

ASSOCIATION OF APPLIED BIOLOGISTS

President: Professor Michael Jeger, PhD, FIBiol, FIMA, FLS

In conjunction with the
Society for General Microbiology



A three day international conference

at Harrogate International Centre, Harrogate, Yorks

on 1-3 April 2009

PROGRAMME & BOOKING FORM

An International Conference
Advances in Plant Virology



INVESTOR IN PEOPLE

Association of Applied Biologists
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Artwork by Valentina Cossu,
Images courtesy of John Walsh, Warwick HRI

A three day international conference - Advances in Plant Virology

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PROGRAMME

(BASIS Points have been applied for)

WEDNESDAY, 1 APRIL 2009

12.30 Onwards CONFERENCE REGISTRATION

14.00 – 15.40 Chair: JOHN WALSH (University of Warwick, UK)

14.00 – 14.40 Invited Speaker

Tombusvirus-plant interactions: RISCy business
HERMAN SCHOLTHOF (Texas A&M University, USA)

14.40 – 15.00 **The effects of CaMV Integration in Arabidopsis on the growth and fecundity of plants and the stability and expression of a GFP transgene**
JULIE SQUIRES & PETER PALUKAITIS (Scottish Crop Research Institute, UK)

15.00 – 15.20 **Exploiting the genetic diversity of natural barley germplasm for the discovery of novel eIF4E alleles conferring broad spectrum resistance to bymoviruses**
BERNHARD J HOFINGER, CHRIS BASS, THOMAS BALDWIN, FREDERIC BEAUDOIN, KIM HAMMOND-KOSACK & KOSTYA KANYUKA (Rothamsted Research, UK)

15.20 – 15.40 **Tomato torrado virus and tomato marchitez virus, new plant picorna like viruses infecting tomato**
MARTIN VERBEEK, ANNETTE DULLEMANS, PAUL MARIS, JOHANNES van den HEUVEL & RENÉ van der VLUGT (Plant Research International, Netherlands)

15.40 -16.10 TEA

16.10 – 17:50 Chair: GEORGE LOMONOSSOFF (John Innes Centre, UK)

16.10 – 16.30 **Live-cell imaging of viral RNA genomes using a Pumilio-based reporter**
JENS TILSNER, OLGA LINNIK, NYNNE M CHRISTENSEN, KAREN BELL, IAN M ROBERTS, CHRISTOPHE LACOMME & KARL J OPARKA (University of Edinburgh, UK)

16.30 – 16.50 **Detection and molecular epidemiology of Oat sterile dwarf virus**
JON N E RAMSELL, ANNA LINNELL, INGRID ERIKSSON, JOHANNA HOLMBLAD, BARBARA EKBOM & ANDERS KVARNHEDEN (Uppsala Bio-Center, Sweden)

16.50 – 17.10 **Proteolytic processing of the Cowpea Mosaic Virus coat polyprotein precursor and formation of virus-like particles in insect cell culture**
KEITH SAUNDERS & GEORGE P LOMONOSSOFF (John Innes Centre, UK)

17.10 – 17.30 **Incidence and occurrence of dsRNA elements in the opportunistic fungal pathogen *Aspergillus fumigatus***
ROBERT H A COUTTS, ATIF JAMAL, MUHAMMAD FARAZ BHATTI & ELAINE M. BIGNELL (Imperial College, UK)

17.30 – 17.50 **Applications of pea early browning virus vector**
ELIZABETH JOHANSEN (University of Copenhagen, Denmark)

17.50 – 19.15 Poster viewing, with one free drink (Level 5) – Carol to confirm

THURSDAY, 2 April 2009

08.30 REGISTRATION & COFFEE

09.00 – 10.40 Chair: MARUTHI GOWDA (University of Greenwich, UK)

09.00 – 9.40 Invited Speaker

Both plant and insect factors are specifically required for the success of CaMV spread through vector transmission
STÉPHANE BLANC (UMR BGPI, INRA-CIRAD-ENSAM, Montpellier, France)

09.40 – 10.00 **Efficient in vivo system to study the homologous recombination mechanism of potato virus X - evidence for a predicted stem-loop structure determinant**
MARK VARRELMANN & HEIDRUN-KATHARINA DRAGHICI (Institute of Sugar Beet Research, Germany)

10.00 – 10.20 **Nucleotide bias in plant virus induced gene silencing**
THIEN HO & HUI WANG (NERC Centre for Ecology and Hydrology, UK)

