

# 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

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

# A three day international conference - Advances in Plant Virology

in conjunction with the  
Society for General Microbiology

## 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 TURTUREO, 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 ÅKERBLOM, 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**