

P1048 Structural Color of I-WP Type Photonic Crystals in the Scales of a Longhorn Beetle
Ryosuke Ohnuki

P1049 Gut microbes as probiotics to resist brood pathogens in honeybees
Darsh Rathnayake

P1050 A Novel International Internship: Developing Skills Needed for Successful Teamwork
Jennifer Gillett-Kaufman

P1051 Can parasitized diamondback moth larvae avoid predators?
Yutaka Izumi

P1052 Fruit-damaging leafminer, *Tropicomyia pilosa*, (Diptera, Agromyzidae) on Passion Fruit in Taiwan
Chun-Yen Lee

P1053 Developing of artificial fruits to assess ovipositional responses of *Drosophila suzukii* under laboratory conditions
Anna Vittoria Taras

P1054 Method for emerging of Imago of paedogenetic gall midges using decaying branches
Takuo Sawahata

P1055 Discrimination of small numerosities in *Anthia thoracica* (Coleoptera, Carabidae)
Marco Moretto

P1056 Methodology for *Costalimaita ferruginea* (Coleoptera: Chrysomelidae) oviposition in laboratory
Murilo Fonseca Ribeiro

P1057 Taxonomic Necessity: Documenting Entomological Biodiversity Now
Brittany Lee Kohler

P1058 Hispanoptera: an entomology study center in the Dominican Republic
Ernesto Payano Mercado

P1059 Honey bee swimming behavior is adaptive and impaired by pesticdes
Zachary Y Huang

P1060 Rising temperatures affect the interspecific interference competition between *Harmonia axyridis* and *Propylea japonica*, and their predation rate on *Myzus persicae*
Xing Lin Yu

P1061 Taxonomical novelties of jewel weevils of the genus Metapocyrtus Heller, 1912 (Coleoptera: Pachyrhynchini) from Mindanao Island (Philippines)
Anita Rukmane-Barbale

P1062 From DNA to Developing Protocols: An Integrated Approach for the Management Pest and Resistance in Postharvest Commodities.
Rajeswaran Jagadeesan

P1063 Weapon shape difference predict fighting style? Case of three different stag beetles
Chung-Hsin Huang

P1064 Larva of *Donacia coreana* Kim and Lee from Korea (Coleoptera:Chrysomelidae: Donaciinae)
Jongeun Lee

P1065 Discrepancy in sterol usage between two polyphagous caterpillars, *Mythimna separata* and *Spodoptera frugiperda*
Rui Tang