10.20 – 10.40 **Plant DNA viruses being silenced and suppressing silencing**
THOMAS HOHN (University of Basel, Switzerland)

10.40 – 11.10 COFFEE

11.10 – 13.10 Chair: STUART MacFARLANE (Scottish Crop Research Institute, UK)
(Room: Conference Suite)

11.10 – 11.30 **Extreme resistance to potyviruses in edible diploid potatoes of the Phureja-Stenotomum group**
LESLEY TORRANCE (Scottish Crop Research Institute, UK)

11.30 – 11.50 **A metagenomics approach for the identification and genome sequencing of plant viruses**
RACHEL GLOVER, IAN ADAMS, WENDY MONGER & NEIL BOONHAM (Central Science Laboratory, York, UK)

11.50 – 12.10 **The control of PVY in Dutch seed potato culture**
GÉ VAN DEN BOVENKAMP, CHRIS CUPERUS, EISSE DE HAAN, PAUL PIRON, MARTIN VERBEEK & RENÉ VAN DER VLUGT (Plant Research International, Netherlands)

12.10 – 12.30 The aphid transmission of Potato virus YO, Potato virus YN and Potato virus A under Scottish field conditions

ADRIAN FOX, FIONA HIGHET & JON PICKUP (Scottish Agricultural Science Agency, UK)

12.30 – 12.50 Role of TGB1 in the cell-cell and long-distance movement of Potato mop-top virus

ALISON ROBERTS, GRAHAM COWAN, EUGENE SAVENKOV, ANGELIKA ZIEGLER, SEAN CHAPMAN, KATH WRIGHT & LESLEY TORRANCE (Scottish Crop Research Institute, UK)

12.50 – 13.10 Cassava brown streak virus diversity and development of improved virus diagnostics

MARUTHI M N, MUSA ABARSHI & I U MOHAMMED

13.10 – 14.10 LUNCH

14.10 – 17.30 Chair: RENE van der VLUGT (Plant Research International, Netherlands)

14.10 – 14.50 Invited Speaker

Virus-resistant transgenic plants and potential risks associated with recombination

ARIANNA FRISCINA, MARCO MORRONI, CAMILLA TURURO, LAURA CHIAPPETTA, JEREMY R. THOMPSON, MIREILLE JACQUEMOND & MARK TEPFER (ICGEB Biosafety Outstation, Italy)

Student Presentations

14.50 – 15.00 Types of RNA2 and RNA3 of Potato mop-top virus in symptomless and spraing-expressing potato tubers

JOHANNA MAURA, SATU LATVALA-KILBY, NEDA PUPOLA, ASKO HANNUKKALA & JARI P T VALKONEN (University of Helsinki, Finland)

15.00 – 15.10 Potato mop-top virus in Sweden

ULRIKE BEUCH, JONAS ÅKERBLUM, PAULA PERSSON & ANDERS KVARNHEDEN (Uppsala Bio-Centre, Sweden)

15.10 – 15.20 Arabis mosaic nepovirus and gene silencing

LAURENCE DUPUIS (Institute for Plant Research, Germany)

15.20 – 15.30 An evolutionary experimental approach to identify resistance breaking strains of Bean yellow mosaic virus in Pisum sativum

KAMILLA KNORR & ELIZABETH JOHANSEN (University of Aarhus & University of Copenhagen, Denmark)

15.30 – 15.40 Provisional identification of begomoviruses associated with cultivated and endemic plant species from Southwestern Cameroon based on core coat protein sequence analysis

WALTER N LEKE, DOMINIC K NJUALEM (Institute of Agricultural Research for Development (IRAD), Cameroon), ANDERS KVARNHEDEN (Uppsala BioCenter SLU, Sweden), EMILIA B. NGANE (Institute of Agricultural Research for Development (IRAD), Cameroon), VINCENT P K TITANJI (University of Buea, Cameroon), JAMES P LEGG (International Institute of Tropical Agriculture (IITA), Dar es Salaam, Tanzania), JACOB M NGEVE, S ZOK, (Institute of Agricultural Research for Development (IRAD), Cameroon) & JUDITH K BROWN (University of Arizona, USA)

15.40 – 16.10 TEA

16.10 – 16.20 A role for inositol hexakisphosphate in the maintenance of basal resistance to viruses and other pathogens

BETTINA OTTO, ALEX M MURPHY, CHARLES A BREARLEY, JOHN P CARR (University of Cambridge, UK)

