Poster Presentations

Anthropogenic Impacts on Chemical Cues, Signals and Chemoreception

1 How much is too much? Scent-pollution and odor-recognition in bumblebees. Jordanna Sprayberry, Muhlenberg College

2 How will global change affect Antarctic chemical ecology? Conxita Avila, Universitat de Barcelona

Application and Manipulation of Plant Volatiles for Crop Protection

3 Role of host plant volatiles in adult attraction and auto dissemination of entomopathogenic fungi, with Banana fruit scarring beetle, *Nodostoma virdepenne* (Jac.) Padmanaban Balakrishnan, Indian Council of Agriculture, New Delhi, India

4 Novel diterpenes from *Brassica oleracea* var botrytis seedlings mediate host location by the stink bug *Bagrada hilaris*. Stefano Colazza, University of Palermo

5 The emission of oviposition-induced plant volatiles exploited by an egg parasitoid depends on the mating status of an herbivorous stink bug female. Stefano Colazza, University of Palermo

6 Ovipositional choice response of *Helicoverpa assulta* mated females to volatiles derived from different tobacco species. Xian-ru Guo, Henan Agricultural University

7 The lure of hidden death: Attractive volatile organic compounds to attract wireworms towards entomopathogenic nematodes. Diana la Forgia, University of Liège, Gembloux Agro-Bio Tech

8 A single volatile induced systemic herbivore resistance in leaves of sweet potato (*Ipomoea batatas*). Anja Katharina Meents, Max Planck Institute for Chemical Ecology

9 Herbivore-induced plant volatiles to attract natural enemies in agroecosystems: Are 2 better than 1? Jordano Salamanca, Universidad Nacional Abierta y a Distancia

10 Chemical composition of the extract of the anterior wing of *Eupalamides cyparissias* Fabricius (Lepdoptera: Castniidae) and its role in chemical ecology. Antonio Santana, Federal University of Alagoas

11 Detection dogs trained to recognize spruce bark beetle pheromones outperform human experts in locating spruces recently attacked. Fredrik Schlyter, Czech University of Life Sciences Prague & Swedish University of Agricultural Sciences (SLU)

12 Moisture effects on belowground volatile diffusion and degradation. Salina Som, United States Department of Agriculture, Agriculture Research Service (USDA ARS, CMAVE)

13 French marigolds protect tomato plants from glasshouse whiteflies through the emission of airborne limonene. Colin Tosh, Newcastle University

14 The use of plant volatiles that attract the parasitoid wasp Cotesia vestalis for the biological control of diamondback moth larvae, Masayoshi Uefune, Maijo University

Biosynthesis of Secondary Metabolites in Chemical Ecology

15 Role of cucurbitacins in insect preference in *Cucurbita pepo*. Lauren Brzozowski, Cornell University

16 Oak tree differentiation of defense and reallocation strategies in response to herbivore pressures.

Cynthia Perkovich, Kent State University

17 Antimicrobial properties of three red and brown marine macroalgal species. Ursula Röse, University of New England

18 Metabolic detoxification of the metabolite emodin produced by the common buckthorn (*Rhamnus cathartica*) by the Green frog *Lithobates clamitans* (Ranidae). Linh Nguyen, Carroll University

Chemical Biology Approaches for Interactions among Organisms

19 A Comparison of Three Solventless Volatile Collection Techniques for Analysis of Plant, Insect, and Microbe Semiochemicals. Hans Alborn, United States Department of Agriculture, Agriculture Research Service (USDA ARS, CMAVE)

20 From wasps to ants: What unifying elements can be found in phylogenetically and functionally diverse cuticular hydrocarbon profiles hinting at a commonly evolved chemical language? Jan Buellesbach, University of Münster, Germany

21 An evolutionarily relevant definition of ‘Eavesdropping’ and 'Communication'. Jordan Dowell, University of Central Florida

22 Carbohydrates profile on nectar of soybean flowers. Clara Beatriz Hoffmann-Campo, Empresa Brasileira de Pesquisa Agropecuária (Embrapa)

