



An international Symposium & Networking Event

NEW IPM Emerging Opportunities

2-4 SEPTEMBER, 2024



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Sunday 1st September

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|--------------|--------------|---|
| 10.00 | 16.00 | Visit to Botanical Gardens
<i>The bus will pick guest up from the Great Hall at 10.00 am and drop off at 16.00. Please be in touch with a member of team if you have not registered and would like to visit the Botanical Gardens</i> |
| 12.00 | 18.00 | Exhibition Set-up
<i>Exhibitors can set-up their exhibition stands on Sunday from 12.00 pm to 18.00 – Exhibitors joining on Monday can setup from 08.30 am on the day</i> |
| 18.00 | 20.00 | Welcome Reception Drinks at The Great Hall
<i>The Welcome Reception will be held in the Gallery of the Great Hall from 18.00 to 20.00</i> |

Wi-Fi

Academic visitors can access University Wi-Fi via Eduroam connection. Our free Wi-Fi network for non-academic visitors to the University is called **SwanseaUni- Visitors**. This is an open network which requires users to sign in via a web page:

- 1.** View the list of available wireless networks on your device.
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- 3.** If you are not automatically redirected to sign in, please open a browser on your device and navigate to **<https://socialwifi.swansea.ac.uk>** to complete the process.
- 4.** Once you are connected you should be prompted to sign-in, follow the log-in instructions.

Symposium Session Topics

Session Number	Session Title	Chair
1	Opening Session	Dr Ian Baxter & Prof. Tariq Butt (IBMA UK & Swansea University)
2	Vectors and Nuisance Pests	Dr Peter McEwen (PKMC Consultants)
3	Semiochemicals	Dr Mary Ellis (PheroSyn)
4	Tree Health	Richard Hunter (Confor)
5	Bee Health and Entomovectoring	Dr Erica Shelley (Best for Bees)
6	Microbial Biopesticides	Dr Steve Edgington (CABI)
7	AI and Sensor Applications	Dr Ginu Rajan (Cardiff Metropolitan University)
8	IPM Challenges	Dr Belinda Luke (CABI)
9	Multi-functional Microbes	Dr Caroline Reid (Bioline Agrisciences)
10	Regulatory Challenges	Dr Ian Baxter (IBMA UK)
11	Investment & Commercialization Landscape	Mark John (Tramshed Tech)

Monday 2nd September

8.45	9.00	Welcome and Housekeeping – The Great Hall
9.00	9.15	Session 1 (Room GH 043): “Opening Session” Dr Ian Baxter (IBMA UK) & Dr Tariq Butt (Swansea University, UK)
9.15	9.35	Dr Owen Jones (Lisk & Jones Ltd, UK) The Role of Semiochemicals in Lure and Kill Approaches for the Control of Mosquitoes and Sandflies
9.35	9.50	Dr John Caulfield (Rothamstead Research, UK) Sentinel Crop Disease Surveillance Network: A Novel Tool for Integrated Pest Management
9.50	10.10	Dr Sheridan Woo (University of Naples Federico II, Italy) Microbial Consortia in Agriculture – Using Nature’s Biodiversity for Eco-Sustainability
10.10	10.30	Jack Haslam (Fargro Ltd., UK) The Holistic Approach to Plant Disease Management
10.30	11.00	Refreshments and Networking Break
Session 2 (Room GH 043): “Vectors and Nuisance Pests” Chair: Dr Peter McEwen (PKMC Consultants, UK)		
11.00	11.15	Dr Martyn Wood (IMBB-FORTH, Greece) Discovery and Screening of Novel Bacteria, their Sonicates and their Solvent Extracts against <i>Culex pipiens molestus</i> larvae
11.15	11.30	Dr Richard Samuels (UENF, Brazil) A Novel Mosquito Trap (MataAedes) for the Control of Adult <i>Aedes</i> and <i>Culex</i> in Residences
11.30	11.45	Dr Alicia Showering (Bug Biome, UK) Microbial Insights: Unravelling Natural Differences in Human Attractiveness to Mosquitoes for Next-Generation Mosquito Repellents
11.45	12.00	Dr Richard Naylor (CimexStore, UK) Developing Products for Bedbug Control in a Realistic Test Environment
12.00	12.15	Dr Sare Yavaşoğlu (Aydın Adnan Menderes University, Turkey) New Repellent for Disease Vectors
12.15	12.30	Dr Sanjay Basu (Oxitec, UK) Friendly™ insects: A Genetic Pest Management Solution Now Scaling and Serving Communities
12.30	14.00	Lunch and Networking Break