16.20 – 16.30 Molecular genetic analysis of beet polerovirus infection

LAWRENCE PERCIVAL-ALWYN, PHILIPPA HALLSWORTH, FELICITA VIGANÓ, MARK STEVENS & COLWYN M THOMAS (University of East Anglia, UK)

16.30 – 16.40 Interactions between begomovirus, DNA and host in susceptible and resistant cotton species

MUHAMMAD NAEEM SATTAR, MUHAMMAD SAEED & ANDERS KVARNHEDEN (Uppsala Bio-Centre, Sweden)

16.40 – 16.50 A plant virus movement protein forms ringlike complexes with the major nucleolar protein, fibrillarin, in vitro

JANE SHAW, ELISABETTA CANETTA, SANG HYON KIM, NATALIA O KALININA, ASHOK K ADYA, JOHN W S BROWN & MICHAEL TALIAISKY (Scottish Crop Research Institute, UK)

16.50 – 17.00 Virus-like particle production using a Cowpea Mosaic Virus-based vector system

EVA THUENEMANN & GEORGE P LOMONOSSOFF (John Innes Centre, UK)

17:00 – 17.30 A discussion on the future direction of plant virology

ANDY MAULE (John Innes Centre, UK)

17.30 – 18.30 POSTERS

Production of PVY-specific small interfering RNAs and resistance to PVY in transgenic tobacco expressing multiple, fused, virus-derived double-stranded RNAs

BONG NAM CHUNG (National Institute of Horticultural and Herbal Science, Korea) & PETER PALUKAITIS (Scottish Crop Research Institute, UK)

‘SASA’s freezing’

CRAIG DOUGLAS & ROBERT BURNS (Science and Advice for Scottish Agriculture, Edinburgh, UK)

The use of nucleotide sequencing in the detection of unknown plant viruses

ADRIAN FOX (Central Science Laboratory, UK)

Detection and diagnosis of viruses, viroids and phytoplasmas in interesting or unusual hosts at the Virology plant clinic, Central Science Laboratory

VAL HARJU, ANNA SKELTON, WENDY MONGER, STEPHEN FORDE, MARK DALY, THOMAS NIXON, REBECCA LAWSON, SAMANTHA BENNET, PAUL TAYLOR, ADRIAN FOX (Central Science Laboratory, UK)

Possible role of Brassica rapa translation initiation factors in broad-spectrum resistance to Turnip mosaic virus

CAROL JENNER, GUY BARKER & JOHN WALSH (University of Warwick, UK)

Validation of diagnostic methods for the detection and identification of whitefly transmitted Viruses of regulatory or quarantine concern to the EU

JANE MORRIS, WENDY A MONGER & NEIL BOONHAM (Central Science Laboratory, UK)

Screening for Mushroom Virus X

TOM NIXON (Central Science Laboratory, UK)

Prevalence of viruses on samples of forage legumes collected from two locations in Nigeria

O OODEDARA (Department of Microbiology, College of Natural Sciences, University of Agriculture, Abeokuta, Nigeria) J d'A HUGHES (Asian Vegetable Research and Development Centre- The World Vegetable Centre, Taiwan, ROC) & A C ODEBODE (International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria, UK)

Pepino mosaic virus: epidemiology, economic impact and pest risk analysis (PEPEIRA)

RENÉ A A VAN DER VLUGT (Plant Research International, The Netherlands)

Applying P25 pathogenicity factor of beet necrotic yellow vein virus in yeast two-hybrid interaction hunt on the Rz2 sugar beet proteome identifies several candidate proteins possibly involved in virus pathogenicity or plant resistance

MARK VARRELMANN (Institute of Sugar beet Research, Germany) & HEIKE THIEL (University of Göttingen, Germany)

Overexpression of NtERF5 enhances resistance against TMV in N gene tobacco

JU-YEON YOON, SEUNG-KOOK CHOI & KI HYUN RYU (Seoul Women's University and Myongji University, Korea)

Inhibition of Broad bean wilt virus by transiently expressed RNAi for early screening of the virus-resistant genetic resources

JU-YEON YOON, MI-RAN KIM, JANG KYUNG CHOI & KI HYUN RYU (Seoul Women's University and Kangwon National University, Korea)

Genome-wide miRNA profiling reveals a distinct pattern of miRNA expression in rice infected with a dsRNA virus

HENGMU ZHANG, JIAN YANG & JIAN-PING CHEN (Institute of Virology and Biotechnology, China)

