

# Insects to Feed the World 2020 Virtual Conference Program

## November 23, 2020

### CONFERENCE OPENING

Chair: Grant Vandenberg, University Laval, Canada

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08:00 - 08:40 WELCOMING WORDS

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### KEYNOTE - ARNOLD VAN HUIS, JOURNAL OF INSECTS AS FOOD AND FEED, NETHERLANDS

Chair: Jeff Tomberlin, Texas A&M University, United States

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08:40 - 09:20 PROGRESS IN USING INSECTS FOR FOOD AND FEED  
Arnold van Huis, Wageningen University & Research, Netherlands

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### INSECT AS FOOD & FEED/PROCESSING, CONSERVATION & FOOD SAFETY OF INSECT PRODUCTS - PART 1

Chair: Charles Lavigne, CDBQ, Caada

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09:45 - 10:00 THE POTENTIAL OF DOMINANT MICRO-ORGANISMS ISOLATED FROM THE GUT OF THE LARVAE OF HERMETIA ILLUCENS FOR MICROBIOLOGICAL CONTROL  
Jeroen De Smet, KU Leuven and Research Foundation Flanders, Belgium  
Ellen Gorrens, Laurence Van Moll, Paul Cos, Leen Van Campenhout

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10:00 - 10:15 INFLUENCE OF PROCESSING METHODS ON THE TECHNO-FUNCTIONAL PROPERTIES OF FLOURS FROM THREE EDIBLE INSECTS  
Forkwa Tengweh Fombong, KU Leuven, Belgium  
Chrysantus Mbi Tanga, Jozef Vanden Broeck, John Kinyuru

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10:15 - 10:30 INSECT PROCESSING AND THE INSECTS ANATOMY  
Catriona Lakemond, Wageningen University and Research, Netherlands  
Domenico Azzollini, Dieke van de Minkelis, Maryia Mishyna, Vincenzo Fogliano

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10:30 - 10:45 THERMO-MECHANICAL AND PULSED ELECTRIC FIELD PROCESSING EFFECTS ON PROTEIN QUALITY OF INSECT FLOURS  
Samir MEZDOUR, AgroParisTech, France  
Camille LOUPIAC, Houcine MHEMDI

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### INSECT AS FEED/ALTERNATIVE PROTEIN SOURCES & DIET FORMULATIONS - PART 1

Chair: Laura Gasco, University of Turin, Italy

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09:45 - 10:00 LIVE INSECT LARVAE FOR LAYING HENS: EFFECTS ON PERFORMANCES, EGG QUALITY, FEATHER CONDITIONS AND ANIMAL BEHAVIOR  
Sara Bellezza Oddon, DISAFA, University of Turin, Italy  
Alberto Brugiapaglia, Ilaria Biasato, Sihem Dabbou, Manuela Renna, Miha Pipan, Dominik Dekleva, Marco Meneguz, Marta Gariglio, Arianna Imarisio, Laura Gasco, Christian Caimi, Edoardo Fiorilla, Achille Schiavone

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- 10:00 - 10:15 **BROILERS, BLACK SOLDIER FLY LARVAE AND BEHAVIOR**  
**Dennis Oonincx**, Wageningen University and Research, Netherlands  
Cindy Vreugdenhil, Teun Veldkamp, Vincenzo Fogliano, Albert Dijkslag, Joop van Loon, Bas Rodenburg
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- 10:15 - 10:30 **NON-DEFATTED BLACK SOLDIER FLY LARVAE MEAL-BASED DIETS ENHANCES EGG PRODUCTION AND PROFITABILITY OF SMALLHOLDER POULTRY FARMERS IN KENYA**  
**Chrysantus Mbi Tanga**, International Centre of Insect Physiology and Ecology, P.O. Box 30772-00100 Nairobi, Kenya, Kenya  
Damaris Nyingi, Isaac Osuga, Subramanian Sevgan, Pater Egonyu, David Mwangi, Leonard Munga, Dorothy Nakimbugwe, Joop van Loon, Marcel Dicke, Sunday Ekesi
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## INSECT PRODUCTION SYSTEMS/GENETICS, NUTRITION, PHYSIOLOGY, HEALTH & ETHICS OF EDIBLE INSECTS - PART 1

**Chair: Jorgen Eilenberg, University of Copenhagen, Denmark**

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- 09:45 - 10:00 **GASTROINTESTINAL EVACUATION IN BLACK SOLDIER FLY LARVAE**  
**Ali Hosseini**, Protix, Netherlands  
Mahamoudou Kone, Moritz Gold, Aman Paul, Daniele Bruno, Marco Bonelli, Gianluca Tettamanti, Morena Casartelli, Eric Schmitt, Alexander Mathys, Grant Vandenberg, Marie-Hélène Deschamp
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- 10:00 - 10:15 **HOW THE ABSENCE OF MICROBIOTA IN BLACK SOLDIER FLY (HERMETIA ILLUCENS) LARVAE AFFECTS GENE EXPRESSION**  
**Laurence Auger**, Derome Laboratory, IBIS (University Laval), Canada  
Marie-Hélène Deschamps, Sidki Bouslama, Grant Vandenberg, Nicolas Derome
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- 10:15 - 10:30 **MORPHOFUNCTIONAL ADAPTATION OF HERMETIA ILLUCENS LARVAL MIDGUT TO REARING SUBSTRATES WITH DIFFERENT NUTRITIONAL QUALITY**  
**Gianluca Tettamanti**, University of Insubria, Italy  
Marco Bonelli, Matteo Brilli, Novella Gianfranceschi, Silvia Caccia, Morena Casartelli, Gianluca Tettamanti
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- 10:30 - 10:45 **GROWTH, PERFORMANCE AND LARVAL COMPOSITION OF ALPHITOBIOUS DIAPERINUS ON AGRI-FOOD SIDE-STREAMS**  
**Natasja Gianotten**, Protifarm R&D, Netherlands  
Lise Soetemans, Leen Bastiaens
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## KEYNOTE - JEFFERY K. TOMBERLIN, TEXAS A&M UNIVERSITY, UNITED STATES

**Chair: Grant Vandenberg, University Laval, Canada**

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- 10:50 - 11:30 **FROM RESEARCH TO ECONOMICS: POTENTIAL PATHS FORWARD IN THE INSECTS AS FOOD AND FEED INDUSTRY**  
**Jeffery K. Tomberlin**, Texas A&M University, United States
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## INSECT AS FOOD & FEED/PROCESSING, CONSERVATION & FOOD SAFETY OF INSECT PRODUCTS - PART 2

