



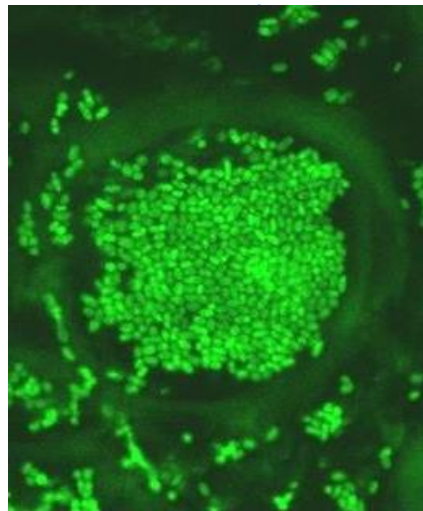
International Bacterial Wilt Symposium

7th International Bacterial Wilt Symposium

19 – 24 March 2023

Montevideo, Uruguay

<http://www.7ibws2020.fq.edu.uy>



UNIVERSIDAD
DE LA REPÚBLICA
URUGUAY



ORGANIZERS & SPONSORS

Scientific Committee
María Inés Siri (Uruguay)
María Julia Pianzzola (Uruguay)
Guillermo Galván (Uruguay)
Mauricio Rossato (Brazil)
Paola Zuluaga (Colombia)
José Antonio Castillo (Ecuador)
Myriam Valenzuela (Chile)
Marc Valls (Spain)
Stephane Genin (France)
Caitilyn Allen (USA)
David Norman (USA)
Boshou Liao (China)
Yasufumi Hikichi (Japan)

Local Organizing Committee
María Inés Siri
Virginia Ferreira
María Julia Pianzzola
Paola Gaiero
Guillermo Galván
Matías González
Francisco Vilaró
Gustavo Rodríguez
Marco Dalla Rizza



Welcome message

On behalf of all the members of the Organizing Committee from Universidad de la República (Udelar) and the National Agricultural Research Institute (INIA) of Uruguay, I would like to extend our warmest welcome to Montevideo for all participants of the 7th International Bacterial Wilt Symposium (7IBWS).

Bacterial wilt caused by plant pathogenic *Ralstonia* species is one of the most important diseases affecting the production of many important food crops. Because of its very broad host range and wide geographical distribution, it is arguably the world's single most harmful bacterial plant pathogen. A large scientific community has been dedicated to studying bacterial wilt diseases worldwide. Several International Bacterial Wilt Symposia have been organized in different locations across the world including Taiwan (1992), Guadeloupe (1997), White River (2002), York (2006), Wuhan (2011), and Toulouse (2016). Without any doubt, this event has become a reference meeting for the scientific community working on this relevant topic. We are delighted and proud to host the 7th IBWS edition in Uruguay, being the first time, it takes place in a South American country.

Just like the previous six editions, I am confident that the 7IBWS 2023 will play an important role in encouraging activities for development of bacterial wilt research. Partaking advances and innovative ideas, I hope that this event will promote collaborative research within our scientific community. The program of this event is broad and exciting, including both fundamental and applied research topics, as well as invited conferences focused on other related plant pathogenic bacteria. This framework provides a unique meeting ground for researchers spanning the whole spectrum of our discipline. We hope that you will have a productive and fun-filled time at this very special conference.

To put a conference of this magnitude together is not a small task. To this end, I would like to express my sincere gratitude to all the local institutions and organizing staff for their constant support. I would also like to thank all the invited speakers and the members of the scientific committee, for their presence and contributions for the reviewing process and planning of the scientific sessions. I would also like to recognize all the sponsoring organizations for providing their generous financial support, making possible to carry out this conference and to cover more than 20 travel awards for students and young researchers from all over the world. Lastly, we would like to thank all the conference participants for their contributions which are the foundations of this meeting.

Welcome to Montevideo and enjoy the conference!