23 Identification of novel SCN resistance strategies in wild soybean. Janice Kofsky, University of North Carolina Charlotte

24 Evaluating CO_2 Receptor Genes Through Parental RNAi as Potential Targets for Western Corn Rootworm Management. Mariana Sanchez, University of Nebraska-Lincoln

25 Molecular characterization and phylogenetic analysis of Culicinae mosquitoes (Diptera: Culicidae) collected from Northwest India. Navneet Rai, Punjabi University Patiala

26 Ecological functions of natural rubber biosynthesis in Russian dandelion. Laura Böttner, University of Münster, Germany

27 Evolution of olfactory receptors tuned to mustard oils in a leaf-mining drosophilid fly. Teruyuki Matsunaga, University of California Berkeley

Chemical Communication of Social Insect Associates: Espionage, Weaponry and Stealth

28 Volatile compounds of soybean flowers (*Glycine max* l.Merrill) by microextraction at the solid phase combined with gas chromatography coupled to mass spectrometry (SPME-GC-MS). Clara Beatriz Hoffmann-Campo, Emprea Brasileira de Pesquisa Agropecuaria (Embrapa)

29 Phorid Flies and their attraction to host fire ants. Robert Vander Meer, United States Department of Agriculture, Agriculture Research Service (USDA-ARS)

30 Chemical Warfare Between Microbial Symbionts of Fungus-Growing Ants. Munhyung Bae, Harvard Medical School

Chemical Indices of Quality and Health Guiding Foraging, Host- and Mate-Choice

31 What makes algae tasty: combining lipidomics and grazing assays to explore chemical drivers of palatability. Kelsey Poulson, Roosevelt University

Chemically-Mediated Consumer-Prey Interactions

32 Phylogenetic analysis of the mechanisms for altering green leave volatile (GLV) emissions in herbivorous Lepidoptera. Tristan Cofer, The Pennsylvania State University

33 Antennal morphology of a bark beetle predator *M. signaticornis*. Maria Sousa, Swedish University of Agricultural Sciences (SLU)

34 Feeding preferences of herbivorous fish and sea urchins: potential implications for the recovery of degraded reefs. Lindsay Spiers, University of Florida

35 Predatory Search Behaviors of a Minute Pirate Bug, *Orius insidiosus* (Hemiptera: Anthocoridae), in Response to Thrips Contact Cues. Edward Traczyk, University of Florida

Insect-Microbe Chemical Communication

36 Microbial Volatile Emissions Mediate Attraction of a Generalist Herbivore to a Fatal Fungus
Ruchika Geedi, United States Department of Agriculture, Agriculture Research Service (USDA – ARS)

37 Effect of the volatiles released by yeasts related to sea buckthorn *Hippophae rhamnoides* berries on behaviour of *Rhagoletis batava* flies. Raimondas Mozūraitis, Nature Research Centre, Vilnius, Lithuania

38 Is buckthorn and fruit fly interaction mediated by yeasts? Vincas Buda, Nature Research Centre

Integrated Approaches for Structure Determination in Chemical Ecology

39 Synthetic Strategy and Absolute Stereochemistry of a Novel Polyketide, the Likely Aggregation-Sex Pheromone of *Graphisurus fasciatus* (Coleoptera: Cerambycidae). Kyle Arriola, University of California, Riverside

40 Spectroscopic and computational approaches for determining the three-dimensional structure of the antifungal diterpene glycoside, peyssonnoside. Bhuwan Chhetri, Georgia Institute of Technology

41 Chlorophyll detoxification? Learning from *Spodoptera littoralis*. Vincensius Surya Putera Oetama, Max Planck Institute for Chemical Ecology

42 Structure elucidation without NMR - A combined approach using GC/MS, GC/IR, DFT calculations and synthesis. Stefan Schulz, Technische Universität Braunschweig

43 Early Identification of Known Molecules in Complex Mixtures Derived from Marine Organisms that Exhibit Pharmacological Activity. Anne Marie Sweeney-Jones, Georgia Institute of Technology