**Chair: Leen Van Campenhout, KU Leuven, Belgium**

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- 11:50 - 12:05 **FECAL SLUDGE MANAGEMENT USING BLACK SOLDIER FLY LARVAE AND PRODUCT SAFETY**  
**Daniela A. Peguero**, ETH Zurich, Switzerland  
Ellen T. Mutsakatira, Phumza V. Tikilili, Marc Lewis, Cameron S. Richards, Chris A. Buckley, Alexander Mathys
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- 12:05 - 12:20 **FAT QUALITY AND PHYTO-CHEMICAL COMPOSITION OF READRE CRICKET SPECIES IN KENYA**  
**Dorothy Murugu**, Jomo Kenyatta University of Agriculture & Technology, Kenya  
Arnold Onyango, Isaac Osuga, Alex Ndiritu, Chrysantus Tanga, Fiaboe Komi, Sunday Ekesi
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- 12:20 - 12:35 **DEVELOPMENT OF MICROBIOME TOOLS TO IMPROVE HEALTH AND SAFETY OF EDIBLE INSECTS AS COMPONENTS OF FEEDS FOR LIVESTOCK PRODUCTION**  
**Juan Paredes**, icipe, Kenya  
Abel Anyega, Yosef Hamba Tola, Juan Paredes
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12:35 - 12:50 **EXPIRED FISH FEED AS A SOURCE OF N-3 FATTY ACIDS TO MODULATE THE LIPID PROFILE OF HERMETIA ILLUCENS**  
**Daniela P. Rodrigues** , ECOMARE & CESAM, University of Aveiro, Portugal  
 Marisa Pinho, M. Rosário Domingues, José António Vázquez, Ricardo Calado, Olga Ameixa

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## INSECT AS FEED/ALTERNATIVE PROTEIN SOURCES & DIET FORMULATIONS - PART 2

**Chair: Guido Bosch, Wageningen University & Research, Netherlands**

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11:35 - 11:50 **POST-PROCESSING AND MARKETING OF BLACK SOLDIER FLY CONVERSION PRODUCTS ' THE CASE OF EAST JAVA**  
**Julia Egger**, Eawag, Switzerland  
 Early Antarest, Bram Dortmans, Christian Zurbrügg

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11:50 - 12:05 **ASSESSING THE IMPACT OF LIVE BLACK SOLDIER FLY LARVAE SUPPLEMENTATION IN LAYING HEN DIETS**  
**Miha Pipan**, Entomics Biosystems Ltd, United Kingdom

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12:05 - 12:20 **BLACK SOLDIER FLY MEAL INCLUSION IN RAINBOW TROUT DIETS: EFFECTS ON GROWTH PERFORMANCES FROM JUVENILE TO PORTION-SIZE**  
**Côme GUIDOU**, MUTATEC, France  
 Christophe TRESPEUCH, Jorge DIAS, Louis LESUR, Cyndel MASSET, Yann MARCHAND

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12:20 - 12:35 **APPARENT DIGESTIBILITY COEFFICIENT OF COCKROACH (PERIPLANATA AMERICANA) MEAL BY CLARIAS GARIEPINUS**  
**SULE Shakiru Okanlawon**, Olabisi Onabanjo University,, Nigeria  
 SOTOLU Akeem Oladipupo, YAKUBU Omale Suleiman

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## INSECT PRODUCTION SYSTEMS/GENETICS, NUTRITION, PHYSIOLOGY, HEALTH & ETHICS OF EDIBLE INSECTS - PART 2

**Chair: Dennis Oonincx, Wageningen University, Netherlands**

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11:35 - 11:50 **THE YELLOW MEALWORM GENOME: A RESOURCE FOR ALL**  
**Christine Picard**, Indiana University Purdue University Indianapolis, United States  
 Ti Eriksson, Anne Andere, Hans Kelstrup, Virginia Emery

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11:50 - 12:05 **EVALUATION OF THE SUITABILITY OF GREEK AGRICULTURAL BY-PRODUCTS FOR THE REARING OF TENEBRIO MOLITOR**  
**Christos Rumbos**, Laboratory of Entomology and Agricultural Zoology, Department of Agriculture, Crop Production an, Greece  
 Dennis Oonincx, Mariastela Vrontaki, Adamantia Asimaki, Eleni Mente, Ioannis Karapanagiotidis, Christos Athanassiou

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12:05 - 12:20 **FARMING FECUND CRICKETS: FRUITFUL FEMALE FERTILITY AFTER FEEDING CRICKETS ROYAL JELLY**  
**Matthew Muzzatti**, Carleton University , Canada  
 Heath MacMillan, Sue Bertram

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12:20 - 12:35 **DEUTERIUM LABELLING OF FATTY ACIDS IN HERMETIA ILLUCENS LARVAE**  
**Caparros Megido Rudy**, Gembloux Agro-Bio Tech, Belgium  
 Fauconnier Marie-Laure, Purcaro Giorgia, Lognay Georges, Francis Frédéric, Caparros Megido Rudy

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12:35 - 12:50 **EFFECT OF BLACK SOLDIER FLY DENSITY IN OVIPOSITION CAGES ON EGG PRODUCTION**  
**Tina Kusumawardhani**, Eawag, Switzerland  
 Teguh Rahayu, Bram Dortmans, Christian Zurbrügg

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## INVESTMENT PANEL

**Chair:, Natural Products Canada, Canada**

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12:45 - 14:15 **INVESTMENT PANEL**

## November 24, 2020

**KEYNOTE - ANDREAS VILCINSKAS, JUSTUS-LIEBIG UNIVERSITY, GERMANY****Chair: Marie-Hélène Deschamps, University Laval, Canada**

08:00 - 08:40 **IMMUNITY OF FARMED INSECTS: BASIC AND APPLIED ASPECTS**  
**Andreas Vilcinskas**, Justus-Liebig University, Germany

**INSECT AS FOOD & FEED/PROCESSING, CONSERVATION & FOOD SAFETY OF INSECT PRODUCTS - PART 3****Chair: Charles Lavigne, CDBQ, Canada**

08:45 - 09:00 **SYSTEMATIC STUDIES ON THE ANTIOXIDANT CAPACITY OF YELLOW MEALWORM LARVAE (TENEBRIO MOLITOR)**  
**Nina Krönck**, Institute for Food Technology and Bioprocess Engineering (ILB), Germany  
 C. Keil, F. Kulow, S. Grebenteuch, C. Kanzler, G. Boeck, R. Benning, H. Haase

09:00 - 09:15 **SELECTIVE EXTRACTION OF INTRACELLULAR COMPOUNDS FROM THE TENEBRIO MOLITOR BY MECHANICAL PRESSING ASSISTED BY PULSED ELECTRIC FIELD TREATMENT**  
**Samir MEZDOUR**, AgroParisTech, France  
 Chaima Dridi, Houcine MHEMDI