General Conference Chair:

María Inés Siri



SUN

MARCH 19 - José Luis Massera Building

16:00	Participant arrival and registration
17:30	Welcome words and musical show - Las Coralinas choir
18:30	Tango show and welcome reception

MON

MARCH 20 - José Luis Massera Building

08:00 – 08:30 Participant arrival and poster set up (Session A)

08:30 – 09:00 Opening Ceremony

Special session: “Insights and teachings from diverse plant-pathogenic bacteria” (part I)

Chairs: Caitilyn Allen and Stephane Genin

09:00 – 09:35 “*Xylella fastidiosa* is adapted to live exclusively in the xylem” – Leonardo De La Fuente

09:35 – 10:10 “Host specificity and immune recognition in *Clavibacter*-plant interactions” – Gitta Coaker

10:10 – 10:40 Morning break

Special session: “Insights and teachings from diverse plant-pathogenic bacteria” (part II)

Chairs: Caitilyn Allen and Stephane Genin

10:40 – 11:15 “New insights into the interaction between *Xanthomonas phaseoli* pv. *manihotis* and cassava – Adriana Bernal

11:15 – 11:50 “Along the same vein - defining the basis of *Xanthomonas* and *Ralstonia* plant colonization – Jonathan Jacobs

11:50 – 12:00 Final discussion and concluding remarks

12:00 – 12:40 Keynote lecture: “The special case of Race 3 biovar 2: Why is *Ralstonia solanacearum* IIB-1 so effective?” – Caitilyn Allen

12:40 – 14:00 Lunch break – Poster set up (Poster Session A)

Plenary Session: “Diversity, structure and evolution of the *Ralstonia solanacearum* species complex populations”

Chairs: María Inés Siri and Myriam Valenzuela

14:00 – 14:40 Opening lecture: “The *Ralstonia solanacearum* species complex in the age of epidemiology: exploration of its molecular diversity and population structure” – Gilles Cellier

14:40 – 14:55 Global biogeography and natural host range of pathogenic *Ralstonia* lineages – Tiffany Lowe-Power

14:55 – 15:10 *Ralstonia solanacearum* can rapidly evolve tolerance to volatile organic compounds produced by antagonistic bacteria – Raza Waseem

15:10 – 15:25 Adapting to environmental reservoirs is costly for the plant-pathogenic bacterium *Ralstonia solanacearum* – Evie Farnham

15:25 – 16:05 Closing lecture: “*Ralstonia solanacearum* species complex strains causing bacterial wilt of potato in sub-Saharan Africa: an impending socio-economic disaster” - Kalpana Sharma

16:05 – 16:40 Poster flash talks - Session A

16:40 – 18:00 Afternoon break – Exhibition and poster viewing (Session A)

TUE

MARCH 21 - José Luis Massera Building

08:00 – 08:30 Participant arrival and poster set up (Session B)

Plenary Session: “Infection and virulence mechanisms”

Chairs: Marc Valls and Yasufumi Hikichi

08:30 – 09:10 Opening lecture: “Deciphering the activities of *Ralstonia solanacearum* type III effectors: beyond activation and suppression of immunity” – Alberto Macho

09:10 – 09:25 Let’s stick together: mechanisms of host attachment and biofilm formation in bacterial wilt – Mariama Carter

09:25 – 09:40 Complex regulation of novel regulators TapV and CysB on expression of Type III Secretion System genes and pathogenicity in *Ralstonia solanacearum* – Yong Zhang

09:40 – 10:20 Closing lecture: “The Phc quorum sensing system in RSSC: specificity in signal production and response, regulation of secondary metabolism, and chemical control – Kenji Kai

10:20 – 10:50 Morning break

Plenary Session: “Mechanisms of plant-pathogenic *Ralstonia* interactions”

Chairs: Anjali Iyer-Pascuzzi and Alberto Macho

10:50 – 11:25 Host adaptation and pathogenesis of *Ralstonia pseudosolanacearum*: mechanisms and evolution – Stephane Genin11:25 – 12:00 Contribution of the quorum sensing to infection in tomato roots and virulence in *Ralstonia pseudosolanacearum* strain OE1-1 – Yasufumi Hikichi12:00 – 12:35 Restriction of *Ralstonia solanacearum* colonization in tomato resistant to bacterial wilt – Marc Valls

12:35 – 12:45 Final discussion and concluding remarks

13:00-14:00 Lunch break

Plenary Session: “Plant responses and disease development”

Chairs: Virginia Ferreira and Liao Boshou

14:00 – 14:40 Opening lecture: “Getting to the root of resistance to *Ralstonia solanacearum* in tomato” – Anjali Iyer-Pascuzzi (USA)14:40 – 14:55 SA-independent mechanism in the tomato diageotropica (*dgt*) mutant enhance root-mediated resistance to *Ralstonia solanacearum* K60 – Katherine Rivera-Zuluaga14:55 – 15:10 Virulence of novel *Ralstonia pseudosolanacearum* (phylo type I) isolates from rose, blueberry and mandevilla on seed potato – Maria Bergsma-Vlami

