

**SESSION 11: QUALITY**

Moderator: Jon Daugherty (CBER/FDA, Rockville, Maryland, USA)

08.35-08.50

**'Combining traits for molecular farming: production of neutralizing antibodies in identity-preserved plant organs'**  
Diego Orzaez (CSIC-UPV, Valencia, Spain)

08.50-09.05

**'The impact of host plant defence responses on molecular farming'**  
Frank Sainsbury, Stephanie Robert and Dominique Michaud (Laval University, Quebec, Canada)

09.05-09.20

**'Characterization of recombinant antibody degradation in *Nicotiana tabacum*'**  
Verena Hehle, Raffaele Lombardi, Mathew Paul, Marcello Donini, Eugenio Benvenuto, Craig van Dolleweerd and Julian Ma (St. George's University of London, London, UK)

09.20-09.35

**'The role of glycosylation in mAb mediated protection against Ebola virus: Continuing development of an Ebola immunoprotectant for human use'**  
Andrew Hiatt, Larry Zeitlin, Natasha Bohorova, James Pettitt, Lori Long, Steve Hume, Barry Bratcher, Michael Pauly, Herta Steinkellner, Gene Olinger and Kevin Whaley (Mapp Biopharmaceutical, San Diego, California, USA)

09.35-09.50

**'In planta protein sialylation through overexpression of the respective mammalian pathway'**  
Alexandra Castilho, Richard Strasser, Josephine Grass, Pia gatteringer, Jakub Jez, Renate Kunert, Martin Pabst, Renaud Leonard, Friedrich Altmann and Herta Steinkellner (BOKU, Vienna, Austria)

09.50-10.10 Coffee Break

**SESSION 12: FACILITIES & PRODUCTION**

Moderator: Charles Arntzen (Arizona State University, Tempe, Arizona, USA)

10.10-10.30

**'PMPs enter product introduction phase! A short review of progress'**  
Charles Arntzen (Arizona State University, Tempe, Arizona, USA)

10.30-11.00

**'Design of PMP facilities to meet changing product development targets'**  
Hugh A. Haydon (Kentucky BioProcessing LLC, Owensboro, Kentucky, USA)

11.00-11.20

**'A novel approach to reduced capital investment to empower cGMP production of plant derived proteins'**  
Hugh A. Haydon (Kentucky BioProcessing LLC, Owensboro, Kentucky, USA)

11.20-11.40

**'BryoTechnology: Moss-based production of recombinant pharmaceuticals'**  
Andreas Schaaf (Greenovation Biotech GmbH, Freiburg, Germany)

11.40-12.00

**'High yielding and scalable plant-based recombinant protein production in monocots'**  
Scott Deeter (Ventria Biosciences, Fort Collins, Colorado, USA)

12.00-13.15 Lunch Break

**SESSION 13: PRODUCT PIPELINE – ADJUVANTS & OTHERS**

Moderator: Mario Pezzotti (University of Verona, Verona, Italy)

13.15-13.30

**'Production of human Vitronectin in *Nicotiana benthamiana* using the In Plant Activation (INPACT) hyper-expression platform'**  
Ben Dugdale, Maiko Kato, Terry Walsh, Robert Harding and James Dale (Queensland University of Technology, Brisbane, Queensland, Australia)

13.30-13.45

**'The tobacco ER-resident HSP70 chaperone BiP is an efficient adjuvant'**  
Edward McGowan, Nuria Gonzalez-Rabade, John Gray, Rajko Reljic, Mathew Paul and Julian Ma (St. George's University of London, London, UK)

13.45-14.00

**'Generation of plant HSP70-based multi-epitope vaccines'**  
Giampaolo Buriani, Camillo Mancini, Eugenio Benvenuto and Selene Baschieri (ENEA, Rome, Italy)

14.00-14.15

**'Tobacco-derived human recombinant collagen: Pioneering development of medical devices from plant-derived proteins'**  
Or Dgany et al. (CollPlant Ltd, Ness Ziona, Israel)