09:15 - 09:30 **REVIEW OF EDIBLE INSECTS METABOLIZING MYCOTOXINS AS A SAFE AND SUSTAINABLE FEED/FOOD SOURCE**  
**Amelia Meyer**, Wageningen Food Safety Research, Netherlands  
 Ine van der Fels- Klerx, Elise Hoek, Joop van Loon

09:30 - 09:35 **IDENTIFICATION AND CHARACTERIZATION OF YELLOW MEALWORM'S MAIN PROTEINS IN RELATION TO THEIR FUNCTIONAL PROPERTIES**  
**Alexia Gravel**, Université Laval, Canada  
 Manon Couture, Alain Doyen

09:35 - 09:40 **PULSED ELECTRIC FIELD ASSISTED EXTRACTION OF VALUABLE COMPOUNDS FROM HOUSE CRICKETS (ACHETA DOMESTICUS)**  
**Shikha Ojha**, Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB),  
 George Dimopoulos, Sara Bussler, Ana Clara Cavini Moreno , Petros Taoukis, Shikha Ojha, Oliver Schlüter

09:40 - 09:45 **BIOACCUMULATION OF CADMIUM IN TENEBRIO MOLITOR, ZOPHOBAS MORIO AND HERMETIA ILLUCENS**  
**Costanza Jucker**, Department of Food, Environmental and Nutritional Sciences (DeFENS), University of Milan, Italy, Italy  
 Francesco De Filippo, Daniela Lupi, Paolo Gigante, Sara Savoldelli, Enrica Ferretti, Michele Curatolo, Anna Adriana Bassi, Paolo Bonilauri, Michele Dottori

09:45 - 09:50 **SAFETY ASPECTS OF USING BLACK SOLDIER FLY LARVAE AS S FEED AND FOOD: THE STUDY OF THE BIOACCUMULATION OF METALS**  
**Tomas Persan**, Masaryk University; Faculty of Science; RECETOX, Czech Republic  
 Jana Vasickova, Jan Kuta, Jakub Hofman

09:50 - 09:55 **EXPERIMENTAL STUDY OF DRYING CHARACTERISTICS OF CIRINA FORDA CATERPILLAR**  
**Celestin Bukamba Tshanga**, Université libre de Bruxelles, Democratic Republic of th  
 Paul MALUMBA KAMBA, Charlotte Van Engeland , David Mayele, Bienvenu Kambashi , Jérôme Bindelle, Frédéric Debaste

09:55 - 10:00 **UTILIZATION OF ERGOT-INFECTED FEED BY YELLOW MEALWORM (TENEBRIO MOLITOR) LARVAE**  
**Denise Beaulieu**, University of Saskatchewan, Canada  
 Carlos Ochoa-Sanabria, Fiona Buchanan

**INSECT PRODUCTION SYSTEMS/PROCESSING ORGANIC SIDE STREAMS & WASTE MANAGEMENT - PART 1**

**Chair: David Deruytter, Inagro, Belgium**

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- 08:45 - 09:00 **IMPACT OF DIFFERENT GUT BACTERIA ON SOYBEAN CURD RESIDUE CO-CONVERSION BY BLACK SOLDIER FLY LARVAE FOR BIOMASS ACCUMULATION**  
**Jibin Zhang**, State Key Laboratory of Agricultural Microbiology, National Engineering Research Center of Micro, China  
 Jibin Zhang
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- 09:00 - 09:15 **PHYSICAL CHARACTERIZATION OF BLACK SOLDIER FLY REARING DIETS**  
**Lotte Frooninckx**, Thomas More, Belgium  
 Sarah Goossens, Ann Wuyts, Sabine Van Miert
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- 09:15 - 09:30 **DOES JUICE MAKE THEM FAT? PROCESSING GRASS JUICE WITH BLACK SOLDIER FLY LARVAE (HERMETIA ILLUCENS)**  
**Carl Coudron**, Inagro, Belgium  
 David Deruytter, Jonas Claeys, Stefan Teerlinck
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- 09:30 - 09:45 **MATURITY AND FERTILIZING POTENTIAL OF BLACK SOLDIER FLY MANURE (FRASS) FED RESIDUAL ORGANIC MATTER FROM GROCERY STORES**  
**Louise Hénault-ethier**, Université Laval/TriCycle, Canada  
 Mahamoudou Kone, Marie-Hélène Deschamps, Grant W. Vandenberg
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- 09:45 - 10:00 **MAXIMIZING MYCOTOXIN BIOREMEDIATION OF AGRICULTURE WASTES: MEALWORMS AND DRIED DISTILLERS GRAINS WITH SOLUBLES (DDGS)**  
**Hans Kelstrup**, Beta Hatch, United States  
 Damian Tweedy, Juan Morales-Ramos, Guadalupe Rojas, Virginia Emery
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**INSECT PRODUCTION SYSTEMS/GENETICS, NUTRITION, PHYSIOLOGY, HEALTH & ETHICS OF EDIBLE INSECTS - PART 3**

**Chair: Marcel Dicke, Wageningen University, Netherlands**

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- 08:45 - 09:00 **YEASTS AS A SUPPLEMENT IN DIETS FED TO MEALWORMS (TENEBRIO MOLITOR)**  
**Louise Hénault-ethier**, Université Laval/TriCycle, Canada  
 Alexis Fortin, Didier Marquis, Étienne Normandin, Myriam Tourancheau, Marie-Hélène Deschamps, Grant W. Vandenberg
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- 09:00 - 09:15 **GENETIC VARIATION IN QUALITATIVE AND QUANTITATIVE LIPID CONTENT AMONG THREE EUROPEAN STRAINS OF HOUSEFLY LARVAE REARED AT DIFFERENT TEMPERATURES**  
**Francesco Boatta**, Vrije Universiteit Amsterdam, Netherlands  
 Walter Jansen, Leo Beukeboom, Jacintha Ellers
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- 09:15 - 09:30 **FECUNDITY AND LARVAL GROWTH OF TENEBRIO MOLITOR REARED ON DIFFERENTLY COMPOSED DIETS OF SIMILAR NUTRITIONAL COMPOSITION**  
**Somaya Naser El Deen**, PhD “Environment, Resources and Sustainable Development”, Parthenope university of Naples, Italy  
 Vincenzo Verrastro, Flutura Lamaj, Lina Al Bitar, Ferdinando Baldacchino
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- 09:30 - 09:45 **EFFECT OF TEMPERATURE ON LIFE-HISTORY PARAMETERS AND PRODUCTION PERFORMANCES OF THE COMMON HOUSEFLY, MUSCA DOMESTICA**  
**Ljubinka Francuski**, University of Groningen, Netherlands  
 Walter Jansen, Leo W. Beukeboom
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- 09:45 - 10:00 **NUTRITIONAL COMPOSITION AND QUALITY OF DRIED EARTHWORMS (LUMBRICIDAE) POWDER**  
**Ilgā Gedrovica**, Latvia University of Life Sciences and Technologies, Latvia
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**KEYNOTE - LEEN VAN CAMPENHOUT, KU LEUVEN, BELGIUM**

