

S05
HORTGEN: GM HORTICULTURAL CROPS, FROM THE LAB TO THE FIELD
CONVENERS

Richard E. Litz, *Tropical Research Education Centre, University of Florida, USA*

Fernando Pliego Alfaro, *University of Málaga, Spain*

SCIENTIFIC COMMITTEE

Margarida Oliveira, *ITQB, Universidade Nova de Lisboa, Portugal*

Frank Krens, *Wageningen UR Plant Breeding, The Netherlands*

Robert Drew, *Centre for Forestry and Horticulture Research, Griffith University, Australia*

Ralph Scorza, *USDA-ARS Appalachian Fruit Research Station, USA*

J.I. Hormaza, *CSIC, E.E. "La Mayora", Málaga, Spain*

Samuel Edudzi Timpo, *Biotechnology & Nuclear Agriculture Research Institute, Ghana Atomic Energy Commission, Ghana*

Rajbir Singh Sangwan, *Université de Picardie Jules Verne, France*

Leandro Peña, *IVIA, Valencia, Spain*

Viola Hanke, *Julius Kühn Institute, Dresden, Germany*

Keizo Yonemori, *Kyoto University, Japan*

Violeta Villegas, *Syngenta Philippines Inc., Taguig City, Philippines*

Dennis Gray, *University of Florida, Apopka, USA*

Herb Aldwinckle, *Cornell University, Geneva, USA*

Abhaya Dandekar, *University of California, Davis, USA*

11.45 - Oral | Transgenic Advances Toward Induction of Precocious Flowering in Citrus

Kamps, T. L.; Moore, G. A. | S05.004

12.00 - SP | Functional Characterization of Two Antagonistic Acting Flowering Genes in Apple *Malus ×domestica* Borkh.

Flachowsky, H.; Szankowski, I.; Peil, A.; Tränkner, C.; Lehmann, S.; Hanke, V. M. | S05.005

SP | *Agrobacterium*-Mediated Transformation of Olive (*Olea europaea* L.) with a Medicago Truncatula Gene Encoding an FT-Like Protein

Cerezo, S.; Samach, A.; Mercado, J. A.; Pliego - Alfaro, F. | S05.006

SP | Morphological Change in the Transgenic *Torenia* Plants Expressing *Arabidopsis* TCP3 Chimeric Repressor

Narumi, T.; Aida, R.; Koyama, T.; Tanaka, T.; Fukai, S.; Ohme-Takagi, M.; Ohtsubo, N. | S05.007

SP | Development of Transgenic Plants with Flowering Control Gene in Chrysanthemum (*Dendranthema grandiflorum*)

Kim, J. H.; Kwon, Y. J.; Kim, M. Y.; Jung, J.; Yu, M. Y.; Ahn, J. H.; Park, S. K.; Lim, J. H.; Hyung, N. I. | S05.008

SP | Transgenic Chrysanthemum Expressing *Arabidopsis* Chimeric AP1 Repressor Show *in vitro* Flowering under Long Day Conditions

Kisida, T.; Narumi, T.; Aida, R.; Mitsuda, N.; Ohme-Takagi, M.; Ohtsubo, N.; Fukai, S. | S05.009

SP | Engineering Yellow Flower Colour – Novel Strategies with Chalcone 3-Hydroxylase

Miosic, S.; Shrestha, B.; Gosch, C.; Schlangen, K.; Halbwirth, H. | S05.010

SP | DNA Fidelity: Expression of a Fruit Monocot Promoter in a Dicot Plant

López Gómez, R.; Welsh, S.; Mason, H.; Gómez Lim, M. A.; Sucedo, L. J.; Rodríguez Zapata, L. C.; Salgado Garciglia, R.; Suárez Rodríguez, L. M.; Arntzen, C. J. | S05.011

MONDAY, 23 AUGUST
10.30–12.30h
Room 5B
Session 1
BIOTECH APPROACHES ON FLOWERING

Chairperson: *Fernando Pliego-Alfaro (Spain)*

10.30 - Inv. Speaker | Biotechnological Approaches to Study Environmental Regulation of Fruit Tree Development – The Almond Model

Oliveira, M. M.; Barros, P.; Santos, A. M.; Silva, C.; Costa, M.; Cherian, S. | S05.001

11.00 - Inv. Speaker | Biotechnological Approaches to Shorten the Juvenile Period in Fruit Trees

Hanke, M. | S05.002

11.30 - Oral | Expression of the Poplar Flowering Locus T1 (FT1) Gene Reduces the Generation Time in Plum (*Prunus domestica* L.)

