



President: Professor Peter Shewry BA, BSc, PhD, DSc



PROGRAMME

Advances in Nematology

Association of Applied Biologists
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Advances in Nematology

at the Linnean Society of London, Piccadilly, UK

on Tuesday 16 December 2014

The conference is a one day event at the Linnean Society, one of five Learned Societies built around the courtyard of Burlington House, located in Piccadilly London. This event has been taking place at this prestigious location for many years, and is an excellent one day event run by people with a passion for the field of nematology. The conference provides an excellent opportunity for networking with UK and International nematologists.

This conference invites contributions from all areas of nematology, and actively invites students to participate, in both platform and poster presentations. A student prize in honour of Professor Brian Kerry will be presented to the best student platform presentation.

This year we have three Invited speakers well-experienced in the fields of applied and molecular nematology, to illustrate the breadth and depth of current investigations.

PROGRAMME

(4 BASIS points have been awarded as follows: 2 CP and 2 E)

TUESDAY 16 DECEMBER

09:30 COFFEE and REGISTRATION

09:50 **AGM and INTRODUCTION TO GROUP MEMBERS**
BARBARA PEMBROKE (University of Reading, Reading, UK)

Session one

Chair: ROSA MANZANILLA-LOPEZ (Consultant Nematologist, Visiting Professor National Polytechnic Institute of Mexico)

10:00 *Invited speaker*
Management of *Meloidogyne* problems in intensive vegetable production in Southern Spain. From conventional to IPM and organic production
MIGUEL TALAVERA (Institute for Research and Training in Agriculture and Fisheries of Andalusia, IFAPA Centro Camino de Purchil, Granada, Spain)

10:40 *Invited speaker*
Root knot nematode genomes; understanding their evolution, diversity, and threat through comparative genomics
DAVID H LUNT (University of Hull, Hull, UK), SUJAI KUMAR, GEORGIOS KOUTSOVOULOS (University of Edinburgh, Edinburgh, UK), AMIR SZITENBERG (University of Hull, Hull, UK) & MARK L BLAXTER (University of Edinburgh, Edinburgh, UK)

11:20 BREAK

11:30 **Plant-mediated interactions between the peach-potato aphid, *myzus persicae* and the potato cyst nematode, *Globodera pallida***
GRACE A HOYSTED, CATHERINE J LILLEY (University of Leeds, Leeds, UK), MICHAEL DICKINSON (Food and Environment Research Agency, York, UK), SUE E HARTLEY (University of York, York, UK) & PETER E URWIN (University of Leeds, Leeds, UK)

11.50 **Worms vs Germs: Genetic and genomic analysis of host pathogen interactions**

ROBBIE RAE (Liverpool John Moores University, Liverpool, UK)

12.10 **The levamisole-sensitive nicotinic acetylcholine receptor of *Globodera pallida***

JESSICA MARVIN (University of Leeds, Leeds, UK), ANNA CRISFORD (University of Southampton, Southampton, UK), LAURA JONES, CATHERINE LILLEY (University of Leeds, Leeds, UK), VINCENT O'CONNOR, LINDY HOLDEN-DYE (University of Southampton, Southampton, UK), CEDRIC NEVEU (Université François Rabelais de Tours, Tours, France) & PETER URWIN (University of Leeds, Leeds, UK)

12.30 ONE MINUTE POSTER PRESENTATIONS

Posters

Contrasting cell wall molecular architecture of *Meloidogyne incognita* feeding sites in monocotyledonous and dicotyledon plants

REFIK BOZBUGA, CATHERINE J LILLEY, J PAUL KNOX & PETER E URWIN (University of Leeds, Leeds, West Yorkshire, UK)

Host Immune Priming and Entomopathogenic Nematode Infectivity

CHRISTOPHER JACOBS & CHRISTOPHER HARVEY (Canterbury Christchurch University, Canterbury, Kent)

Analysis of protein expression in maize (*Zea mays*) in response to *Meloidogyne arenaria* infection

ARNIKA PRZYBYLSKA & ALEKSANDRA OBREPALSKA-STĘPŁOWSKA (Institute of Plant Protection – National Research Institute, Poznań, Poland)

Novel approaches for the management of leaf and bud nematodes (*Aphelenchoides* spp.) in hardy nursery stock

IDOWU ROTIFA (Scotland's Rural College, Edinburgh, UK; University of Edinburgh, Edinburgh, UK) ANDY EVANS1, DALE WALTERS (Scotland's Rural College, Edinburgh, UK) & GARY LOAKE (University of Edinburgh, Edinburgh, UK)

Chemoecological interactions in plant parasitic nematodes

RASA ČEPULYTĖ-RAKAUSKIENĖ & VINCAS BŪDA (Nature Research Centre, Institute of Ecology, Vilnius, Lithuania)