Session 3 (Room GH 043): "Semiochemicals"

Chair: Dr Mary Ellis (PheroSyn)

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| 14.00 | 14.15 | Dr Mary Ellis (PheroSyn, UK)
PheroSyn's Technology Breaks Open the Marketplace to more Chemically Complex Pheromone Monitoring Tools |
| 14.15 | 14.30 | Dr Nayem Hassan (Russell IPM, UK)
Low-Cost Attraction Technology for Controlling Female Fruit Flies: Bionock as a Versatile Attractant for Medfly, Oriental Fruit Fly, and Cucurbit Fruit Fly |
| 14.30 | 14.45 | Dr David Hallahan (Entomol, USA)
Catmint Essential Oil as a Feedstock for a Range of Insect Control Products |
| 14.45 | 15.00 | Dr David Withall (Rothamstead Research, UK)
Understanding Insect Olfactory Mechanisms to Underpin Semiochemical Based IPM Strategies |
| 15.00 | 15.15 | Chris Wheeler (Chris Wheeler Consulting LLC, USA) – <i>Pre-recorded talk</i>
Applying Insights of the Molecular Biology of Olfactory Reception to New IPM Strategies |

Session 4 (Room GH 043): "Tree Health"

Chair: Richard Hunter (Confor)

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| 15.15 | 15.30 | Richard Hunter (Confor, UK)
The landscape of UK Forestry Politics and Pest Overview |
| 15.30 | 15.45 | Dr Roger Moore (Forest Research, UK)
Large Pine Weevil, <i>Hylobius abietis</i>, an Intractable Pest of Forestry Restocking |

15.45 16.00 Refreshments and Networking Break

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| 16.15 | 16.30 | Dr Milan Pernek (Arbofield, Croatia)
Possibilities of Controlling the Oak Lace Bug with the Entomopathogenic Fungus <i>Beauveria pseudobassiana</i> in Forests |
| 16.30 | 16.45 | Jarl Markus Petterson (Norsk Wax, Norway)
Ekovax in Scandinavia and UK |
| 16.45 | 17.00 | Lea Brandes (Forestry England, UK)
Integrated Pest Management in Forest Nurseries – Opportunities and Challenges |
| 17.00 | 17.15 | Euan Wilkie (Scottish Woodlands, UK)
Observations from Field Trials on the Potential Benefits and Challenges of Pesticide Free Weevil Control Methods |
| 17.15 | 17.30 | Alice Snowden (Cheviot Trees, UK)
Forestry Nursery Challenges - The Wishlist |

