

Viroid-2018

International Conference on Viroids and Viroid-Like RNAs

5-7 July 2018, Valencia, Spain

Polytechnic City of Innovation, Universitat Politècnica de València
Avenida de los Naranjos, 46022 Valencia, Spain

<http://www.ibmcp.upv.es/viroid-2018/>
viroids2018@upv.es

Updated version, 29 June 2018

Thursday, July 5th

09:00-10:00. Registration at CPI Red Prism

10:00-10:20. Opening

Chairman: Robert A. Owens

Viroid replication

10:20-10:40. **01.** How does potato spindle tuber viroid interact with the host machinery for replication? Some recent insights into the mechanism

Y. Wang, J. Qu, S. Ji, A.J. Wallace, J. Wu, J. Jiang, S. Ji, V. Gopalan, Y. Li and B. Ding

10:40-11:00. **02.** From viroids and ribozymes: RNA back and forth

M.C. Maurel

11:00-11:40. Coffee break and poster session at CPI Purple Prism

Chairwoman: Anna Góra-Sochacka

Host defensive response to viroid infection

11:40-12:00. **03.** Understanding the interplay between PSTVd and plant defenses

K. Katsarou, N. Kriovrisanaki, I. Bardani, E. Mitta, A. Grigoriadou and K. Kalantidis

12:00-12:20. **04.** Transcriptome and degradome analysis of the *Citrus exocortis* viroid-tomato pathosystem

T. Olivier, S. Steyer and C. Bragard

12:20-12:40. **05.** Susceptibility to viroid infection of tomato plant in which RNA silencing key factors –AGO2, RDR6, or DCL2 & 4– is knocked down

T. Suzuki, A. Kasai, M. Fujibayashi and T. Sano

13:00-15:00. Lunch at El Trinquet (Universitat Politècnica de València)

15:00. Bus transfer to Valencia CSIC headquarters in Old Town

Chairman: Ricardo Flores

Viroid transmission and traffic

16:00-16:20. **O6.** Vertical and horizontal transmission of pospiviroids
Y. Matsushita and H. Yanagisawa

16:20-16:40. **O7.** Indirect assessment of viroid functions: chrysanthemum chlorotic mottle viroid-mediated trafficking of foreign mRNA into chloroplasts and the best laid plans of mice and men that often go awry
P. Palukaitis, E. Baek, M.-J. Park and J.-Y. Yoon

Host-viroid interaction and pathogenesis I

16:40-17:00. **O8.** Citrus exocortis viroid causes ribosomal stress in tomato plants
P. Cottilli, B. Belda-Palazón, A. Ferrando, E. Schleiff, I. Rodrigo and P. Lisón

17:00-17:30. Break

Chairwoman: Efthimia Mina Tsagris

17:30-17:50. **O9.** Transcriptomic profiling of *Humulus lupulus* in response to *Citrus bark cracking viroid* (CBCVd) infection
A.K. Mishra, J. Matoušek, D. Mishra, U. K. Killi, A. Kumar, T. Kocábek and J. Jakše

17:50-18:10. **O10.** Identification and characterization of miRNAs in cucumber and their responses to hop stunt viroid (HSVd) infection
Z.X. Zhang, C.J. Xia, W.Y. Hou, Z.F Fan, T. Sano and S.F. Li

18:10-18:30. **O11.** HSVd infection impairs the epigenetic control of repetitive DNA in vegetative and gametic infected cells
M. Castellano, V. Pallás and G. Gómez

18:30. Guided visit to Valencia historical city center

Friday, July 6th

Chairman: Jean-Pierre Perreault

Host-viroid interaction and pathogenesis II

09:00-09:20. **O12.** A yellow mosaic incited by peach latent mosaic viroid: strict association with a single-nucleotide change involved in RNA silencing-mediated cleavage of the mRNA coding for a thylakoid protein
S. Delgado, B. Navarro, P. Serra, P. Gentit, M.A. Cambra, M Chiumenti, F. Di Serio and R. Flores

09:20-09:40. **O13.** CBCVd in hops: what did we learn from its discovery?
J. Jakše, N. Štajner, T. Pokorn, A.K. Mishra, J. Matoušek, T. Guček and S. Radišek

09:40-10:00. **O14.** Effects of potato spindle tuber viroid on the degradome of tomato and *Nicotiana benthamiana*: a comparative analysis
B. Navarro, A. Gisel, P. Serra, R. Flores and F. Di Serio