Srinivasan, C.; Callahan, A.; Dardick, C.; Scorza, R. | S05.003

13.30–15.00h
Room 5B
Session 2
GM AND IN VITRO TECHNOLOGY IN FRUIT TREE BREEDING

Chairperson: *Richard Litz (United States)*

13.30 - Inv. Speaker | GM Citrus: Current Status and Future Prospectives

Peña, L.; Cervera, M.; Fagoaga, C.; Alquézar, B.; Pons, E.; Soler, N.; Rodríguez, A.; Redondo, A.; Peris, J. | S05.012

14.00 - Oral | Gene for PRSV-P Resistance in *Vasconcellea* Species and Development of PRSV-P Resistant Papaya Via Intergeneric Hybridisation
Siar, S. V.; Drew, R. A.; Razali, R. M.; Villegas, V. N. | S05.013

14.15 - Oral | A Comparison of Biotech Methods for Controlling Infections by the Avocado Sunblotch Viroid (ASBVD)
Litz, R. E.; Perea Arango, I.; Suarez Padron, I. | S05.014

14.30 - SP | Expression of Thaumatin II Gene in Horticultural Crops for Improved Pathogen Resistance and Fruit Taste Modification
Dolgov, S.; Lebedev, V.; Shestibratov, K.; Taran, S.; Tjukavin, G.; Firsov, A. | S05.015

SP | Cold Resistance Characteristics of Transgenic Lines Carrying Exogenous CBF Gene in Apple
Du, G.; Wang, Y.; Shi, X.; Feng, S.; Yang, L. | S05.016

SP | Performance and Long-Term Stability of the Barley Hordothionin Gene in Transgenic Apple Cultivars
Krens, F. A.; Schaart, J. G.; Groenwold, R.; Walraven, A. E. J.; Thissen, J. N. M. | S05.017

SP | First Field Trial of Transgenic Banana in Australia
Dale, J.; Becker, D.; Harding, R.; Daniells, J. W. | S05.018

SP | Development of Chemical Inducible Deletion Technologies for Citrus Marker-Free Transformation
Yang, L.; Li, L.; Xie, Y.; Ye, Z.; Deng, Z. | S05.019

SP | Expression Studies and Promoter Characterisation of the 1-Aminocyclopropane-1-Carboxylate Synthase 1 Gene (ACS-1) in Apple
Granozio, S. M.; Paris, R.; Pagliarani, G.; Negri, P.; Tartarini, S.; Sansavini, S. | S05.020

SP | Genetic Transformation of Plum for Sharka Resistance
Monticelli, S.; Costantini, E.; Di Nicola-Negri, E.; Gentile, A.; Ilandi, V.; Damiano, C. | S05.021

16.30–18.00h

Room 5B

Session 3 GM AND *IN VITRO* TECHNOLOGY IN BREEDING OF HORTICULTURAL CROPS

Chairperson: Rod Drew (Australia)

16.30 - Inv. Speaker | Plant Epigenetics: Beyond the Double Helix
Rival, A.; Jaligot, E.; Beule, T. | S05.022

17.00 - Oral | Applications of Biotechnology in Genetics and Breeding in Radish (*Raphanus sativus* L.)

Liu, L.; Gong, Y.; Jiang, L.; Sun, X.; Xu, Y. | S05.023

17.15 - Oral | Dehydrating Response Transcription Factor PeDREB2b Gene Transformation to White Clover Via Soaking Seeds with *Agrobacterium tumefaciens*
Lei, J. L.; Wu, Y. M.; Liu, S.; Cao, H.; Huang, D. G.; Wang, D.; Xie, L. S. | S05.024

17.30 - SP | Development and Field Trial of GM (Genetically Modified) Potatoes in Korea: Case Study of Biotic and Abiotic Stress Resistance
Cho, K.; Ahn, S.; Seo, H.; Lee, J.; Cho, J.; Park, Y.; Kim, H.; Cho, H. | S05.025

SP | Stable Integration and Expression of Chitinase Gene in Transgenic Tomato
Mythili, J. B.; Rajeev, P. R.; Yadav, S.; Ramanjini Gowda, P. H.; Ganeshan, G.; Chowdappa, P. | S05.026

SP | Effects of Irradiation Doses on Haploid Embryo and Plant Production in Naked Seed Pumpkins
Berber, M.; Yildiz, M.; Abak, K. | S05.027