14.15-14.30

**'Production of recombinant forms of Lunasin with enhanced anticancer activity using transient expression in tobacco'**  
Elizabeth J. McConnell, Lauren E. Seber, Kati Boles and Keith R. Davis (University of Louisville, Louisville, Kentucky, USA)

14.30-14.45

**'Mutants of plant genes as adjuvants for cancer vaccines'**  
Silvia Massa, Francesca Paolini, Laura Spano, Aldo Venuti and Rosella Franconi (ENEA, Rome, Italy)

14.45-15.00

**'Searching for the holy grail of plant-made vaccines – manipulation of intrinsic saponins influences immunogenicity of minimally purified plant material when delivered orally'**  
Robert Shepherd, Claire Penney, Simon Rochfort, Dwayne Kirk and Amanda Walmsley (Monash University, Clayton, Victoria, Australia)

15.00-15.15 Tea Break

**SESSION 14: CLOSING PLENARY SESSION**

Moderator: Julian Ma (St. George's University of London, UK)

15.15-15.35

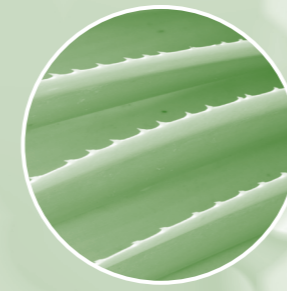
**'PBVA 2011 Overview & Highlights from Rapporteur'**  
Charles Arntzen (Arizona State University, Tempe, Arizona, USA)

15.35-15.50

**'Final Discussion & PBVA 2011 Wrap Up'**  
Julian Ma (St. George's University of London, UK)

15.50 Closing Remarks & Departure

*\*This final programme is correct at the time of printing. However the organizers reserve the right to make any alterations that may be required in the interests and integrity of the final conference programme.*



PLANT-BASED VACCINES + ANTIBODIES 2011  
PLANT EXPRESSION SYSTEMS FOR RECOMBINANT PHARMACOLOGICS

# FINAL ORAL & POSTER PROGRAMMES

The Fourth International Conference on

## PLANT-BASED VACCINES & ANTIBODIES

PLANT EXPRESSION SYSTEMS FOR RECOMBINANT PHARMACOLOGICS

PBVA 2011 8-10 JUNE 2011, TIARA PARK ATLANTICO HOTEL, PORTO, PORTUGAL

### Scientific Advisory Panel

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07.45 am REGISTRATION

09.25–09.30 **Welcome & Opening Remarks**  
Julian Ma (*St. George's University of London, London, UK*)**SESSION 1: OPENING PLENARY SESSION**Moderator: Julian Ma (*St. George's University of London, London, UK*)

09.30–10.00

**'Recent progress in development of transient expression systems for production of biopharmaceuticals'**  
Yuri Gleba (*ICON Genetics GmbH, Halle/Saale, Germany*)

10.00–10.30

**'PMPs: challenges and next generation opportunities'**  
Rainer Fischer (*RWTH Aachen, Germany*)

10.30–11.00

**'Thirty years of antibody therapeutics'**  
James W. Larrick(*Panorama Research Inc, Mountain View, California, USA*)

11.00–11.15 Coffee Break

**SESSION 2: CHALLENGES TO COMMERCIALISATION**Moderator: Einat Almon-Brill (*Protalix Biotherapeutics, Carmiel, Israel*)

11.15–11.45

**'Plant-made pharmaceuticals: Challenges to commercialisation'**  
Maurice Moloney  
(*BBSRC Rothamsted Research, Harpenden, Hertfordshire, UK*)

11.45–12.05

**'Product development and regulatory considerations based on case studies of two plant-made autologous human cancer vaccines'**  
Daniel Tuse (*DT/Consulting Group, Vacaville, California, USA*)