STUDENT POSTERS

Detection of Begomovirus and molecular characterization of whitefly populations from greenhouses in Cartago, Costa Rica

JOSÉ A VARGAS, NATALIA BARBOZA, EDUARDO HERNÁNDEZ, FLORIBETH MORA UMAÑA, PILAR RAMÍREZ FONSECA (Universidad de Costa Rica, Costa Rica)

The incidence and diversity of Turnip yellows virus in oilseed rape in the UK

ELVIS ASARE-BEDIAKO, CAROL JENNER, MARK STEVENS & JOHN WALSH (University of Warwick, UK)

Differentiation of Cucumber mosaic virus isolates from Musa spp and associated crops in southern Nigeria

EMILY AYO-JOHN, EPHRAIM EKPO & JACKIE HUGHES (University of Agriculture, Nigeria)

Crinivirus and Begomovirus in single and mixed infections affecting important crops in Cartago, Costa Rica

RUTH CASTRO VÁSQUEZ (Universidad de Costa Rica, Costa Rica)

Molecular characterisation of begomoviruses in tomato fruits

KADRI JUST, WALTER N LEKE, ANDERS KVARNHEDEN & ANNE LUIK (Estonian University of Life Sciences (EMÜ), Estonia)

Towards identification of genes involved in symptoms development in potato infected with Potato virus YNTN

POLONA KOGOVŠEK, M POMPE-NOVAK, L GOW, Š BAEBLER, A ROTTER, K GRUDEN, G D FOSTER, N BOONHAM & M RAVNIKAR (National Institute of Biology, Slovenia, University of Bristol, UK, Central Science Laboratory, UK)

Molecular farming using a geminiviral suppressor protein MYMIV-AC2

JAMILUR RAHMAN, SUMONA KARJEE & SUNIL K MUKHERJEE (International Centre for Genetic Engineering and Biotechnology, India)

Citrus tristeza virus (CTV) belonging to different phylogenetic groups differ in their colonizing ability as revealed by an in situ immunoassay.

GONÇALO SILVA, FILOMENA FONSECA & GUSTAVO NOLASCO (Center for Biodiversity, Functional and Integrative Genomics, University of Algarve, Campus de Gambelas, 8005-139 Faro, Portugal)

PCR-based characterization of Papaya Leaf Curl Virus (PLCV) isolates from North India and Antibody-based diagnosis of infected samples

PRATIBHA SINGH, SUNIL KUMAR MUKHERJEE & SUDESHNA MAZUMDAR-LEIGHTON (University of Delhi, India)

19.30 CONFERENCE DINNER

FRIDAY, 3 April 2009

09.00 – 10.40 Chair: MARK STEVENS (Brooms Barn, UK)

09.00 – 9.40 Invited Speaker

Intimate relationships between geminiviruses and their satellites and the host gene silencing system

CLAUDE FAUQUET (Donald Danforth Plant Science Centre, St Louis, USA)

09.40 – 10.00 Advances in the detection of viroids

ADRIAN FOX, IAN ADAMS, VAL HARJU, WENDY MONGER, ANNA SKELTON, RICK MUMFORD (Central Science Laboratory, UK)

10.00 – 10.20 Ourmia viruses are gene jumping athletes: an RdRp similar to that of the Narnaviridae (infecting yeast and other fungi), an MP related to that of tombusviruses and a CP with limited similarity to nodaviruses and luteoviruses

M RASTGOU, E LUISONI, V MASENGA, R G MILNE, Y I WOLF, E V KOONIN & M TURINA (Plant Virus Institute, Italy)

10.20 – 10.40 Generic tools for virus identification: from microarrays to next generation sequencing.

IAN P ADAMS, RACHEL H GLOVER, WENDY A MONGER, RICK MUMFORD & NEIL BOONHAM (Central Science Laboratory, UK)

10.40 – 11.10 COFFEE & PHOTOS

11.10 – 12.30 Chair: JOHN WALSH (University of Warwick)

11.10 – 11.20 Presentation of Student Prizes

11.20 – 11.40 The RNA-dependent RNA polymerase of Citrus tristeza virus expressed in Escherichia coli form oligomer

BAYRAM ÇEVİK (Suleyman Demirel University, Turkey)

11.40 – 12.20 Plant Virology in the 20th century

BRYAN HARRISON (Scottish Crop Research Institute, UK)

12.20 – 12.30 SUMMING UP

12.30 SANDWICH LUNCH & DEPART