



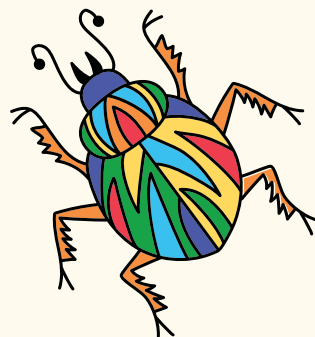
SCIENTIFIC PROGRAM

March 6, 2018, Israel

08:00-08:30 **Gathering & Registration**

08:30-09:00 **Opening ceremony**
The story of Afula
Mr. Itzhak Mirone, Mayor of Afula

Honorary president
Prof. Dan Shechtman,
2011 Nobel Laureate in Chemistry



Introductory Remarks
Shimon Steinberg, BioBee, Sde Eliyahu Ltd., Israel

09:00-09:45 **Plenary talk**
Exploring the potential of arthropods to improve the quality of life
Arnold van Huis, Laboratory of Entomology, Wageningen University and Research, Wageningen, The Netherlands

SESSION 1: INSECTS IN AGRICULTURE, FOOD AND FEED
Chair: Uri Lesmes, Technion – Israel Institute of Technology, Israel

09:45-10:15 **Plenary talk**
Sustainable food and feed processing based on insect value chains
Alexander Mathys, ETH Zurich, Sustainable Food Processing Laboratory, Institute of Food, Nutrition and Health IFNH, Department of Health Science & Technology D-HEST, Switzerland

10:15-10:35 **Harnessing insect symbionts for combating pests**
Einat Zhorri-Fein, Agriculture Research Organization, Neve Yaar, Israel

10:35-11:05 **Coffee break**

11:05-11:25 **Interrelationships between honeybees and bumblebees pollinating fruit trees: Synergy or Antagonism?**
Raffi Stern, Galil R&D, Israel

11:25-11:45 **From rearing to edible insect powders - nutritional, sensorial and functional properties of honeybee brood and grasshopper**
Itzik Martinez & Ofir Benjamin, Tel Hai College, MIGAL, Israel

SESSION 2: INSECTS IN HUMAN HEALTH, ENVIRONMENT AND SECURITY

Chair: Einat Zhori-Fein, Agriculture Research Organization, Neve Yaar, Israel

11:45-12:05 **The use of maggots in medicine: past, present and vision**
Eyal Melamed, Israeli Foot and Ankle Society, Foot and Ankle Service, Department of Orthopaedics, Rambam Health Care Campus, Israel

12:05-12:25 **Insects as inspiration for miniature flying robots**
Gal Ribak, School of Zoology, Tel Aviv University, Israel

12:25-12:45 **The black soldier fly's contribution to the environment: sustainable reduction of organic wastes**
Liora Shaltiel-Harpaz, IPM Northern R&D/Tel-Hai College, Israel

12:45-13:15 **Plenary talk**
From "Spray 'em and slay 'em" to "Rear and release": Changing paradigms of dengue control
Scott Alexander Ritchie, College of Public Health, Medical and Veterinary Sciences, Australian Institute of Tropical Health and Medicine, James Cook University, Cairns Queensland, Australia

13:15-14:00 **Lunch**

14:00-14:15 **Biomimicry of Insects**
Dubi Benyamini, The Israeli Lepidopterists Society



SESSION 3: INSECTTECH: INNOVATIONS, THE BUSINESS ARENA

Chair: Nitza Kardish, Trendlines Incubator, Israel

14:15-14:25 Eran Gronich - **Flying Spark**

14:25-14:35 Arjan Koppert - **Bestico**

14:35-14:45 Ben Friedman - **Hargol FoodTech**

14:45-14:55 Matthieu Vermersch - **New Protein**



14:55-15:45

Panel

Business with insects - Entrepreneurships, investments, policy and regulation

Moderator: Nitza Kardish, Trendlines Incubator, Israel

Panel: Eran Gronich (Flying Spark), Arjan Koppert (Bestico), Ben Friedman (Hargol FoodTech), Matthieu Vermersch (New Protein), Gideon Zusman (Greensoil), Amir Ayali (Tel Aviv University), Shaul Bassi (Gevasol), Joe Wyse, (Eyal Bressler & Co. Ltd.)

15:45-16:00 **Coffee break**

16:00-16:15 **Afula hub for beneficial expression of insects**

Yoram Yerushalmi, Afula Center of Beneficial Insects - head

16:15-17:00 **Keynote speaker**

"Insect colors and colors from insects"

Prof. Dan Shechtman, 2011 Nobel Laureate in Chemistry

17:00-18:00 **FAREWELL RECEPTION**

INVITED SPEAKERS



Prof.Dr.Ir. Arnold van Huis

*Laboratory of Entomology,
Wageningen University and Research, Wageningen,
The Netherlands*

Prof.Dr.Ir. Arnold van Huis completed his undergraduate studies at the State Horticultural College in Utrecht and his graduate studies at Wageningen University in the Netherlands.