**Chair: Linda Saucier, Université Laval, Canada**

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10:30 - 11:10 **FERMENTATION TECHNOLOGY IN THE INSECT INDUSTRY**  
**Leen Van Campenhout**, KU Leuven, Belgium

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**HARVESTING & TRADITIONAL ROLE OF EATING INSECTS/SUSTAINABLE CONSUMPTION & FOOD SECURITY - PART 1**

**Chair: John Ndung'u Kinyuru, Jomo Kenyatta University of Agriculture & Technology, Kenya**

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11:15 - 11:30 **EXPLORING THE GOVERNANCE OF AN EDIBLE INSECT TRADE CHAIN THROUGH THE LENS OF MOPANE WORMS IN SOUTHERN AFRICA**  
**James George Sekonya**, University of Cape Town, South Africa  
Rachel Wynberg

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11:30 - 11:45 **COMMUNITIES, INSECTS AND SUSTAINABLE FOOD PRODUCTION SYSTEMS - EXPERIENCES OF INSECT GATHERERS IN UGANDA**  
**Liliane Binogo**, Coventry University, United Kingdom  
Michel Pimbert

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11:45 - 12:00 **PROMOTING THE PRODUCTION AND TRANSFORMATION OF EDIBLE INSECTS IN WEST AND CENTRAL AFRICA**  
**Philippe LE GALL**, Institut de Recherche pour le Développement, France  
Muafor John Fogoh, Samir MEZDOUR, Ivan LE MINTIER, Gilles FLUTSCH, Manuel Vaxelaire, Melanie Ramnuth

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12:00 - 12:05 **BAMBOO WORM HARVESTING IN MYANMAR: MORE BENEFITS OR THREATS?**  
**Myint Thu Thu Aung**, Center for Development Research(ZEF), University of Bonn, Germany, Germany  
Jochen Dürr

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12:05 - 12:10 **THE MARKET OF EDIBLE CATERPILLARS IN THE REPUBLIC OF CENTRAL AFRICA**  
**Manuel Vaxelaire**, Action Against Hunger, France  
Bader Mahaman, Cyril Lekiefs, Philippe Le Gall, John Fogoh Muafor, Samir Mezdour

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12:10 - 12:15 **EDIBLE CATERPILLARS AND INSECTS IN NORTH KIVU : A POTENTIAL ASSET FOR THE DEVELOPMENT AND STRENGTHENING OF COMMUNITY FORESTRY**  
**Stéphane PERSON** , Forest Goods Growing, France  
Stéphane PERSON , Thaddée TWENDI TWENDI

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**INSECT PRODUCTION SYSTEMS/PROCESSING ORGANIC SIDE STREAMS & WASTE MANAGEMENT - PART 2**

**Chair: Louise Hénault-Éthier, Université Laval/TriCycle, Canada**

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11:15 - 11:30 **MITE INFESTATION AND ITS RISK ASSESSMENT TO A BLACK SOLDIER FLY COLONY: IDENTIFICATION, MANAGEMENT AND SOLUTIONS**  
**Thiphaine Bruder**, Nasekomo, Bulgaria

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11:30 - 11:45 **BLACK SOLDIER FLY LARVAE REARING ON SIDE STREAMS: IMPACT ON BACTERIAL BIOTA IN DIFFERENT GUT REGIONS AND LARVAL GROWTH**  
**Dries Vandeweyer**, KU Leuven, Belgium  
Daniele Bruno, Jeroen De Smet, Marco Bonelli, Morena Casartelli, Gianluca Tettamanti, Leen Van Campenhout

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11:45 - 12:00 **INFLUENCE OF TEMPERATURE ON SELECTED LIFE-HISTORY TRAITS OF BLACK SOLDIER FLY (HERMETIA ILLUCENS) REARED ON TWO COMMON URBAN ORGANIC WASTE STREAMS IN KENYA**  
**Marwa Shumo**, Center for Development Research (ZEF),University of Bonn, Germany  
Fathiya M. Khamis, Chrysantus M. Tanga , Komi K. M. Fiaboe , Sevgan Subramanian, Sunday Ekesi, Arnold Van Huis, Christian Borgemeister

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12:00 - 12:15 **EFFECT OF INCLUDING CHICKEN MANURE WITH PRE-CONSUMER WASTE ON BLACK SOLDIER FLY LARVAL PERFORMANCE AND BIOCONVERSION**  
**Nina Parry**, University of Pretoria, South Africa  
Chris Weldon

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12:15 - 12:30 **THE INFLUENCE OF RESIDUE MICROBES ON BLACK SOLDIER FLY LARVAE (HERMETIA ILLUCENS) TREATMENT OF TWO AGRICULTURAL BYPRODUCTS**  
**Moritz Gold**, ETH Zurich/Eawag, Switzerland  
Trevor Fowles, Jesus D. Fernandez-Bayo, Lydia Palma, Christian Zurbrügg, Christian Nansen, Heather Bischel, Alexander Mathys

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## **INSECT PRODUCTION SYSTEMS/GENETICS, NUTRITION, PHYSIOLOGY, HEALTH & ETHICS OF EDIBLE INSECTS - PART 4**

**Chair: Jeff Tomberlin, Texas A&M University, United States**

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11:15 - 11:30 **BLACK SOLDIER FLY (HERMETIA ILLUCENS): POTENTIAL AND CHALLENGES OF GENETIC IMPROVEMENT IN THE RISE OF THE INSECTS FOR FOOD AND FEED INDUSTRY**  
**Simone Dimitrova**, Nasekomo EAD, Bulgaria

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11:30 - 11:35 **PRELIMINARY IN VITRO MODEL OF THE BLACK SOLDIER FLY (HERMETIA ILLUCENS) LARVAE MIDGUT**  
**Moritz Gold**, ETH Zurich/Eawag,  
Julia Egger, Andreas Scheidegger, Christian Zurbruegg, Daniele Bruno, Marco Bonelli, Gianluca Tettamanti, Morena Casartelli, Eric Schmitt, Alexander Mathys