Assessment of leaf and root extracts from *Brassica juncea* and *Raphanus sativus* on the viability of *Globodera pallida* encysted eggs *in vitro*

BRUNO M NGALA, P P J HAYDOCK, S WOODS & M BACK (Harper Adams University, Newport, Shropshire, UK)

Feeding-site formation by RKN: The right-time/right place model

D McK BIRD and MANY COLLEAGUES (Bioinformatics Research Center and Department of Plant Pathology, NC State University, Raleigh, NC, USA)

Investigating the neuropharmacological regulation of stylet behaviour in *Globodera pallida*

JAMES KEARN, FRANCESCA KEEFE, ADAM DOREY (University of Southampton, Southampton, Hampshire, UK), CATHERINE LILLEY, PETER URWIN (University of Leeds, Leeds, West Yorkshire, UK), VINCENT O'CONNOR & LINDY HOLDEN-DYE (University of Southampton, Southampton, Hampshire, UK)

Characterising the neurobiological basis of invasion behaviours of plant parasitic nematodes

ANNA CRISFORD (University of Southampton, Southampton, Hampshire, UK), JESSICA MARVIN (University of Leeds, Leeds, West Yorkshire, UK), ELISABETH LUDLOW (University of Southampton, Southampton, Hampshire, UK), CATHERINE LILLEY (University of Leeds, Leeds, West Yorkshire, UK), VINCENT O'CONNOR (University of Southampton, Southampton, Hampshire, UK), PETER URWIN (University of Leeds, Leeds, West Yorkshire, UK) & LINDY HOLDEN-DYE (University of Southampton, Southampton, Hampshire, UK)

An initial assessment of a novel class of low risk nematicide on potato cyst nematodes (*Globodera* spp)

VICTORIA TAYLOR (ARCIS Biotechnology, Warrington, UK), MATTHEW BACK & IVAN GROVE (Harper Adams University, Shropshire, UK)

Biological aspects of new *Steinernema feltiae* isolates from Chile

EMEM OTON, BARBARA PEMBROKE (University of Reading, Reading, UK) & STEVE EDINGTON (CABI Europe, Egham, UK)

Announcement of a new International Conference on Nematode Pests of Potato

IVAN GROVE (Harper Adams University, Newport, Shropshire, UK)

12:45 LUNCH

13:45 **Poster Session**

Session two

Chair: SUE HOCKLAND (Plant Nematode Consultant, Harrogate, North Yorkshire, UK)

14:15 **Invited speaker**

The Mitogenome Toolbox

TIM LITTLEWOOD (Natural History Museum, London, UK)

14.55 **Molecular characterization of *Aphelenchoides besseyi* populations reveals two genotypes**

DALILA S DE JESUS (Universidade Federal de Viçosa, Minas Gerais, Brazil), DAVID M ROBERTS, ROY NEILSON & VIVIAN BLOK (The James Hutton Institute, Dundee, UK)

15:15 **Revealing the molecular architecture of syncytia induced by cyst nematodes**

LI ZHANG, CATHERINE J LILLEY, JOHN P KNOX & PETER E URWIN (University of Leeds, Yorkshire, UK)

15.35 **Developing nematode resistant banana for Sub-Saharan Africa**

H RODERICK (University of Leeds, Yorkshire, UK), A BABIRYE (International Institute of Tropical Agriculture, Kampala, Uganda), J TRIPATHI, L TRIPATHI (International Institute of Tropical Agriculture, Nairobi, Kenya), P E URWIN, & H J ATKINSON (University of Leeds, Yorkshire, UK)

15:55 TEA & POSTERS

16:25 **Integrated management of Potato Cyst Nematode (*Globodera* spp.) for more than half century in Norway**

RICARDO HOLGADO (Bioforsk, Norwegian Institute for Agricultural and Environmental Research, Norway), HOLGER HEUER (Julius Kühn-Institut - Federal Research Centre for Cultivated Plants, Germany) & MAGNUSSON CHRISTER (Bioforsk, Norwegian Institute for Agricultural and Environmental Research, Norway)

16:45 **PCN population dynamics in relation to temperature**

AGATA KACZMAREK (Cell and Molecular Sciences Group, James Hutton Institute, Dundee, UK), HELEN KETTLE, KATRIN MCKENZIE (Biomathematics & Statistics Scotland, Dundee and Edinburgh, UK) & VIVIAN BLOK (Cell and Molecular Sciences Group, James Hutton Institute, Dundee, UK)

17:05 CONCLUSIONS and PRESENTATION OF STUDENT PLATFORM PRIZE

17.15 END OF CONFERENCE