12.05–12.25

**'Multipurpose vaccines and antibody products'**  
Kevin J Whaley (*Mapp Biopharmaceutical, San Diego California, USA*)

12.25–12.45

**'Alternative technologies for expression of recombinant proteins in plants'**  
Yuri Gleba and A. Gyrych  
(*Nomad Bioscience GmbH, Munich, Germany*)

12.45–14.15 Lunch Break &amp; Poster Session A Set-Up

**SESSION 3: PRODUCT PIPELINE – VACCINES**Moderator: George Lomonosoff (*John Innes Centre, Norwich, UK*)

14.15–14.35

**'Formulation and delivery of mucosally targeted norovirus vaccines'**  
Charles Arntzen (*VAXX Inc., Tuscon, Arizona, USA*)

14.35–14.50

**'Progress with GAD65'**  
Mario Pezzotti (*University of Verona, Verona, Italy*)

14.50–15.05

**'Expression and optimisation of human papillomavirus type 16 (HPV-16) chimaera candidate vaccines in *Nicotiana benthamiana*'**  
Inga I Hitzeroth, Catherine Pineo, Gillian de Villiers and Edward P. Rybicki  
(*University of Cape Town, Rondebosch, South Africa*)

15.05–15.20

**'Prophylactic and therapeutic effects on allergen-induced airway inflammation by a rice-based oral allergy vaccine'**  
Fumio Takaiwa, Kazuya Suzuki, Lijun Yang and Takachika Hiroi  
(*National Institute of Agrobiological Sciences, Tsukuba Ibaraki, Japan*)

15.20–15.35

**'The first report of a recombinant vaccine produced in plants inducing protective immunity in mice against the fowl cholera pathogen *Pasteurella multocida*'**  
Sadia S. Deen, Amanda M. Walmsley and Ben Adler  
(*Monash University, Clayton, Victoria, Australia*)

15.35–15.50

**'Chloroplast expression of a double-pentameric vaccine candidate containing human papillomavirus (HPV)-16 L1 antigen translationally fused with LTB'**  
M.T. Waheed, E. Lossl, N. Thones, M. Muller, S.W. Hassan, J. Gottschamel and A.G. Lossl (*BOKU, Vienna, Austria*)

15.50–16.20 Tea Break &amp; Poster Session A Set-Up

**SESSION 4: EMERGING EXPRESSION SYSTEMS**Moderator: Maurice Moloney  
(*BBSRC Rothamsted Research, Harpenden, Hertfordshire, UK*)

16.20–16.35

**'ScFv-mediated *in vivo* targeting: a general tool for targeted expression of recombinant proteins in the plant secretory pathway'**  
Veronique Gomord, Anne-Catherine Fichette, Claude Saint-Jore-Dupas, Carole Plasson and Loic Faye  
(*ANGANY Genetics, Mont-Saint-Aignan, France*)

16.35–16.50

**'Plant expression of chimeric Gag/gp41 virus-like particles as a mucosally-targeted subunit vaccine against HIV-1'**  
Sarah Kessans, Mark Linhart, John Frater, Nobuyuki Matoba and Tsafir Mor  
(*Arizona State University, Tempe, Arizona, USA*)

16.50–17.05

**'Malaria transmission blocking vaccine: plant-produced VLP approach'**  
Vadim Mett (Fraunhofer USA Center for Molecular Biotechnology, Newark, Delaware, USA)

17.05–17.20

**'Purification of a therapeutic antibody from genetically modified plants using Protein A-oleosin oilbody technology'**  
J. Christopher Hall, Michael D. McLean, Deqiang Yu, Rongji Chen, Kor-Zheng Mah, John Teat, Steve Zaplachinski and Joseph Boothe  
(*University of Guelph, Guelph, Ontario, Canada*)

17.20–17.35

**'Using a modified virus-encoded suppressor of silencing to enhance protein expression in transgenic plants'**  
Pooja Saxena, Frank Sainsbury, Keith Saunders and George Lomonosoff  
(*John Innes Centre, Norwich, UK*)