10:00-10:20. **O15.** *In silico* molecular interaction between PSTVd, TCDVd and some *Solanaceae* species
I. Rekik, O. Ellouze and A. Elleuch

10:20-11:20. Coffee break and poster session at CPI Purple Prism

Chairwoman: Nuria Duran-Vila

11:20-11:40. **O16.** The symptom pattern incited by chrysanthemum chlorotic mottle viroid results from RNA silencing of an enzyme of the Calvin's cycle and from its high mutation rate and population bottlenecks during host colonization
P. Serra, B. Navarro, A. Gisel, F. Di Serio and R. Flores

Taxonomy and new viroid species and sequence variants

11:40-12:00. **O17.** Viroid taxonomy: state of the art and perspectives in the high-throughput sequencing era
F. Di Serio

12:00-12:20. **O18.** Citrus viroid VII, a novel citrus viroid found in Lisbon Lemon in Australia
G.A. Chambers, N.J. Donovan, S. Bodaghi, S.M. Jelinek and G. Vidalakis

12:20-12:40. **O19.** Molecular characterization of apple hammerhead viroid isolates from ancient Italian apple cultivars
M. Chiumentì, B. Navarro, P. Venerito, F. Civita, F. Di Serio and A. Minafra

13:00-15:00. Lunch at El Trinquet (Universitat Politècnica de València)

Chairman: Teruo Sano

Viroid structure

15:00-15:20. **O20.** What's up with the viroid structural compendium?
J.P. Perreault and T. Giguère

15:20-15:40. **O21.** Direct visualization of the native conformation of PSTVd, PLMVd and ELVd at single-molecule resolution by atomic force microscopy
M. Moreno, L. Vázquez, M.A. López-Carrasco, J.A. Martín-Gago, R. Flores and C. Briones

Viroid diseases

15:40-16:00. **O22.** *Citrus bark cracking viroid*: biological properties and impact on Slovene hop production
S. Radišek, T. Guček, J. Matoušek and J. Jakše

16:00-16:20. **O23.** Molecular characterization of potato spindle tuber viroid from dahlia plants in Japan
D. Tsushima and S. Fuji

16:20-17:00. Coffee break and poster session at CPI Purple Prism

17:00-18:00. Meeting of the International Council for the Study of Viroids and Viroid-Like RNAs

21:00. Conference dinner at Balneario Resort Las Arenas

Saturday, July 7th

Chairwoman: Beatriz Navarro

Viroid diagnosis

09:00-09:20. **O24.** Detection of Pepper chat fruit viroid (PCFVd) by reverse transcription loop-mediated isothermal amplification (RT-LAMP)
P. Tangkanchanapas, M. Höfte and K. De Jonghe

09:20-09:40. **O25.** Overcoming the challenges of the *Potato spindle tuber viroid* diagnostic in tomato seeds, leaves and water samples
N.Mehle, P. Kogovšek, N. Rački, T. Jakomin, I. Gutierrez-Aguirre and M. Ravnikar

Viroid biotechnology

09:40-10:00. **O26.** *Citrus dwarfing viroid* reduces citrus apical shoot growth and alters tree hormone profile. Pathogen or an answer to emerging citriculture challenges?
I. Lavagi, C. Lovatt and G. Vidalakis

10:00-10:20. **O27.** An eggplant latent viroid-based platform to produce recombinant RNA in *Escherichia coli*
B. Ortolá, T. Cordero and J.A. Daròs

10:20-11:20. Coffee break and poster session at CPI Purple Prism

Chairman: Peter Palukaitis

These amazing circular RNAs

11:20-11:40. **O28.** The amazing small circular RNAs with hammerhead ribozymes colonizing the genomes of eukaryotes
A. Cervera and M. de la Peña

11:40-12:00. **O29.** Viroids as companions of my professional and personal life
N. Duran-Vila

12:00-12:20. **O30.** Viroids – at the forefront of RNA technology and RNA biology
G. Steger and D. Riesner

12:20-12:40. **O31.** Viroids: reflections on two contentious issues and one unsolved conundrum
R. Flores

13:00-15:00 Lunch at CPI Purple Prism and farewell

POSTERS

Host defensive response to viroid infection

P1. A salicylate hydroxylase involved in the tomato defence against citrus exortis viroid
S. Minguillón, L. Campos, M. Hernández, I. Rodrigo, J.M. Bellés, V. Conejero, M.P. López-Gresa and P. Lisón