Language of Life under Climate Change

44 Impacts of ocean acidification on chemically-mediated behaviors – from signaling cue to behavioral response. Jörg D. Hardege, University of Hull

45 Ocean acidification affects the growth and chemical defense of a habitat forming seaweed and the condition of a snail grazer. Alexandra Kinnby, University of Gothenburg

46 Stomatal aperture determines the uptake and transport of green leaf alcohols in maize. Arash Maleki, Penn State University

47 Temperature regulates the activity of herbivore salivary defense elicitor, Glucose Oxidase. Sulav Paudel, Pennsylvania State University

Metabolomics in Chemical Ecology

48 Linking sediment characteristics with microbial communities and their metabolites. Alyssa Demko, Scripps Institution of Oceanography, University of California, San Diego

49 Metabolomics fingerprint on soybean leaves in response to variation of the potassium amount on soil fertilization. Clara Beatriz Hoffmann-Campo, Embrapa Soja

50 Accumulation of iso-flavonoids and phenolic acid conjugates in response to soybean cyst nematode in wild soybean (*Glycine soja*). Neha Mittal, University of North Carolina at Charlotte

51 Investigating the semi-social beetle Odontotaenius disjunctus as a model for actinomycete chemical ecology. Rita de Cassia Pessotti, University of California - Berkeley

52 What does metabolomics say about Neotropical Mustelids (Mammalia, Carnivora)? Lana Resende de Almeida, Federal University of Rio Grande do Sul

53 Intraspecific phytochemical variation in *Ceanothus velutinus* along an elevational gradient and the associated herbivores. Lora Richards, University of Nevada, Reno

54 Oviposition cues for the Asian citrus psyllid, *Diaphorina citr*i (Hemiptera: Liviidae). Carmen Rossini, Universidad de la República, Uruguay

55 Frugivory and the dispersal of phytochemistry: the divergent secondary metabolomes of fruit and leaves in bat-dispersed Neotropical *Piper* plants. Gerald Schneider, Virginia Polytechnic Institute and State University

56 Untargeted metabolomics of simulated herbivory: Mass spectrometric imaging and metabolic profiling of *Arabidopsis thaliana* show reallocation of metabolites upon mechanical wounding. Ales Svatos, Max PIanck Institute for Chemical Ecology

57 Metabonomics Analysis of Soybean Pod Response to Field Mold Infection. Cai-qiong Yang, Sichuan Agricultural University

58 Gall induction by Phylloxera on grape leaves – An integrative approach. Melanie Body, University of Toledo

59 To hear without an ear: Mechanosensation in plants. Taylor Paret, University of Toledo

Microbe-Driven Chemical Communication across Ecosystems and Hosts

60 Ecological Role of Cytochrome P450cam (CYP101A1) in the Chemotaxis of *Pseudomonas Putida* (ATCC 17453) Towards Camphor. Priyadarshini Balaraman, Simon Fraser University

Molecular Mechanisms in Terrestrial and Aquatic Chemical Ecology

61 Molecular study of *Helicoverpa armigera* odorant binding proteins to better understand the insect chemosensation. Aniruddha Agnihotri, Murdoch University

62 A Type Six Secretion System gene cluster found in *V. cholerae* environmental strains encodes a novel toxin. Cristian Crisan, Georgia Institute of Technology

63 Bacterial-derived electron shuttle. Emily Mevers, Harvard Medical School

64 An emerging model of odorant receptor evolution in insect pests of stored products. Robert Mitchell, University of Wisconsin Oshkosh

65 Sensory neuron membrane proteins (SNMPs) in moths. Wei Xu, Murdoch University

66 Patterns in the distribution and functional conservation of olfactory receptors among lepidopterans underscore the flexibility of OR repertoires. Yang Liu, Chinese Academy of Agricultural Sciences

Natural Product Application in Insect Pest Control

67 *Eucalyptus nitens* (Myrtaceae) essential oil as an alternative natural repellent against Aedes aegypti and Anopheles pseudopunctipennis (Diptera: Culicidae). Agustin Alvarez Costa, UNIDEF-Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)