18.00 20.00 **BBQ Dinner at the Great Hall – Bay Campus**

Tuesday 3rd September

8.45		9.00		Welcome and housekeeping – The Great Hall	
Session 5 (Room GH 043): “Bee Health and Entomovectoring” Chair: Dr Erica Shelley (Best for Bees)					
9.00	9.15	Dr Erica Shelley (Best for Bees, Canada) Innovative Approaches to Hive Health: Bee Vectoring and the ProtectaBEE® for Varroa and Disease Management			
9.15	9.30	Dr Norman Carreck (Carreck Consultancy Ltd., UK) Current and Future Threats to Apiculture and Bee Health			
9.30	9.45	Dr Pavel Foltan (i2L Research Europe s.r.o, Czechia) Automation and Digitization of the Data Collection and Processing in Honey Bee Tunnel Tests to Enhance Introduction and Monitoring of Precise, Sustainable, and Less Intrusive Pest Management Practices for Flowering Crops			
9.45	10.00	Charlotte Coates (University of Guelph / Royal Brinkman, Canada) Apivectoring of Fungal Entomopathogen, <i>Beauveria bassiana</i> Strain GHA, for Suppression of Thrips on Commercial Greenhouse Strawberries: A Real-Life Study			
10.00	10.15	Dr Guy Smagghe (Vrije Universiteit Brussel, Belgium) A Walk of 20 Years for Bumble Bee health: From Risk Assessment of Pesticides Towards Entomovectoring for Enhanced Pollination and Biocontrol			
10.15	10.30	Dr Peter Arnold (Swansea University, UK) Sensor Swarms to Monitor Honeybee In-hive Behaviour			
10.30		11.00		Refreshments and Networking Break	
		Session 6 (Room GH 043): “Microbial Biopesticides” Chair: Dr Steve Edgington (CABI, UK)		Session 7 (Room GH 049): “AI and Sensor Applications” Chair: Dr Ginu Rajan (Cardiff Metropolitan University, UK)	
11.00	11.15	Dr Tim Lacey (Hutchinsons, UK) First Year Experience of LALGUARD M52 OD (<i>Metarhizium brunneum</i> strain Ma43) Foliar Bioinsecticide for Reduction of Soft-bodied Pests in Commercial Crops		Dr Martin Peacock (Zimmer & Peacock, UK) In-field/Near-field Analyte Testing for decision making in Agriculture and Food Production	
11.15	11.30	Bryan Limerick (Lallemand, UK) The Application and Integration of <i>Metarhizium brunneum</i> strain		Dr Waye Zhang (Swansea University, UK) Electrochemical Sensor for Emerging Micropollutant Detection in Water or	

Ma43 in Commercial IPM Programmes

Capacitive Deionisation (CDI) for Water Desalination and Treatment

11.30	11.45	Dr Alicia Showering (BugBiome, UK) Microbial Solutions for Aphid Control	Dr Adrian Crew (University of West England, UK) Sensing Solutions in Soil Biodiversity and Carbon Monitoring; From Acoustics to Biosensing
11.45	12.00	Dr Belinda Luke (CABI, UK) The Holistic Approach of Controlling Fall Armyworm (FAW) with <i>Metarhizium rileyi</i> in Zambia	Carl Rentes (Vivent BioSignals, Switzerland) Monitoring Biotic Stress using Plant Electrophysiology
12.00	12.15	Dr Colin Berry (Cardiff University, UK) The BPPRC Databases and their Utility for Pest Control Planning	Dr Leshan Uggalla (University of South Wales, UK) Sensors for Environmental Monitoring: Applications, Technologies, Success Stories, Challenges, and Limitations
12.15	12.30	Dr Rihem Moujahed (Russell IPM, UK) Integrated Biorational Control of Fall Armyworm and Rice Yellow Stem Borer, with Mating Disruption (MD) and <i>Metarhizium brunneum</i> (MB) Soil Treatment	Ross Haffenden (OptiGene Ltd., UK) Accurate Identification of Pests and Diseases using Automated, Rapid, Cost Effective Molecular Diagnostic Tools - How do we make Appropriate Control Decisions and Take Action in Real-time