SP | Enhancement of Tolerance to Soft Rot Disease in the Transgenic Chinese Cabbage (*Brassica rapa* L. ssp. *pekinensis*) Inbred Line, Kenshin
Vanjildorj, E.; Song, S. Y.; Yang, Z. H.; Lim, Y. P. | S05.028

SP | RNAi-Induced Silencing of a Cellulose Synthase Gene Affects the Leaf Anatomy, Cellulose Content and Drought Tolerance in Broccoli
Guo, Y.; Wang, Y.; Yang, P.; Liu, L.; Wen, C.; Zhao, Y.; Zhao, L.; Ren, S. | S05.029

SP | Synplant Cultures Raised in Artificial Plant Ovary (APO)
Fári, M. G.; Márton, L. | S05.030

SP | Adopt Tobacco Plastid and Nuclear Transformation Techniques in the University of Debrecen, Hungary
Oláh, J.; Balla, Z.; Fári, M.; Miskei, M. | S05.031

15.00–16.30h

Pav. 2

Poster Session

GM AND *IN VITRO* TECHNOLOGY IN BREEDING OF HORTICULTURAL AND FRUIT TREE CROPS

Chairperson: Rod Drew (Australia)

Poster | *Agrobacterium tumefaciens*-Mediated Transformation of 'Brewster' Litchi (*Litchi chinensis* Soon.)
Padilla, G.; Perea Arango, I.; Moon, P. A.; Litz, R. E. | S05.200

Poster | Regeneration of *Agrobacterium*-Mediated Transformed Tamarillo (*Cyphomandra betacea*) by Two Distinct *in vitro* Morphogenic Pathways
Figueiredo, E.; Correia, S.; Lopes, L.; Canhoto, J. | S05.201