17.35–17.50

**'Expression of recombinant proteins in soybean seeds under control of legumes storage proteins regulatory sequences'**  
Elibio L. Rech et al. (*EMBRAPA, Brasilia, Brazil*)

17.50–19.00 RECEPTION &amp; POSTER SESSION A

**SESSION 5: PRE-CLINICAL & CLINICAL EVALUATION**Moderator: Kevin J Whaley  
(*Mapp Biopharmaceutical, San Diego California, USA*)

08.30–08.50

**'Pre-clinical and clinical evaluation of plant-produced influenza vaccines'**  
Vidadi Yusibov (*Fraunhofer USA, Newark, Delaware, USA*)

08.50–09.10

**'Influenza vaccines based on virus-like particles from plants: current state of the art'**  
Marc-Andre D'Aoust, Nathalie Landry, Michele Dargis, Sonia Trepanier, Manon Coutre and Louis -P. Vezina  
(*Medicago Inc., Quebec, Canada*)

09.10–09.30

**'Update on the Non-Hodgkins Lymphoma vaccine clinical trial design'**  
John Butler (*Bayer Innovation, Dusseldorf, Germany*)

09.30–09.50

**'Novel ERT for Gaucher disease; Completion of clinical program required for marketing approval with plant cell expressed recombinant glucocerebrosidase-taliglucerase alfa'**  
E. Almon-Brill, R. Chertkoff, M. Golembo, M. Szlaifer, S. Hashmueli, A. Zimran and Yoseph Shaaltiel  
(*Protalix Biotherapeutics, Carmiel, Israel*)

09.50–10.10

**'Oral delivery of recombinant glucocerebrosidase enzyme naturally encapsulated in carrot cells'**  
Yoseph Shaaltiel et al. (*Protalix Biotherapeutics, Carmiel, Israel*)

10.10–10.30 Coffee Break &amp; Posters

**SESSION 6: ADVANCED EXPRESSION STRATEGIES**Moderator: Yuri Gleba (*ICON Genetics GmbH, Halle/Saale, Germany*)

10.30–10.50

**'Biopharmaceuticals production using plant-based transient expression systems'**  
Victor Klimyuk (*Icon Genetics GmbH, Halle, Germany*)

10.50–11.10

**'Advances in expression of recombinant proteins in chloroplasts'**  
Pal Maliga (*PTT/Rutgers University, Piscataway, New Jersey, USA*)

11.10–11.25

**'A potyvirus-based expression system with multiple applications, including vaccines and antibodies'**  
Fernando Ponz (*CBGP, Madrid, Spain*)

11.25–11.40

**'Contained hydroponic plant culture for scalable production of high quality recombinant proteins'**  
Luisa Madeira, Pascal Drake, Mathew Paul and Julian Ma  
(*St. George's University of London, London, UK*)

11.40–11.55

**'Towards pea-based pharmaceuticals'**  
Heike Mikschofsky, Jana Huckauf, Anja Katzel and Inge Broer  
(*University of Rostock, Rostock, Germany*)

11.55–12.10

**'Optimizing hydrophobin fusion technology for protein expression and purification in plants and plant cell culture'**  
J. Joensuu, A. Ritala, M. Lienemann, A. Conley, R. Saberianfar, E. Pereira, R. Yan, S. Gutierrez, M. Linder and R. Menassa  
(*VTT Technical Research Centre of Finland, VTT, Finland*)**SESSION 7: REGULATORY ISSUES**Moderator: Julian Ma (*St. George's University of London, London, UK*)

12.10–12.30

**'Regulatory issues for plant-based human vaccines: An FDA perspective'**  
Jon Daugherty (*CBER/FDA, Rockville, Maryland, USA*)

12.30–13.00

**'A biosafety perspective on plant-based recombinant proteins'**  
Hennie Groenewald  
(*Biosafety South Africa, Somerset West, South Africa*)