12.30 14.00 Lunch and Networking Break

14.00	14.15	Dr Imke Sittel (Glaia, UK) Innovating Agriculture at Microscopic Level: Using Nanotechnology to Boost Photosynthesis	Dr Tim Lacey (Hutchinsons, UK) Precision Orchard Management for the Environment (POME): Developing Commercially Viable Systems for Sensing and Applying Orchard Inputs
14.15	14.30	Dr Atif Jamal (PARC, Pakistan) Biopesticide-driven Aflatoxin Control in Pakistan	Wanissa Mellikeche (UNIFG, Italy) Rapid Detection of Mycotoxigenic <i>Aspergillus</i> spp. Associated with Pistachios using Loop-mediated Isothermal Amplification (LAMP)
14.30	14.45	Benjamin Willem Moorlach (Bielefeld University of Applied Sciences and Arts, Germany) Formulation of <i>in-vivo</i> Produced Long Double-stranded RNA for Plant Protection	Matthew John Sparks (Swansea University, UK) Characterisation and Manipulation of Urban Light Environments for Fly Control

14.45	14.55	Dr Yury Noskov (ISEA, Russia) Some Aspects of Survival and Infectious Diseases of the Colorado Potato Beetle During Hibernation: Prospects for Forecasting and Population Control	Dr Bahadir Kocer (University of Bristol, UK) – <i>Pre-recorded talk</i> Towards Eco-Friendly Aerial Robots for Environmental Monitoring and Data Collection
14.55	15.05	Dr Vadim Kryukov (ISEA, Russia) Approaches to Manipulate the Insect Microbiota and Immunity to Enhance the Effectiveness of Entomo-pathogenic Fungi	Dr Shakir Al Zaidi (Russell IPM) Trupest, ibug and ipest – A digital IPM Package
15.05	15.20	Javier Dominguez Caceres (WB Chambers Farms LTD, UK) Integrated Berry Production: Challenges and Findings (A farmer’s Perspective)	Philippe LeCarpentier (Hygieia, UK) – <i>Pre-recorded talk</i>
15.20	15.35	Daniel Iddon (Woodland Grow, UK) Microbial Community to Mimic Woodland Soils – Fungi Bio-fertiliser Innovation Work Sam Rivers (ICL Group, UK) – <i>Pre-recorded talk</i> LalGuard – A Powerful Biological Insecticide	

15.35 16.30 Poster Session & Refreshment and Networking Break

18.30 23.00 GALA DINNER at the Great Hall – Bay Campus

Wednesday 4th September

8.45	9.00	Welcome and housekeeping – The Great Hall	
		Session 8 (Room GH 043): “IPM Challenges” Chair: Dr. Belinda Luke (CABI, UK)	Session 9 (Room GH 049): “Multi-functional Microbes” Chair: Dr Caroline Reid (Bioline Agrisciences, UK)
9.00	9.15	Lori-Leah Griffiths (Fargro Ltd., UK) The Holistic Approach to Plant Pest Management	Dr Vassili Kouvelis (University of Athens, Greece) <i>Metarhizium's</i> Versatile Roles in Nature: Genomic Insights into Its Entomopathogenic and Endophytic Capabilities
9.15	9.30	Dr Tim Lacey (Hutchinsons, UK) Evaluating Commercial IPM Strategies for Sustainable Codling Moth (<i>Cydia pomonella</i>) Control in Apples	Dr Hamad Saeed (Myerscough College, UK) The Potential of Microbial Biostimulants in Enhancing Arable Farming
9.30	9.45	Hannah Fenton (Fera Science Ltd., UK / Newcastle University, UK) Combatting Pesticide Resistance in Insects using Botanical Bio-synergists	Dr Garreth Thomas (Rothamstead Research, UK) The use of Entomopathogenic Fungi for Improved Pest Management: A Chemical Ecology perspective
9.45	10.00	Martyn Cox (Blackthorne Arable, UK) Developing Integrated Solutions for Wireworm Management in the UK	Dr Nayem Hassan (Russell IPM, UK) Enhancing Class One Fruit Yield in Poly Tunnel-Grown British Strawberries with Two Multifunctional Bio-Stimulants, Recharge and Yokosan
10.00	10.15	Dr Rachid Bouharroud (NIAR, Morocco) Current Status of Integrated Pest Management of Thrips on Blueberry Crops in Morocco	Dr Ana Carolina Loreti Silva (UENF, Brazil) Effects of Endophytic Colonization of Tomato Plants (<i>Solanum lycopersicum</i>) by the Entomopathogenic Fungus, <i>Beauveria bassiana</i>, on Phytotechnical and Productive Parameters in the Field
10.15	10.30	Prof Chedly Tizaoui (Swansea University, UK) Water and the Agrifood Chain	Dr Javad Karimi (Ferdowsi University of Mashhad, Iran) Entomopathogenic Fungi, <i>Beauveria bassiana</i> and <i>Metarhizium anisopliae</i>, as Endophyte Primed Immune Responses of Tomato Plant to Herbivory