- Poster** | Development of an *Agrobacterium* Transformation System for 'Bramley's' Seedling Apple (*Malus ×domestica* Borkh.)
McAdam O'Connell, D.; Mac an Tsaoir, S. | S05.202
- Poster** | *Agrobacterium tumefaciens*-Mediated Transformation of the Apple Rootstock M26 with GFP: Increasing the Efficiency by Ultrasonication
Breitenbücher, K.; Weber, G.; Höhnle, M. | S05.203
- Poster** | Regeneration and Genetic Transformation Via-Organogenesis of Different Varieties of *Vitis vinifera* and *Prunus persica*
Palma, D.; Girolomini, L.; Pandolfini, T.; Navacchi, O.; Mezzetti, B. | S05.204
- Poster** | Embryogenic Capacity of Embryo-Derived Explants from Different Olive Cultivars
Mazri, M. A.; Pliego-Alfaro, F.; Belkoura, M.; Belkoura, I. | S05.205
- Poster** | Isolation and Characterization of Strong Gene Regulatory Sequences from Apple, *Malus ×domestica*
Schaart, J.; Tinnenbroek-Capel, I.; Joshi, S.; Schouten, H.; Krens, F. | S05.206
- Poster** | Genome Stability After Gene Pyramiding Using the pMF Marker-Free Vector System
Krens, F. A.; Joshi, S. G.; Tinnenbroek-Capel, I. E. M.; Kodde, L.; Schaart, J. G. | S05.207
- Poster** | Characteristics of Pollen Germination and Morphology in CpTI Transgenic Apple
Zhou, R. J.; Du, G. Q.; Shi, X. X.; Wang, Y. X.; Zhang, J. W.; Pu, N. N.; Lu, F. | S05.208
- Poster** | *Agrobacterium*- Mediated Transformation of Avocado (*Persea americana* Mill.) with AtNPR1 Gene
Palomo-Ríos, E.; Pliego, C.; Muñoz-Blanco, J.; Mercado, J. A.; Pliego-Alfaro, F. | S05.209
- Poster** | Genetic Engineering of Cavendish Bananas for Resistance Against *Fusarium oxysporum* f. sp. *cubense*
Veale, A.; Selowa, C.; Mahomed, W.; Van den Berg, N. | S05.210
- Poster** | Design and Construction of a Transformation Vector to Induce Crown Gall Disease Resistance
Albuquerque, N.; Faize, L.; Wang, H.; Burgos, L. | S05.211
- Poster** | Effects of Genotypes and Irradiation Doses on Haploid Embryo Induction and Plant Production in Bottle Guard (*Lagenaria siceraria*)
Gok Guler, P.; Sari, N.; Kantoglu, Y.; Kunter, B.; Yetisir, H. | S05.212
- Poster** | Repair of Partially Wounded Chrysanthemum Shoot Apical Meristems After Bombardment
Hosokawa, M.; Suzue, H.; Doi, M. | S05.213
- Poster** | Induced Anther Calogony of *Capsicum annuum* L.
Rego, M. M.; Rego, E. R.; Farias Filho, L. P. | S05.214
- Poster** | Introduction of Ac/Ds System to Chinese Cabbage for Insertional Mutagenesis and Large-Scaled Production of Mutant Lines
Eun-Jo, S.; Jae-Gyeong, Y.; Gyu-Dong, O.; Eun-Mi, H.; Jung-Woo, L.; Eun-Taek, W.; Young-Doo, P. | S05.215
- Poster** | Factors Influencing in vitro Regeneration and *Agrobacterium* Mediated Transformation of Onion cv. Arka Niketan
Mythili, J. B.; Rajeev, P. R.; Chethana, B. S. | S05.216
- Poster** | Selection of *Cucumis melo* L. subsp. *melo* 'Piel de Sapo' Lines with a Higher Efficiency in *Agrobacterium*-Mediated Genetic Transformation
Menéndez, E.; Marfa, V.; Claveria, E.; Martínez, I.; Pujol, M.; Dolcet-Sanjuan, R. | S05.217
- Poster** | Creating Marker-Free Plants by Combining Site-Specific Recombination and the DAO1 Gene that Allows Both Positive and Negative Selection
García-Almodovar, R. C.; Petri, C.; González-Padilla, I. M.; Burgos, L. | S05.218
- Poster** | Efficiency of PMI/Mannose as a Selectable Marker for Transformation of Kalanchoe Potted Plants
Ilczuk, A.; Mibus, H.; Schmidt, M.; Serek, M. | S05.219
- Poster** | Plant Regeneration from Hairy Roots in Lavandin (*Lavandula ×intermedia* Emeric)
Tsuro, M.; Ikedo, H.; Kato, H. | S05.220
- Poster** | Analysis of PEITC Enriching Transgenic Chinese Cabbage Developed by Related Genes
Ji-Hyun, P.; Suk Man, P.; Gi-Ho, L.; Yoon-Jee, K.; Eun-Young, P.; Eun-Taek, W.; Young-Doo, P. | S05.221
- Poster** | Isolation of Cpglp Gene Encoding Germin-Like Proteins (GLPs) from *Chimonanthus praecox* and its Functional Analysis in the Transgenic Tobacco
Sui, S. Z.; Liu, C. X.; Liu, D. F.; Zhang, Q.; Luo, J. H.; Li, M. Y. | S05.222
- Poster** | Increasing the Drought Tolerance of Annual Ornamental Plants by Genetic Engineering
Szarvas, P.; Miskei, M.; Oláh, J.; Papp, I.; Kováts, Z.; Fári, M. | S05.223
- Poster** | Field Evaluation and Analysis of Molecular Biological Characteristics of the Herbicide Resistance Potato
Ahn, S.; Cho, K.; Seo, H.; Yi, J.; Cho, J.; Park, Y.; Kim, H.; Cho, H. | S05.224
- Poster** | Production of Transgenic Bt Potato Plants: a New Promoter in Focus
Ghasimi Hagh, Z.; Rahnama, H.; Mahna, N. | S05.225
- Poster** | A Study of Somaclonal Variation among Transgenic Potato Lines
Ghasimi Hagh, Z.; Rahnama, H.; Panahandeh, J.; Mahna, N. | S05.226

Poster | Bioassay of Transgenic Bt Potato: C4-PEPC Promoter Works Well in C3 Plants

Ghasimi Hagh, Z.; Rahnama, H.; Baghban, K. R. B.; Mahna, N.

| S05.227

Poster | Genetic Transformation of Plum Varieties: Method and Application

Dolgou, S.; Mikhailov, R.; Serova, T.; Shulg, O.; Firsov, A.

| S05.229

Poster | Allergenicity of Genetically Modified Apple Lines

Kok, B.; Dubois, A. E.; Eriksen, F. D.; Van de Weg, E.; Hoffmann-Sommergruber, K.; Krath, B. N.; Pedersen, B. H.; Van Der Heide, S.; Dragsted, L. O.; Vlieg, B. J.

| S05.230