13.00–14.00 Lunch Break &amp; Poster Session B Set-Up

**SESSION 8: PRODUCT PIPELINE – ANTIBODIES**Moderator: Rainer Fischer (*RWTH Aachen, Germany*)

14.00–14.15

**'Process development and preclinical analysis of plant-produced Herceptin'**  
Michael D. McLean, Barry Bratcher, Don Stewart, Herta Steinkellner and J. Christopher Hall (*PlantForm Corporation, Guelph, Ontario, Canada*)

14.15–14.30

**'Experiences with plant made vaccine and antibodies against HER-2-over expressing breast cancer'**  
Y.L. Dorokhov, T.V. Komarova, S.V. Kosorukov, I.V. Petrunya and O.Y. Frolova (*Moscow State University, Moscow, Russia*)

14.30–14.45

**'Seed produced anti ETEC antibodies for oral passive immunisation of piglets against post weaning diarrhoea'**  
Vikram Viridi, Sylvie De Buck, Hana Hoffmeisterova, Annelies Coddens, Eric Cox, Henri De Greve and Ann Depicker  
(*University of Ghent, Ghent, Belgium*)

14.45–15.00

**'Rice-based oral antibody prophylaxis and therapy against rotavirus infection'**  
Yoshikazu Yuki et al. (*The University of Tokyo, Tokyo, Japan*)

15.00–15.15

**'Plant-produced MAb therapeutics for West Nile Virus with multiple specificities'**  
Qiang "Shawn" Chen, Huafang Lai, Thomas Keller, Junyun He and Christopher Brock  
(*Arizona State University, Tempe, Arizona, USA*)

15.15–15.45 Tea Break &amp; Poster Session B Set-Up

**SESSION 9: SOCIO-ETHICAL ISSUES**Moderator: Edward P. Rybicki (*University of Capetown, South Africa*)

15.45–16.05

**'Plant produced recombinant proteins: A socio-economic evaluation'**  
Rolinde Demeyer, Veerle Verguts, Joost Dessen, Ludwig Lauwers and Bart van Droogenbroeck (*ILVO, Mellebeke, Belgium*)

16.05–16.20

**'Towards affordable access for health technologies'**  
Harry Thangaraj, Rich Mahoney, Carlos Morel, Claudia Chamas, Rabogajane Busang, Daniel Kraus and Julian Ma  
(*St. George's University of London, London, UK*)

16.20–16.35

**'COST Action Update'**  
Anneli Ritala and Kirsi-Marja Oksman (*VTT, Turku, Finland*)**SESSION 10: GENERAL DISCUSSION  
GLOBAL ACCESS TO HEALTH – ENSURING PLANT  
BIOTECH CONTRIBUTES**

16.35–18.00

including **'Vaccine Farming in Cape Town'**  
Edward P. Rybicki et al.  
(*University of Cape Town, Cape Town, South Africa*)Moderator: Julian Ma (*St. George's University of London, UK*)

18.00 RECEPTION &amp; POSTER SESSION B

## Poster A101

**'Transient expression of chimeric human papillomavirus 16 L1 protein carrying the M2e influenza epitope in *Nicotiana benthamiana*'**

Emanuela Noris *et al.* (CNR, Torino, Italy)

## Poster A102

**'Influence of Fc-glycosylation to effector function of monoclonal antibodies and Fc-based fragments'**

Herta Steinkellner *et al.* (BOKU, Vienna, Austria)

## Poster A103

**'Arabidopsis lyrata subsp. Kamchatica, an alternative platform for the production of recombinant proteins'**

Rolinde Demeyer *et al.* (ILVO, Merelbeke, Belgium)

## Poster A104

**'Developing a plant based vaccine against Chikungunya virus'**

Varghese Inchakalody *et al.* (St. George's University of London, London, UK)

## Poster A105

**'Potential health and environmental applications for transgenic plants expressing antibodies to the pollutant microcystin-LR'**

Pascal M.W. Drake *et al.* (St. George's University of London, London, UK)

## Poster A106

**'Characterisation of a plant-derived MAb cocktail for rabies PEP'**

Leonard Both *et al.* (St. George's University of London, London, UK)