15:10 – 15:25 Epidemiology of Blood disease, an emerging threat to banana production – Jane Ray

15:25 – 16:00 Poster flash talks - Session B

16:00 – 17:30 Afternoon break – Exhibition and poster viewing (Session B)

17:30 – 17:45 Tribute to Philippe Prior

Hayward-Prior Award Session

Chairs: Caitilyn Allen and Gilles Cellier

17:45 – 18:00 Genomic and phenotypic diversity of *Ralstonia pseudosolanacearum* infecting multiple hosts in Cambodia – Taylor Klass18:00 – 18:15 Multiple and overlapping chemoreceptors within *Ralstonia* species have diverging ligand specificities – Rebecca Schomer18:15 – 18:30 Regulation of the micacocidin production-related gene RSc1806 and its involvement in virulence of *Ralstonia pseudosolanacearum* strain OE1-1 – Yuki Terazawa

18:30 – 18:45 Effect of bacterial wilt incidence on growth and yield response of tomato, potato and capsicum under various field soil amendments – Elizabeth Kariko Kago

18:45 – 19:00 Biological and molecular characterization of bacteriophages with biocontrol potential against bacterial wilt caused by *Ralstonia solanacearum* in tomato crops – Paulina Parra-Castro

WED

MARCH 22

8:00-18:30 Guided tour to Punta del Este
Optional activity, ticket not included in the registration fee

THU

MARCH 23 – INIA Las Brujas Experimental Station

07:30 Departure from José Luis Massera building

08:30 – 09:00 Arrival to INIA Las Brujas Experimental Station – Welcome and introduction to INIA

09:00 - 9:40 Invited lecture: “Breeding for potato bacterial wilt resistance in Uruguay” – Francisco Vilaró

9:40 - 10:10 Morning break

Plenary Session: “Host resistance and crop improvement”

Chairs: Miryam Valenzuela and Guillermo Galván

10:10 – 10:50 Opening lecture: “Recent advances in the selection of potato clones resistant to bacterial wilt in Brazil” – Mauricio Rossato

10:50 – 11:05 Adding value to our genetic resources: characterization and evaluation of potato wild relatives from Uruguay for bacterial wilt resistance and other traits of interest for breeding – Paola Gaiero

11:05 – 11:20 Identification of molecular markers for resistance to bacterial wilt in peanut - Huaiyong Luo

11:20 – 11:35 Discovery of functional R-genes in resistant rabbiteye blueberry (*Vaccinium ashei*) against *Ralstonia solanacearum* – Ana María Bocsanczy

11:35 – 12:15 Closing lecture: “Effect of the EFR gene on potato-bacterial wilt interaction and first evaluation of agronomic behavior” – Marco Dalla Rizza

12:15 – 13:30 Lunch break and exhibition of local stands

Plenary Session: “Innovative control strategies and integrated management”

Chairs: María Julia Pianzola and Mauricio Rossato

13:30 – 14:10 Opening lecture: “Ecology and evolution of phage-bacteria interactions in the rhizosphere: consequences for microbiome functioning and control of plant disease outbreaks” – Ville-Petri Friman

14:10 – 14:25 Detection and analysis of CRISPR locus in the *Ralstonia solanacearum* species complex – Cristofer Motoche

14:25 – 14:40 Pyramiding host resistance to bacterial wilt and other major soil-borne diseases for integrated management in peanut – Boshou Liao

14:40 – 14:55 Bioassay-based method for screening biological control agents against tobacco bacterial wilt – Can-Hua Lu

14:55 – 15:10 Integrated strategies to manage bacterial wilt (*Ralstonia*) of tomato in North Carolina, USA – Prem Magar

15:40 – 16:30 Afternoon break and exhibition of local stands

16:30 Return to Montevideo

17:30 Arrival to José Luis Massera building

20:30 Gala Dinner

FRI

MARCH 24 - José Luis Massera Building

Plenary Session: “Plant-pathogen interactions within the phytobiome”

Chairs: Virginia Ferreira and David James Norman

08:30 – 09:10	Opening lecture: “Bacterial wilt resistance and root microbiome in tomato” - Seon-Woo Lee
09:10 – 09:25	Transcriptional landscape of the <i>Ralstonia solanacearum</i> life cycle: identification of key genes for growth in soil – Mercedes Rocafort
09:25 – 09:40	Exposing phage to multiple host genotypes can improve outcome of phage training with phytopathogenic <i>Ralstonia solanacearum</i> – Sophie James
09:40 – 09:55	Indirect reduction of <i>Ralstonia solanacearum</i> via pathogen helper inhibition – Mei Li
09:55 – 10:35	Closing lecture: “Potential role of rhizosphere microbiome modulation in controlling <i>Ralstonia solanacearum</i> caused bacterial wilt- Kornelia Smalla
10:35 – 10:50	Closing ceremony
10:50 – 11:30	Morning break and farewell