He worked from 1974 to 1979 in Nicaragua for the Food and Agriculture Organization (FAO) of the United Nations in a research project on integrated pest management (IPM) in food grains. Based on these studies he got his PhD from Wageningen University. From 1982 to 1985 he coordinated in Niger a regional crop protection training project for eight Sahelian countries. From 1985 to 2015 he worked as tropical entomologist at Wageningen University, the Netherlands, and has been responsible for a number of IPM and biological control projects in tropical countries. From 2000 to 2014 he coordinated a project dealing with interdisciplinary agricultural research in three West African countries. Since 2015 he is emeritus professor and concentrates on insects as food and feed. He supervised 24 PhD theses, published more than 280 papers of which 150 refereed, co-authored three books and edited more than 10 conference proceedings. In 2013 he published with FAO the book 'Edible insects: future prospects for food and feed security' which has been downloaded seven million times. He is also the first author of the 'The insect cookbook' published in 2014 by Columbia University Press. In 2017 he (co) edited the book "Insects as food and feed: from production to consumption". In 2014 he organised with FAO the conference 'Insects to feed the world', attended by 450 participants from 45 countries. From 2010 to 2014 he was responsible for a Netherlands' funded project entitled 'Sustainable production of insect protein'. He is chief editor of the Journal of Insects as Food and Feed. On edible insects, he (co)authored several book, ten book chapters, and 20 refereed and 10 non-refereed publications. Each year he gives numerous presentations in and outside the Netherlands on ecological services of insects, and in particular on insects as food and feed.



Prof. Dr.-Ing. Alexander Mathys

ETH Zurich

Head of Sustainable Food Processing Laboratory

Institute of Food, Nutrition and Health IFNH

Department of Health Science & Technology D-HEST

Prof. Dr.-Ing. Alexander Mathys is food technologist and received his Ph.D. in food processing in 2008. He is

Assistant Professor (Tenure Track) in Sustainable Food Processing at the ETH Zurich, Switzerland since 2015, where he is focusing on more efficiency and sustainability of value chains in food and feed. His current research focus is on material and energetic utilization of plant based side streams, micro process engineering and extrusion for tailored structure formation and synthesis, innovative multi hurdle technologies for gentle preservation of healthy and high quality food, novel protein sources from algae and insects to improve food security as well as life cycle sustainability assessment as basic analysis in food processing. Dr. Mathys was Head of the Bioeconomy Department at German Institute of Food Technologies DIL with 10 direct report in 2012-2015. He was expert in non-thermal preservation and sterilization technologies at the Nestlé Research Centre Lausanne in 2009-2012. Dr. Mathys is the author of 60 publications and attended more than 80 international conferences. He won several prestigious research awards at the International Union of Food Science and Technology IUFoST, International Congress on Engineering and Food ICEF, Institute of Food Technologists IFT and European High Pressure Research Group EHPRG. Furthermore Dr. Mathys was selected “Young Researcher” of the 60th Meeting of Nobel Laureates 2010, “Einstein Young Scholar 2010” and “A.T. Kearney Scholar 2011 & 2012 at the Falling Walls conferences. He also served as lecturer, teacher, reviewer and supervisor with several universities and organizations.



Scott Alexander Ritchie, Ph.D

NHMRC Research Fellow,

Professor, College of Public Health, Medical and Veterinary Sciences

Australian Institute of Tropical Health and Medicine, James Cook University, Cairns Queensland, Australia

I received my BS and MS in entomology from Iowa State University, and PhD from the University of Florida. I worked at Collier Mosquito Control District in Naples, Florida from 1981-1992 before moving to take a position at the Queensland Institute of Medical Research in Brisbane Australia in 1992. From 1994 – 2011 I was employed as Director, Medical Entomology at the Tropical Regional Services (formerly Tropical Public Health Unit), the preventative health arm of Queensland Health in North Queensland Australia. There I have helped develop the world recognised Dengue Fever Management Plan for North Queensland. I have been a principal investigator in the Eliminate Dengue program funded by the Bill and Melinda Gates Foundation since its inception in 2005. This innovative project utilises the bacterium *Wolbachia* to prevent the dengue vector *Aedes aegypti* from transmitting dengue viruses. I am currently employed as a NHMRC Professorial Research Fellow at the James Cook University's College of Public Health, Medical and Veterinary Sciences, and the Australian Institute of Tropical Health and Medicine. I am also involved in new projects studying the potential impact of global warming on dengue in Australia, new pesticides for the control of *Ae. aegypti* and *Ae. albopictus* and the development of novel passive mosquito traps for the detection of pathogens in mosquitoes and other disease vectors. I am currently involved in applications of "rear and release" biological control of Aedes-borne diseases using the bacterium *Wolbachia*.

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