## Poster A107

**'Recombinant immune complexes as novel vaccine candidates for tuberculosis'**

Ilaria Pepponi *et al.* (St. George's University of London, London, UK)

## Poster A108

**'Construction of a reporter system to study factors affecting the synthesis of full length immunoglobulins in plant cells'**

Silvana Petruccelli *et al.* (Universidad Nacional de la Plata, La Plata, Argentina)

## Poster A109

**'Bananas modified for elevated levels of pro-vitamin A'**

James Dale *et al.*

(Queensland University of technology, Brisbane, Queensland, Australia)

## Poster A110

**'Oral administration and evaluation in piglets of tobacco seeds expressing antigenic proteins against oedema disease'**

Luciana Rossi *et al.* (Universita di Milano, Milan, Italy)

## Poster A111

**'Generation of different IgM glycoforms in plants'**

Andreas Loos *et al.* (BOKU, Vienna, Austria)

## Poster A112

**'Production of recombinant nanobodies against rotavirus VP6 protein in *N. benthamiana* using Magnicon System'**

J.M. Julve-Parreno *et al.* (IBMCP-CSIC-UPV, Valencia, Spain)

## Poster A113

**'GoldenBraid: a simple and standardized system for the assembly of recyclable multigene constructs in molecular farming'**

A.Sarrion-Perdigones *et al.* (IBMCP-CSIC-UPV, Valencia, Spain)

## Poster A114

**'Neutralizing antibodies against rotavirus produced in identity-preserved purple tomatoes'**

Paloma Juarez *et al.* (IBMCP-CSIC-UPV, Valencia, Spain)

## Poster A115

**'Translational fusion and redirecting to thylakoid lumen as strategies for VHH accumulation enhancement in transplastomic tobacco'**

Andres Wigdorovitz *et al.* (CICVyA INTA Castelar, Argentina)

## Poster A116

**'Specific immune response elicited by a plant based immunogen against Infectious Bursal Disease Virus'**

Andres Wigdorovitz *et al.* (CICVyA INTA Castelar, Argentina)

## Poster A117

**'Plant-produced Enterotoxigenic *Escherchia coli* heat labile enterotoxin B subunit induced immune responses'**

Tae-Geum Kim *et al.* (Chonbuk National University, Jeonju, Republic of Korea)

## Poster A118

**'Optimising expression of human papillomavirus type (HPV-16) L1/L2 chimeras in *Nicotiana benthamiana*'**

Mark Whitehead *et al.* (University of Cape Town, Cape Town, South Africa)

## Poster A119

**'Characterisation of different glycosylation variants of the tumor targeting mAb H10 produced by vacuum agrofiltration in *N. benthamiana* plants'**

Raffaele Lombardi *et al.* (ENEA, Rome, Italy)

## Poster A120

**'Title to be confirmed'**

Presenter to be confirmed

## Poster A121

**'Development of transcription promoters for high expression in plant suspension cells'**

Catherine Navarre *et al.*

(Universite Catholique de Louvain, Louvain-la-Neuve, Belgium)

## Poster A122

**'Plant-based transient expression of neuraminidase of Malaysian avian influenza'**

H.S. Loh *et al.* (University of Nottingham Malaysia Campus, Selangor, Malaysia)

## Poster A123

**'Assessment of avian hemagglutinin antigen from *Nicotiana tabacum* seeds on chickens'**

Abel Hernandez *et al.* (CIGB, Havana, Cuba)

## Poster A124

**'High transient and stable production of human therapeutic antibodies in plants'**

James M. Maclean *et al.* (Planet Biotechnology Inc., Hayward, California, USA)

## Poster A125

**'Plant expressed multivalent recombinant antibodies against CD20 receptor'**

Marketa Smidkova *et al.* (ASCR, Prague, Czech Republic)

## Poster A126

**'The combination of the Cucumber mosaic virus vector and HC-Pro transgenic plants is an efficient system for production of a foreign protein in *N. benthamiana* plants'**