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11:35 - 11:40 **INSECTS AS SUSTAINABLE FEED FOR A CIRCULAR ECONOMY: INTERDISCIPLINARY APPROACH TO VALUE CHAIN DEVELOPMENT**  
**Yavanna Aartsma**, Wageningen University, Netherlands  
Marcel Dicke

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11:40 - 11:45 **ALTERNATIVE DIETS AND THEIR EFFECT ON THE GROWTH OF ZOPHOBAS MORIO LARVAE**  
**Sara Cardoso**, Instituto Politécnico de Viana do Castelo - Escola Superior Agrária, Portugal  
Teresa Mateus, Julio Lopes

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11:45 - 11:50 **THE EDIBLE CATERPILLAR MIKOMBIDILA, A CATERPILLARS CONSUMED IN THE WEST OF THE DEMOCRATIC REPUBLIC OF CONGO: DESCRIPTION, LIFE CYCLE AND BREEDING**  
**Caparros Megido Rudy**, Gembloux Agro-Bio Tech , Belgium  
Caparros Megido Rudy, Francis Frédéric, Kambashi Mutiaka Bienvenu

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11:50 - 11:55 **ALTERNATIVE DIETS AND THEIR EFFECT ON THE GROWTH OF TENEBRIO MOLITOR LARVAE**  
**Sara Cardoso**, Instituto Politécnico de Viana do Castelo - Escola Superior Agrária, Portugal  
Teresa Mateus, Julio Lopes

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11:55 - 12:00 **USING SOIL ANIMALS FOR BIOCONVERSION OF AGRICULTURAL WASTES INTO PRODUCTS WITH HIGH ADDED VALUE**  
**Alexander Bastrakov**, A.N. Severtsov Institute of Ecology and Evolution, Russian Federation

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12:00 - 12:15 **THE CONTENT OF HEAVY METALS IN THE LARVAE OF HERMETIA ILLUCENS DURING THE PROCESSING OF VARIOUS FEED SUBSTRATES**  
**Alexander Bastrakov**, Entoprotech LLC, Russian Federation  
Ivan Sokolov, Igor Abalakin, Adelia Khayrova

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## November 25, 2020

**KEYNOTE - CHRYSANTUS M. TANGA, ICIPE, KENYA**

**Chair: Arnold van Huis, Wageningen University & Research, Netherlands**

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08:00 - 08:40 **INSECTS AS FOOD AND FEED SOURCE: RESEARCH TRENDS IN AFRICA**  
**Chrysantus M. Tanga**, ICIPE, Kenya

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**HARVESTING & TRADITIONAL ROLE OF EATING INSECTS/SUSTAINABLE CONSUMPTION & FOOD SECURITY - PART 2**

**Chair: Valerie Stull, University of Wisconsin, United States**

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08:45 - 09:00 **ENTOMOPHAGY IN AUSTRALIA: COULD INSECTS SOLVE THE IMPENDING FOOD SECURITY CHALLENGE?**  
**Rocio Ponce-Reyes**, CSIRO, Australia  
 Bryan Lessard

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09:00 - 09:15 **INSECTS FOR PEACE: EX-COMBATANTS AS SMALLHOLDER INSECT PRODUCERS IN POST-CONFLICT COLOMBIA**  
**Karol Bibiana Barragán Fonseca**, Universidad Nacional de Colombia, Colombia  
 Katherine Barragán Fonseca, Gerard Verschoor, Joop van Loon, Marcel Dicke

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09:15 - 09:30 **IMPROVING TRADITIONAL INSECT TRAPPING TECHNIQUES TO ENHANCE CROP PROTECTION AND SUPPLY OF EDIBLE INSECTS IN EAST AFRICA**  
**James Peter Egonyu**, International Centre of Insect Physiology and Ecology, Kenya  
 Francis Sengendo, Moses Chemurot, Chrysantus Mbi Tanga, Sevgan Subramanian

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09:30 - 09:35 **ANTHROPOENTHOMOPHAGY IN MEXICO: A REVIEW OF ITS HISTORY, CURRENT SITUATION AND PERSPECTIVES**  
**José Manuel Pino Moreno**, Biology Institute, National Autonomous University of Mexico, Mexico

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09:35 - 09:40 **DIVERSITY AND NUTRITIONAL COMPOSITION OF EDIBLE INSECTS IN SUB-SAHARAN AFRICA. A SYSTEMATIC REVIEW**  
**Zabentungwa Thakasile Hlongwane**, University of KwaZulu-Natal, South Africa  
 Rob Slotow, Thinandavha Caswell Munyai

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09:40 - 09:45 **NUTRITIONAL VALUE OF EDIBLE TERMITES MACROTERMES FALCIGER COLLECTED FROM LUSAKA DISTRICT, ZAMBIA, A POTENTIAL AGENT AGAINST MALNUTRITION**  
**Martha Chulu**, Levy Mwanawasa Medical University, Zambia  
 Lungwani Muungo, Angela Gono-Bwalya

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**PERCEPTION, MARKETING & ECONOMICS - PART 1**

**Chair: Rocio Ponce Reyes, CSIRO, Australia**

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08:45 - 09:00 **OVERALL ACCEPTABILITY OF FILLETS OF RAINBOW TROUT FED DIETS WITH INCREASING LEVELS OF TENEBRIO MOLITOR LARVA MEAL**  
**Alberto Brugiapaglia**, University of Turin - Department of Agricultural, Forest and Food Sciences,  
 Sara Bellezza Oddon, Ilaria Biasato, Manuela Renna, Giulia Chemello, Christian Caimi, Achille Schiavone, Francesco Gai,  
 Laura Gasco

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09:00 - 09:15 **ROLE OF CULTURE IN THE ACCEPTABILITY OF INSECTS AS FOOD**  
**Agathe MARIE**, IAE d'Angers, France  
 Gaëlle PANTIN-SOHIER, Céline GALLEN

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09:15 - 09:30 **BUGS FOR THE FUTURE! A STEP-BY-STEP EDUCATION GUIDE FOR LEARNING ABOUT SUSTAINABILITY WITH INSECTS AT HOME AND IN SCHOOLS**  
**Katharina Unger**, Livin Farms HK Ltd, Hong Kong

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09:30 - 09:45 **MARKET SIZING STUDY**  
**Bruce Jowett**, Enterra Feed Corporation, Canada

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09:45 - 09:50 **MARKET OPPORTUNITIES FOR INSECTS IN DOG FOOD**  
**Sonja Floto-Stammen**, Fontys International Business School, Netherlands  
Natalia Naranjo Guevara, Julia Janke