Viroid transmission and traffic

P2. Subcellular RNAi components localization upon PSTVd infection
K. Katsarou, E. Deligianni and K. Kalantidis

P3. Agroinfection methods for evaluating *Chrysanthemum stunt viroid* accumulation and movement in *Chrysanthemum* plants
T. Nabeshima, M. Doi and M. Hosokawa

Host-viroid interaction and pathogenesis

P4. Comparative analysis of gene expression in tomato leaves during development of mild and severe potato spindle tuber viroid infection
A. Więsyk, R. Iwanicka-Nowicka, A. Fogtman and A. Góra-Sochacka

P5. Profiling of microRNAs in PSTVd infected Bulgarian pepper cultivars
D. Ivanova, E. Apostolova, D. Lazarova, N. Tomlekova, G. Yahubyan, V. Baev and M. Gozmanova

P6. Differential gene expression profiles of oil palm seedlings infected with *Coconut cadang-cadang viroid* variants
L.L. Kong, S.S. Thanarajoo and G. Vadamalai

P7. Analysis of gene expression changes in hop plants in response to single and multiple viroid infections using RNA-Seq approach
J. Jakše, J. Matoušek, S. Radišek and N. Štajner

P8. *Avocado sunblotch viroid* interaction with host superoxide dismutase
D. Gobatto, M. Eiras and J.A. Daròs

Taxonomy and new viroid species and sequence variants

P9. Grapevine latent viroid and grapevine hammerhead viroid-like identified by next generation sequencing in an ancient grapevine germplasm collection in Italy
S. Rotunno, A.M. Vaira, D. Marian, F. Di Serio, B. Navarro, A. Schneider, S. Raimondi, L. Miozzi

P10. Occurrence and molecular characterization of *Apple scar skin viroid* infecting pear plants grown in China

N. Hong, H. Zhu, L.P. Wang and G.P. Wang

P11. Application of high-throughput sequencing for the detection of viruses and viroids in apples

R. Bester, S. Malan, H.J. Maree

P12. Transcriptome sequencing reveals novel Citrus bark cracking viroid (CBCVd) variants from citrus and their molecular characterization

Y. Wang, S. Atta, X. Wang, F. Yang, C. Zhou, M. Cao

Viroid structure

P13. Exploring the presence of C⁵-methylcytosine in viroid RNAs

B. Navarro, J.A. Daròs and F. Di Serio

Viroid diseases

P14. Selection of AFCVd variants with severe and mild symptom on tomato fruits

T. Suzuki, M. Fujibayashi and T. Sano

P15. Elimination of apple fruit crinkle viroid (AFCVd) during anther development and its depressed propagation in pollen of *Nicotiana tabacum*

J. Matoušek, L. Steinbachová, U.K. Killi, A.K. Mishra, T. Sano, D. Honys and G. Steger

P16. Some pathogenic effects and elimination of hop variants of two pospiviroids, CBCVd and AFCVd, during development of pollen of *Nicotiana benthamiana*.

L. Steinbachová, H. Matoušková, O. Horáková, S. Radišek, D. Honys and J. Matoušek

P17. Identification of the causal agent of coconut tapering disorder in Sri Lanka

L. Perera, M. K. Meegahakumbura, J. W. Randles, Z.X. Zhang and S.F. Li

P18. Presence of HLVd in the collection of hop varieties in Czech Republic

P. Svoboda, J. Patzak, J. Matoušek, I. Malirová and V. Nesvadba

P19. Identification of *Arabidopsis thaliana* ecotypes of susceptible to viroids

M. Glanowski, P. Moffett

P20. The construction and biological application of infectious citrus viroid clones

C. Steyn, G. Cook, J.T. Burger and H.J. Maree

P21. *Cardamine bonariensis* and *Oxalis latifolia*: potential reservoirs of *Chrysanthemum stunt viroid* in chrysanthemum crops

D. Gobatto, D.A.S. Franco, N. Velasquez, J.A. Daròs and M. Eiras

P22. Identification of vein banding and yellow speckle diseases in Kurdistan province, west of Iran

M. Hajizadeh, G. Ahmadi and V. Roumi

P23. The *in vitro* synthesis of infectious viroid cDNAs
G. Hu, N. Hong, G. Wang, L. Wang and W. Xu