68 Design of the new monoterpenyl dispensers with required release rate. Kateřina Beránková, Czech University of Life Sciences Prague

69 Attraction and olfactory responses to ylang ylang oil in red imported fire ant, *Solenopsis invicta*. Yuzhe Du, Agriculture Research Service, United States Department of Agriculture

70 δ- Dodecalactone a natural origin substance as a candidate mosquito repellent for *Aedes aegypti* (Diptera: Culicidae). Paula V. Gonzalez, Consejo Nacional de Investigaciones Científicas y Técnicas (CIPEIN-UNIDEF-CONICET), Argentina

71 Identification of natural enemies by proxy: deployment of aggregation-sex pheromones of longhorned beetles (Coleoptera: Cerambycidae) facilitates the discovery and identification of their parasitoids. Todd Johnson, University of Illinois at Urbana-Champaign

72 Host preference of *Gonipterus* sp. 2 and chemical analysis of susceptible and resistant Eucalyptus species. Johannes Joubert, Forestry and Agricultural Biotechnology Institute, University of Pretoria

73 Development of a push-pull system for the redbay ambrosia beetle *Xyleborus glabratus*. vector of the laurel wilt pathogen. Xavier Martini, University of Florida

74 Synthesis of Tomato leafminer, *Tuta absoluta*, sex pheromone and its application in field mating disruption. Yuki Miyake, Shin-Etsu Chemical Co., Ltd.

75 Naturally-occurring compound methyl benzoate against the sweet potato whitefly, *Bemisia tabaci* MED (Q biotype), one of the most important vectors for plant viruses. Mohammad Munir Mostafiz, Kyungpook National University

76 Wild blueberries are more attractive than cultivated blueberries to the invasive vinegar fly *Drosophila suzukii*. Pablo Urbaneja-Bernat, Rutgers University

77 Use of trained dogs as a possible alternative to detect bark beetle attacked spruce trees. Nicole Vošvrdová, Czech University of Life Sciences, Prague

78 Evaluation of trap designs and food attractants for trapping *Eucryptorrhynchus scrobiculatus* (Coleoptera: Curculionidae). Kailang Yang, Beijing Forestry University

Secondary Metabolites and other small Molecules as the Language in Microbiome Interactions

79 The Chemical Ecology of Stress, Warning Signs and Fear. Joseph Gerdt, Harvard Medical School

80 The Root Nodule Microbiome: A Model System for Microbial Chemical Ecology. Bridget Hansen, University of California, Berkeley

81 Comparative efficacy of two mycotoxins from *Beauveria bassiana* (Bals.) Vuill. and *Metarhizium anisopliae* (Metchnikoff) Sorokin against *Spodoptera litura* Fab. and their non-target activity against the earthworm, *Eudrilus eugeniae* Kinb. Sengodan Karthi, Manonmaniam Sundaranar University

82 Ecological patterns and significance of secondary metabolites in a Neotropical shrub, *Piper sancti-felicis*. Lauren Maynard, Virginia Tech

83 Endophytic isolates from *P. sokpayensis*, a medicinal plant of Sikkim Himalayas: A sustainable way to produce ginsenosides and other bioactive compounds. Subecha Rai, Institute of Bioresources and Sustainable Development, Sikkim Centre, India

84 Novel Regulation of Type VI Secretion System in Environmental *Vibrio cholera*. Michael Ng, Georgia Institute of Technology

The Chemical Ecology of Host and Mate Selection

85 Advances in the development of an attractant for *Diploschema rotundicolle* (Coleoptera: Cerambycidae). María Eugenia Amorós, Facultad de Química, Universidad de la República, Uruguay

86 Mate choice and sexual communication in the New Zealand stick insect *Clitarchus hookeri*.
Andrea Clavijo-McCormick, Massey University