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## **INSECT PRODUCTION SYSTEMS/OPTIMIZATION, ENGINEERING, AUTOMATATION & SECURITY - PART 1**

**Chair: Lotte Frooninckx**, Thomas More University of Applied Sciences, Belgium

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08:45 - 09:00 **REDUCING SPATIAL FOOTPRINT AND HANDLING IN A BLACK SOLDIER FLY BIO-WASTE CONVERSION UNIT USING INCUBATOR CONTAINERS**  
**Bram Dortmans**, Eawag, Switzerland  
Tina Kusumawardhani, Teguh Rahayu, Christian Zurbrügg

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09:00 - 09:15 **SYNCHRONOUS FRONT-FACE FLUORESCENCE MEASUREMENT AS A METHOD TO RAPID DISCRIMINATION OF EDIBLE INSECT POWDERS**  
**Giacomo Rossi**, Quality and Safety of Food and Feed, Leibniz Institute for Agricultural Engineering and Bioecono, Germany  
Sara Bußler, Julia Durek, Shikha Ojha, Oliver Schlüter

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09:15 - 09:30 **DEVELOPING OF LOW-IMPACT DIETS FOR THE MASS REARING OF ACHETA DOMESTICUS**  
**Costanza Jucker**, Department of Food, Environmental and Nutritional Sciences (DeFENS), University of Milan, Italy, Italy  
Simone Belluco, Daniela Lupi, Sara Savoldelli, Luigi Bonizzi, Antonia Ricci, Andrea Mascaretti, Laura Gasco

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09:30 - 09:45 **LOST IN THE DESERT: INFLUENCE ON WET FEED DISTRIBUTION ON THE DENSITY AND GROWTH RATE OF TENEBRIO MOLITOR**  
**David Deruytter**, Inagro, Belgium  
Carl Coudron, Jonas Claeys, Stefan Teerlinck

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09:45 - 09:50 **MY WAY OR THE HIGHWAY: TRANSPORT CONDITIONS FOR TENEBRIO MOLITOR**  
**Jonas Claeys**, Inagro, Belgium  
Carl Coudron, David Deruytter, Stefan Teerlinck

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09:50 - 09:55 **EFFECT OF PREPUPAE DENSITY IN PUPATION CRATES ON EMERGENCE RATE OF BLACK SOLDIER FLIES**  
**Teguh Rahayu**, Eawag, Switzerland  
Tina Kusumawardhani, Bram Dortmans, Christian Zurbrügg

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## **KEYNOTE - TBC**

**Chair: Grant Vandenberg**, University Laval, Canada

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10:30 - 11:10 TBC

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## **BIOTECHNOLOGY & NON-FOOD APPLICATIONS OF INSECT**

**Chair: Andreas Vilcinskas**, Justus-Liebig University, Germany

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11:15 - 11:30 **EFFECTS OF BLACK SOLDIER FLY FRASS-FERTILIZER ON THE GROWTH, YIELD AND NITROGEN USE EFFICIENCY OF MAIZE IN CENTRAL KENYA**  
**Dennis Beesigamukama**, International Centre of Insect Physiology and Ecology P. O. Box 30772-00100 Nairobi, Kenya, Kenya  
Benson Mochoge, Nicholas Korir, Dorothy Nakimbugwe, Komi Fiaboe, Fathiya Khamis, Sevgan Subramanian, Martha Musyoka, Sunday Ekesi, Chrysantus Tanga

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- 11:30 - 11:45 **EFFECT OF COMPOSTED BLACK SOLDIER FLY LARVAE FRASS ON PLANT GROWTH PERFORMANCE**  
**Martin Zorrilla**, Nutrition Technologies Sdn Bhd, Malaysia  
Zainudin Hussain
- 
- 11:45 - 12:00 **PROGRESSION TOWARDS CIRCULAR AGRICULTURE - GAINING KNOWLEDGE OF INSECT WASTE STREAMS AS A CROP AND SOIL HEALTH PROMOTER**  
**Kirstin Torgerson**, Wageningen University and Research, Netherlands  
Jurian Meijering, Jaap Sok, Marcel Dicke, Alfons Oude Lansink
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- 12:15 - 12:20 **IN VITRO ANTIMICROBIAL ACTIVITY OF FRASS PRODUCED BY THE BLACK SOLDIER FLY LARVAE AGAINST PLANT PATHOGENS**  
**Ghazaleh Arabzadeh**, Université Laval, Canada  
Thi Thuy An Nguyen, Maxime Delisle-Houde, Martine Dorais, Marie-Hélène Deschamps, Nicolas Derôme, Russell J. Tweddell, Grant W. Vandenberg
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- 12:20 - 12:25 **SEARCH FOR ANTIMICROBIAL MOLECULES FROM LACTIC ACID FERMENTATION OF BLACK SOLDIER FLY PREPUPAE AND RELATED BYPRODUCTS**  
**A.V Luparelli**, Department of Food Science and Drug,
- 
- 12:25 - 12:30 **BIOLOGICALLY ACTIVE COMPONENTS OF CO<sub>2</sub>-EXTRACT OF DARKLING BEETLE ALPHITOBIOUS DIAPERINUS**  
**Alexander Bastrakov**, A.N. Severtsov Institute of Ecology and Evolution, Russian Federation  
Efim Brodsky, Alexander Bastrakov
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## PERCEPTION, MARKETING & ECONOMICS - PART 2

**Chair: Diana Bogueva, Curtin University, Australia**

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- 11:15 - 11:30 **POTENTIAL OF INCREASING THE INSECT PRODUCTION IN FARMS: THE CASE OF NORTHERN OSTROBOTHNIA, FINLAND**  
**Susanne Heiska**, Natural Resources Institute Finland, Luke, Finland  
Susanne Heiska, Pertti Marnila, Toivo Muilu, Maarit Mäki, Anna-Liisa Välimaa
- 
- 11:30 - 11:45 **CHICKEN FED INSECTS MUST STILL TASTE LIKE CHICKEN**  
**Louwrens Hoffman**, Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, Australia  
Elsje Pieterse
- 
- 11:45 - 12:00 **ACCEPTANCE OF DUTCH AND GERMAN STUDENTS TOWARDS INSECTS IN FEED AND FOOD**  
**Natalia Naranjo Guevara**, Fontys International Business School, Netherlands  
Sonja Floto-Stammen, Michelle Fanter, Anna Maria Conconi, Katerina Ruseva
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- 12:00 - 12:15 **IT'S SMART AND DELICIOUS - HOW TO CONVINCe AMERICANS TO ADOPT INSECT PROTEIN**  
**Joseph Yoon**, Brooklyn Bugs, United States
- 
- 12:15 - 12:30 **BUGS IN SCHOOLS: UNIVERSITIES USING INSECTS TO VALORIZE FOOD WASTE**  
**Sarah Ku**, Georgia State University, United States
- 
- 12:30 - 12:35 **ONLINE SHOPPING OF EDIBLE INSECTS IN MYANMAR**  
**Myint Thu Thu Aung**, Center for Development Research(ZEF), University of Bonn, Germany, Germany  
Jochen Dür
- 
- 12:35 - 12:40 **FACTORS AFFECTING NUTRITIONAL VALUE OF EDIBLE INSECTS AND THEIR ACCEPTABILITY**  
**L. Kourimská**, Czech University of Life Sciences Prague,
-