10.30	10.40	Dr Muhammad Musa Khan (Zhejiang University, China) UV-Mediated Immune Response and Interference with Integrated Pest Management Strategies	Dr Spiridon Mantzoukas (University of Ioannina, Greece) – <i>Pre-recorded talk</i> Development of Synergistic Microbial Consortia, an Element Key at the Modern Crop Protection
		Dr Federico Lopez-Moya (University of Alicante, Spain) – <i>Pre-recorded talk</i> Pochonia chlamydosporia: A Biofactory for IPM	Dr Lucía Adriana Escudero-Colomar (IRTA, Spain) – <i>Pre-recorded talk</i> Evaluation of Three Strains of <i>Metarhizium brunneum</i> Petch for the Control of <i>Halyomorpha halys</i> (Stål) Adults

10.40 11.00 Refreshments and Networking Break

Session 10 (Room GH 043): “Regulatory Challenges”

Chair: Dr Ian Baxter (IBMA UK)

11.00	11.15	Dr Ian Baxter (IBMA UK) Microbial Biopesticides - A Regulatory Checklist for Developing New Products
11.15	11.30	Murray Smedley (Barkwith Associates, UK) The Need for Biopesticide Reform in Europe and the UK
11.30	11.45	Hassan Awashra (i2L Research Ltd., UK) Challenges and Practicalities of Biopesticides Product Testing in Crops
11.45	12.00	Dr Neil Audsley (Fera Science Ltd., UK) Preparedness in Biological Control
12.00	12.15	Dr Barry Brogan (Enviresearch, UK) Biopesticide Testing – The Challenges of Fitting in with Regulations and Guidance Designed for Synthetic Agrochemical Products
12.15	12.30	Alex Wilder (Health and Safety Executive, UK) Biopesticide Regulation in the UK

12.30 14.00 Lunch and Networking Break

Session 11 (Room GH 043): “Investment & Commercialization Landscape”

Chair: Mark John (Tramshed Tech)

14.00	14.15	Dr David Pickernal & Dr Laura Wilkinson (Swansea University, UK) Transforming the Innovation and Commercialization Journey with Consumer Psychology
14.15	14.30	Evert Hamblok (HeyFever Consulting, Belgium) Integrating Regulatory Assessments into Early-Phase Market Access Strategies

14.30	14.45	Paul Laniran (Innovate UK) Funding for Research and Innovation in Agriculture
14.45	15.00	Dr Pedro Carvalho (Innovate UK – Business Connect) What Makes a Good Application & Consortium?
15.00	15.15	Dr Fawzi Belblidia (ASTUTE, UK) ASTUTE Centre of Excellence Partner of Innovate UK Analysis for Innovators Funding Scheme
15.15	16.15	Panel Discussion - Investment & Commercialization Landscape Panelist: <ul style="list-style-type: none"> • Mark John - Tramshed Tech (Chair) • Phil Sampson - PwC • Russell Greenslade - BID/Invest in Swansea • Carl Griffiths – Development Bank of Wales, Tech Seed Fund • Mike McMahon – Royal Academy of Engineering • Jason Coleman – Barclays Eagle Labs
16.15	16.30	Closing Remarks

16.30

Close of Symposium

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