87 *Dalbulus maidis* and *Peregrinus maidis*, both phloem feeding hopper species, induce different volatile profiles in maize. Consequences for a natural enemy. María Victoria Coll Aráoz, PROIMI--Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)

88 Female false black widow spiders adjust their web architecture and pheromone deposition on it in response to conspecific female presence. Andreas Fischer, Simon Fraser University

89 Aggregation in the head lice (Pediculus humanus capitis): response to and chemical analysis of volatiles and no volatiles from their own faeces. Federico Gabriel Galassi, CIPEIN-UNIDEF--Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)

90 Host Olfactory Percepts of *Anoplophora glabripennis* and *Anoplophora chinensis*. Laura Hansen, The State University of New York College-College of Environmental Science and Forestry

91 Olfactory responses in the brain of triatomines, hematophagous insects' vectors of Chagas disease.
Lucia Ibarra Bouzada, CICyTTP (Centro de Investigaciones Científicas y Trasferencia de Tecnología a la Producción) & Universidad Nacional del Litoral

92 The structure and synthesis of two EAD active ketols from the mushroom fly *Megaselia halterata*.
Tappey Jones, Virginia Military Institute

93 Identification and Syntheses of the Sex Pheromone of *Micromelalopha troglodyta* from China. Fu Liu, Research Institute of Forest Ecology, Environment and Protection Chinese Academy of Forestry

94 Forensic chemical ecology: how do necrophagous insects perceive and impact the smell of a cadaver? Clément Martin, Université de Liège

95 Looking back in time: study of old pinned museum samples of *Odynerus spinipes* females (Insecta: Hymenoptera: Vespidae) reveals the geographic structure of the two chemotypes across the species' distributional range. Victoria Moris, Albert Ludwig University of Freiburg

96 Volatiles from *Aquilaria sinensis* damaged by *Heortia vitessoides* larvae deter the conspecific gravid adults and attract its predator *Cantheconidea concinna*. Haili Qiao, Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences & Peking Union Medical College

97 Progress with the identification of pheromones from North American click beetles (Coleoptera: Elateridae).
Jacqueline Serrano, Department of Entomology - University of California, Riverside

98 Losing the Arms Race: Sensed but Ignored by Greater Wax Moth on Bee Alarm Pheromones.
Zhengwei Wang, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences

99 Identification of Caragana plant volatiles, overlapping profiles, and olfactory attraction to *Chlorophorus caragana* in the laboratory. Yanru Zhang, Inner Mongolia Agricultural University

100 Chemical Species Recognition in an Adaptive Radiation of Hawaiian Spiders.
Seira Adams, University of California Berkeley

The Chemical Ecology of Stress, Warning Signs and Fear

101 The Good, the Bad, and the Algae: Chemical Analysis of Microalgal Cultures. Carolyn Fisher, Sandia National Laboratories

102 The impacts of microplastic ingestion on the physiology of a marine worm, *Nereis diversicolor*
Rebecca Goodwin, University of Hull

103 Prepared by timing: The dynamics of plant anti-herbivore defense primed by insect egg deposition.
Vivien Lortzing, Applied Zoology/Animal Ecology Freie Universität Berlin

The Chemical Ecology of Symbiotic Interactions

104 Chemical and visual cues mediate mutualism between ghost ant *Tapinoma melanocephalum* and invasive mealybug *Phenacoccus solenopsis*. Aiming Zhou, Huazhong Agricultural University

Other

105 Natural Products to Protect Algal Biofuel Ponds. Marisa Cepeda, Georgia Institute of Technology

106 Role of Caulerpin and Other Metabolites in Formation of the Microbiome of *Caulerpa* spp.
Melany Puglisi, Chicago State University

107 Identification of Aggregation-Sex Pheromone Components for a “Living Fossil”, the False Click Beetle, *Palaeoxenus dohrni* Horn (Coleoptera: Eucnemidae). Jacqueline Serrano, Department of Entomology - University of California, Riverside

108 Defenses against Wasting Disease in the Eelgrass *Zostera marina*. Kathryn Van Alstyne, Shannon Point Marine Center, Western Washington University