**INSECT PRODUCTION SYSTEMS/OPTIMIZATION, ENGINEERING, AUTOMATATION & SECURITY - PART 1**

**Chair: Eric Schmitt, Protix B.V., Netherlands**

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- 11:15 - 11:30 **GASEOUS EMISSIONS DURING BLACK SOLDIER FLY REARING IN A MASS-REARING DIET AND PIG MANURE**  
**Alejandro Parodi**, Wageningen University & Research, Netherlands  
Imke J.M. De Boer, Walter J.J. Gerrits, Joop J.J. Van Loon, Marcel J.W. Heetkamp, Jeroen Van Schelt, J.E. Bolhuis, Hannah H.E. Van Zanten
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- 11:30 - 11:45 **COMPARISON OF BLACK SOLDIER FLY ECLOSION SUCCESS IN TWO ENVIRONMENTS: THE IMPACT OF VARIANCE IN TEMPERATURE AND HUMIDITY**  
**Viktoria Wiklicky**, Swedish University of Agricultural Sciences , Sweden  
Cecilia Lalander
- 
- 11:45 - 12:00 **NEW VERTICAL SOLUTION IN AUTOMATIC BSF PRODUCTION**  
**Bob Holtermans**, Insect Engineers, Netherlands
- 
- 12:00 - 12:15 **OPTIMIZING BLACK SOLDIER FLY BREEDING IN TROPICAL CONDITIONS**  
**Aline Malawey**, Nutrition Technologies Sdn Bhd , Malaysia  
Adibah Roslan, Martin Zorrilla
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## November 26, 2020

### KEYNOTE - ALEXANDER MATHYS, ETH ZURICH, SWITZERLAND

Chair: Eric Schmitt, Protix B.V., Netherlands

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08:00 - 08:40 **HOLISTIC SUSTAINABILITY ASSESSMENT OF GLOBAL FOOD SYSTEMS-CHALLENGES, NEEDS AND TOOLS WITH PERSPECTIVE ON INSECTS**  
**Alexander Mathys**, ETH Zurich, Switzerland

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### CIRCULAR ECONOMY & ENVIRONMENTAL SUSTAINABILITY - PART 1

Chair: Alexander Mathys, ETH Zurich, Switzerland

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08:45 - 09:00 **INDUSTRIAL MODULAR TECHNOLOGIES AND SUSTAINABLE CONSEQUENCES OF INSECT PRODUCTION**  
**Sergiy Smetana**, German Institute of Food Technologies (DIL e.V.), Germany  
Eric Schmitt, Svea ltes, Stefan Toepfl, Alexander Mathys, Volker Heinz

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09:00 - 09:15 **SUSTAINABLE INSECT VALUE CHAINS THROUGH INTEGRATION OF ARTIFICIAL INTELLIGENCE ALGORITHMS**  
**Sergiy Smetana**, German Institute of Food Technologies (DIL e.V.), Germany  
Alberto Tonda, Alexander Mathys

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09:15 - 09:30 **INDUSTRY PERSPECTIVE ON INSECT SUSTAINABILITY ASSESSMENT AND GUIDANCE FOR THE INDUSTRY**  
**Eric Schmitt**, Protix, Netherlands  
Sergiy Smetana, Alexander Mathys

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09:30 - 09:45 **INSECT PRODUCTION TO CLOSE THE LOOP: CONNECTING SUSTAINABLE LIVESTOCK AND CROP PRODUCTION**  
**Marcel Dicke**, Wageningen University, Netherlands  
Katherine Barragan-Fonseca, Els van de Zande, Max Wantulla, Chrysantus Tanga, David Mwangi, Joop van Loon, Marcel Dicke

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### QUALITY CONTROL, LEGISLATION & POLICY

Chair: Joash Mathew , IPIFF, International Platform of Insects for Food and Feed, Belgium

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08:45 - 09:00 **IDENTIFYING AUSTRALIANS BARRIERS TO ACCEPTING EDIBLE INSECTS AS AN EMERGING PROTEIN SOURCE**  
**Indee Hopkins**, School of Science, College of Science, Engineering and Health, RMIT University,  
Jessica Danaher, Asgar Farahnaky, Harsharn Gill, Lisa P. Newman

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09:00 - 09:15 **ENTOMOPHAGY AND THE LAW: CHALLENGES AND OPPORTUNITIES OF THE REGULATORY FRAMEWORK IN THE EU AND AROUND THE WORLD**  
**Nicolas Carbonnelle**, Bird & Bird LLP, Belgium

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09:15 - 09:30 **CLARIFYING REGULATORY AND SAFETY LANDSCAPE OF INSECTS AS FOOD AND FEED IN NORTH AMERICA**  
**Gabe Mott**, Aspire Food Group,  
Keith Driver, Gabe Mott

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### INSECT AS FEED/ALTERNATIVE PROTEIN SOURCES & DIET FORMULATIONS - PART 3

Chair: Teun Veldkamp, Wageningen Livestock Research, Netherlands

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08:45 - 09:00 **DIFFERENT PRODUCTION PATHWAYS OF INSECTS MEAL AND THE EFFECTS IN FEED FORMULATIONS**  
**Verena Bösch**, Research Institute of Feed Technology (IFF), Germany