Noriho Fukuzawa *et al.* (AIST, Sapporo, Japan)

## Poster A127

**'Bluetongue virus protein expression in *N. benthamiana* using a replicating Geminivirus expression vector'**

A.E. Meyers and E.P. Rybicki (University of Cape Town, Cape Town, South Africa)

## Poster A128

**'Aggregation as a bottleneck for IL-10 production in *Nicotiana benthamiana*'**

Ruud Wilbers *et al.* (Wageningen University, Wageningen, The Netherlands)

## Poster A129

**'Transient production of human epidermal growth factor through agrofiltration of *Nicotiana benthamiana*'**

David Thomas and Amanda Walmsley

(Monash University, Clayton, Victoria, Australia)

## Poster A130

**'Expression of influenza A hemagglutinin/California/04/2009 (H1N1) in *Nicotiana benthamiana*'**

Ognian Bohorov *et al.*

(Mapp Biopharmaceutical Inc., San Diego, California, USA)

## Poster A131

**'The production of malaria vaccine candidates in plants using a virus-based system'**

K.M. Setyabudi *et al.* (Monash University, Clayton, Victoria, Australia)

## Poster A132

**'High level expression of antibody fragments in a RDR6 knock down plant expression platform'**

G. Krczal *et al.* (RLP Agrosience GmbH, Neustadt, Germany)

Poster B101

**'Oral delivery of a plant-made antigen in monogastric and ruminant animal models'**Assunta Pelosi *et al.* (Monash University, Clayton, Victoria, Australia)

Poster B102

**'Glycan analysis for plant-based vaccines & plantibodies'**Jayesh Kattla *et al.* (NIBRT, Dublin, Ireland)

Poster B103

**'Expression analysis of the human complement factor C5a and interleukin 6 in pro- and eukaryotic production systems for therapeutic purposes'**Heike Mikschofsky *et al.* (University of Rostock, Rostock, Germany)

Poster B104

**'The soilless tobacco cultivation system adapted to rapid high-yield plant transient expression'**Xiaohong Zhou *et al.* (Southern Medical University, Guangzhou, PR China)

Poster B105

**'Biotinylated cystatins for the capture and characterization of Cys protease targets in plant protein heterologous expression platforms'**Ann-Julie Rheume *et al.* (Universite Laval, Quebec, Canada)

Poster B106

**'Trastuzumab expressed in glycol-modified *Nicotiana tabacum* shows elimination of the immunogenic a1-3 fucose and b1-2 xylose moieties from its glycan core'**Frey Garabagi *et al.* (University of Guelph, Guelph, Canada)

Poster B107

**'Progress in the scaling up of a transgenic alfalfa plant-based vaccine for BVD'**Andres Wigdorovitz *et al.* (CICVyA INTA Castelar, Argentina)

Poster B108

**'Transient expression of a human tissue transglutaminase (htTG) specific antibody in *Nicotiana benthamiana*'**Silvana Petruccelli *et al.* (Universidad Nacional de la Plata, La Plata, Argentina)

Poster B109

**'Plant heat shock protein 70 as carrier for immunization against a plant-expressed reporter antigen'**G. Buriani *et al.* (ENEA, Rome, Italy)

Poster B110

**'Analysis of root secreted proteases in *Arabidopsis thaliana* and *Nicotiana tabacum*'**C. Desiron *et al.* (University of Liege, Liege, Belgium)

Poster B111

**'Expression of acetyl- and butyrylcholinesterase (AChE, BChE) in *N. benthamiana* with a human-like glycosylation profile'**Jeannine D. Schneider *et al.* (BOKU, Vienna, Austria)

Poster B112

**'PMF-derived biologic drugs – Navigating a path to market in Canada'**Tracy Burton *et al.* (Health Canada, Ottawa, Ontario, Canada)