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- 09:00 - 09:05 **THE EFFECT OF SOYBEAN OIL REPLACEMENT BY HERMETIA ILLUCENS FAT ON YOUNG TURKEY PERFORMANCE AND NUTRIENT DIGESTIBILITY**  
**Bartosz Kieronczyk**, Poznan University of Life Sciences, Poland  
 Zuzanna Mikolajczak, Bartosz Kieronczyk, Mateusz Rawski, Wojciech Czekala, Damian Józefiak
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- 09:05 - 09:10 **PARTIALLY DEFATTED BLACK SOLDIER FLY MEAL INCLUSION IN JUVENILE RAINBOW TROUT DIETS: EFFECTS ON GROWTH PERFORMANCES**  
**Côme GUIDOU**, MUTATEC, France  
 Christophe TRESPEUCH, Jorge DIAS
- 
- 09:10 - 09:15 **EVALUATION OF ZOPHOBAS MORIO LARVAE MEAL AS FISHMEAL REPLACER FOR GILTHEAD SEABREAM DIET**  
**Christos Rumbos**, Laboratory of Entomology and Agricultural Zoology, Department of Agriculture, Crop Production an, Pier Psofakis, Georgios Ekonomou, Elena Mente, Christos Rumbos, Christos Athanasiou, Eleni Fountoulaki, Morgane Henry, Ioannis Karapanagiotidis
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- 09:15 - 09:20 **EFFECT OF SOYBEAN OIL REPLACEMENT BY HERMETIA ILLUCENS FAT ON BROILER CHICKENS PERFORMANCE AND NUTRIENTS DIGESTIBILITY**  
**Bartosz Kieronczyk**, Poznan University of Life Sciences, Poland  
 Bartosz Kieronczyk, Mateusz Rawski, Wojciech Czekala, Damian Józefiak
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- 09:20 - 09:25 **BLACK SOLDIER FLY LARVAE AS A SUBSTITUTE FOR SOYBEAN IN THE DIETS OF LAYING HENS**  
**Maïke Heuel**, ETH Zurich, Switzerland  
 Christoph Sandroock, Alexander Mathys, Moritz Gold, Christian Zurbruegg, Michael Kreuzer, Melissa Terranova
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- 09:25 - 09:30 **THE PRELIMINARY STUDY ON INSECT FULL-FAT MEALS PREFERENCES IN GUPPY (POECILIA RETICULATA)**  
**Mateusz Rawski**, Poznan University of Life Sciences, Poland  
 Joanna Kowalska , Natalia Homska , Zuzanna Miko'ajczak, Jan Mazurkiewicz, Agata Józefiak, Bartosz Kiero'czyk, Roksana Wachowiak, Damian Józefiak
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- 09:30 - 09:35 **HOW DO HYDROLYZED INSECT MEALS AFFECT SEA TROUT (SALMO TRUTTA TRUTTA) MICROBIOTA?**  
**Mateusz Rawski**, Poznan Univeristy of Life Sciences,  
 Mateusz Rawski, Jan Mazurkiewicz, Agata Józefiak, Bartosz Kiero'czyk, Damian Józefiak

## CIRCULAR ECONOMY & ENVIRONMENTAL SUSTAINABILITY - PART 2

**Chair: Sergiy Smetana, DIL German Institute of Food Technologies (DIL e.V.), Germany**

- 10:15 - 10:30 **LEARNING FROM A SUSTAINABILITY HOT SPOT ANALYSIS APPLIED TO THE WILD HARVEST CRICKET SECTOR IN MYANMAR**  
**David Allan**, Spectrum - Sustainable Development Knowledge Network, Myanmar, Burma  
 San San Htwe, Heather Legge, Pyae Pyae Thein, Hla Hla Swe
- 
- 10:30 - 10:35 **SUSTAINABLE MODEL FOR AGROENERGY AND FEED PRODUCTION THROUGH THE BLACK SOLDIER FLY AND MICROALGAE ' SMART FEED**  
**Sara Savoldelli**, Department of Food, Environmental and Nutritional Sciences (DeFENS), University of Milan, Italy, Italy  
 Costanza Jucker, Daniela Lupi, Stefania Colombini, Ivan Toschi, Giuliana D'Imporzano, Fabrizio Adani

## INSECT PRODUCTION SYSTEMS/PROCESSING ORGANIC SIDE STREAMS & WASTE MANAGEMENT - PART 3

**Chair: Moritz Gold, ETH Zurich/Eawag, Switzerland**

- 10:00 - 10:15 **INTRODUCTION TO THE EU H2020 PROJECT SUSINCHAIN (SUSTAINABLE INSECT CHAIN)**  
**Teun Veldkamp**, Wageningen Livestock Research, Netherlands  
 Ine van der Fels-Klerx, Nathan Meijer, Martha Octavia
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- 10:15 - 10:20 **DEGRADATION AND PROPOSED PATHWAY OF CIPROFLOXACIN BY BLACK SOLDIER FLY LARVAE COMBINED WITH ITS INTESTINAL MICROBES**  
**Jibin Zhang**, State Key Laboratory of Agricultural Microbiology, National Engineering Research Center of Micro, China  
 Shiteng Ma, Jibin Zhang

10:20 - 10:25 **DYNAMICS OF THE OCCURRENCE OF THE ARGS DURING CATTLE MANURE PROCESSING BY HERMETIA ILLUCENS**  
**Jana Vašířková**, Masaryk University, RECETOX, Czech Republic  
David Zim'ík, Tomáš Persa', Lenka Micenková

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10:25 - 10:30 **THE ROLE OF THE BLACK SOLDIER FLY, HERMETIA ILLUCENS L. (DIPTERA: STRATIOMYIDAE) IN COMBATING MUNICIPAL WASTE IN WINDSOR-ESSEX**  
**Patricia Okpara**, University of Windsor, Canada  
Sherah VanLaerhoven

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10:30 - 10:35 **BIOMASS AND CHEMICAL COMPOSITION OF MUSCA DOMESTICA L. 1758 MAGGOTS BREED ON DIFFERENT FEEDING SUBSTRATES AVAILABLE IN THE AGRICULTURAL ENVIRONMENT OF NIAMEY (NIGER)**  
**Caparros Rudy**, Gembloux Agro-Bio Tech, Belgium  
MOUSSA OUSMAN Zakari, Francis Frédéric, Caparros Rudy

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### **KEYNOTE - HEINRICH KATZ, IPIFF, BELGIUM**

**Chair: Grant Vandenberg, University Laval, Canada**

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10:40 - 11:20 **INSIGHTS INTO IPIFF ACTIVITIES AND EU POLICY ENVIRONMENT FOR THE INSECT SECTOR**  
**Heinrich Katz**, IPIFF, Belgium

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### **KEYNOTE - MOHAMMED ASHOUR, ASPIRE, CANADA**

**Chair: Marie-Hélène Deschamps, University Laval, Canada**

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11:20 - 12:00 **KEYNOTE - MOHAMMED ASHOUR, ASPIRE, CANADA**  
**Mohammed Ashour**, Aspire, Canada

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### **CLOSING CEREMONY**

**Chair: Grant Vandenberg, University Laval, Canada**

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12:00 - 12:30 **CLOSING CEREMONY**