Poster B113

**'The importance of the 3' UTR in controlling the translation efficiency of Cowpea mosaic virus (CPMV) RNA-2-based constructs'**

Yulia A. Meshcheriakova and George P. Lomonosoff

(John Innes Centre, Norwich, UK)

Poster B114

**'High level production of CPMV eVLPs in plants: from transient to transgenic expression'**Hadrien Peyret *et al.* (John Innes Centre, Norwich, UK)

Poster B115

**'A plant-based transient expression for the production of PRRSV proteins'**Paolo Lenzi *et al.* (John Innes Centre, Norwich, UK)

Poster B116

**'Influence of recombinant antibody expression on the *Arabidopsis* seed transcriptome'**Kirsten De Wilde *et al.* (University of Gent, Gent, Belgium)

Poster B117

**'The expression and optimisation of beak and feather disease virus coat protein in *Nicotiana benthamiana*'**G. Regnard *et al.* (University of Cape Town, Cape Town, South Africa)

Poster B118

**'Hepatitis B capsid virus-like particles as a vaccine platform for the presentation of M2e avian influenza peptide'**Gergana Zahanova *et al.* (University of Plovdiv, Plovdiv, Bulgaria)

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**'Controlled environment agriculture toward optimizing plant-made pharmaceutical protein production with transgenic tomato expressing a subunit vaccine candidate against plague'**

Ryo Matsuda and Chieri Kubota (The University of Tokyo, Tokyo, Japan)

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**'Evaluation of *Nicotiana* for the production of plant-made pharmaceutical and industrial materials'**Richard Mundell and Orlando Chambers  
(University of Kentucky, Lexington, Kentucky, USA)

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**'Risk-managed production of bioactive recombinant proteins using a novel plant virus confinement system'**Noriko Itchoda *et al.*

(Agriculture Research Institute, Naganuma, Hokkaido, Japan)

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**'Monoclonal antibody against hepatitis B virus surface antigen expressed in tobacco seeds and its characterization'**Abel Hernandez *et al.* (CGEB, Havana, Cuba)

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**'Production in transgenic plants of an aglycosylated humanized monoclonal antibody targeting epidermal growth factor receptor'**Meilyn Rodriguez *et al.* (CGEB, Havana, Cuba)

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**'Expression of Human papillomavirus 16 E7GGG oncoprotein on N- or C-terminus of Potato virus X coat protein in plant cells'**Noemi Cerovska *et al.*

(Academy of Sciences of the Czech Republic, Prague, Czech Republic)

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**'Lettuce-based vaccine material for porcine edema disease'**Kazutoshi Sawada *et al.* (Idemitsu Kosan Co., Ltd., Chiba, Japan)

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**'Alternative biomass production method for transplastomic plants exhibiting severe phenotypes due to high yield of recombinant proteins'**Franck Michoux *et al.* (Alkion Biopharma Ltd, London, UK)

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**'Improved high level transient expression of the neutralizing antibody against the human rotavirus in *N. benthamiana*'**Rie Yasuno *et al.* (AIST, Sapporo, Japan)

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**'Transient expression of immunogenic bluetongue VLPs in *N. benthamiana*'**A.E. Meyers *et al.* (University of Cape Town, Cape Town, South Africa)

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**'Improvement of antibody stability expressed in plant suspension cells'**Bertrand Magy *et al.*

(Universite Catholique de Louvain, Louvain-la-Neuve, Belgium)

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**'Oral immunogenicity of a tomato-made multicomponent tuberculosis vaccine'**Claire Penney *et al.* (Monash University, Clayton, Victoria, Australia)

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**'Considerations for the risk assessment of GM farming plants'**Didier Breyer *et al.* (Scientific Institute of Public Health, Brussels, Belgium)

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**'Vaccinomics – facing the social, ethical and policy challenges'**

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**'Recombinant expression of 660 fDa human thyroglobulin in soybean seeds for use in diagnostic assays'**Kenneth L. Pillar *et al.* (SoyMeds Inc., Davidson, North Carolina, USA)