7th IBWS

Poster Sessions

Mon 20

POSTER SESSION A

Code	Name of presenter author	Poster title
A1	Jane Ray	Current phylogenetic status of the <i>Ralstonia solanacearum</i> species complex in Australia
A2	Martina Stoycheva	<i>Ralstonia solanacearum</i> species from different continents show clear differences in their evolvability and genetic variation
A3	Caitilyn Allen	<i>Ralstonia solanacearum</i> cool virulence on potato is quantitative and evolved repeatedly
A4	Tiffany Lowe-Power (Nathalie Aoun)	Investigating the adaptive mechanisms of <i>Ralstonia solanacearum</i> species complex host range
A5	Maria Bergsma-Vlami	<i>Ralstonia pseudosolanacearum</i> (phylo type I) in waterways and bittersweet (<i>Solanum dulcamara</i>) in the Netherlands.
A6	Luciellen da Costa Ferreira	Prospecting interspecific pathogenic and growth characteristics on some isolates of <i>Ralstonia solanacearum</i>
A7	Antinéa Sallen	Evaluation of the phenotypic and genotypic diversity of <i>Ralstonia solanacearum</i> in metropolitan France and the risks for emergence of other species of the <i>Ralstonia</i> spp. complex
A8	Xiao-man She	Genomic sequencing of different sequevars of <i>Ralstonia pseudosolanacearum</i> strains isolated sunflower
A9	Nicole Vasconez	The bacterial wilt of tomato caused by <i>Ralstonia solanacearum</i> : an emerging disease in Chile
A10	Liyang Yan	Genetic diversity and pathogenicity variation of <i>Ralstonia solanacearum</i> strains from peanut in central and southern China
A11	Maka Muradashvili	Result of whole genome sequence-based characterization of eight <i>Ralstonia solanacearum</i> isolated in Georgia
A12	Marie Veronique Nomenjanahary	Genetic diversity of the type III effector RipAX2 in the <i>Ralstonia solanacearum</i> species complex and its impact on the deployment of eggplants carrying the EBWR9 resistance locus in the South-West Indian Ocean
A13	Kristi Kabyashree	<i>Ralstonia solanacearum</i> preferential colonization in the shoot apical meristem explains its pathogenicity pattern in tomato seedlings
A14	Shili Li	Identification of the RSc1155 gene involved in cinnamic acid chemotaxis in plant infection by <i>Ralstonia solanacearum</i>
A15	Elena Orellano	Participation of <i>Ralstonia solanacearum</i> catalases in the plant-pathogen interaction
A16	Virginia Ferreira	Calcium increases bacterial wilt resistance in potato and decreases <i>Ralstonia solanacearum</i> virulence.
A17	Marcela González	Evaluation of sources of resistance against <i>Ralstonia solanacearum</i> and <i>Clavibacter michiganensis</i> in tomato
A18	Huaiyong Luo (Li Huang)	Improving nitrogen fixation capacity of bacterial wilt-resistant peanut genotypes by discovering and integrating dominant genes for nodulation
A19	Qipeng Jiang	Soil properties drives bacterial community assembly in tobacco rhizosphere affecting bacterial wilt disease
A20	Huifang Jiang	Discovery of a Novel QTL on chromosome B03 for resistance to bacterial wilt in peanut variety ICG12625
A21	Valentina Stancov	Screening a core collection of potato wild relatives from Uruguay for bacterial wilt resistance
A22	Luciana Viera	Evaluation of resistance to bacterial wilt in advanced potato (<i>Solanum tuberosum</i> L.) germplasm
A23	Nicolás Núñez	Optimizing screenings to simplify phenotyping and dissect the genetic architecture of bacterial wilt resistance in potato wild relatives from Uruguay using GWAS

TUE 21

POSTER SESSION B

Code	Name of presenter author	Poster title
B1	Sara Franco Ortega	Reservoir hosts of <i>Ralstonia solanacearum</i> : a key element of the fight against bacterial wilt
B2	Alba Moreno Pérez	Single-cell RNA-seq strategy to identify effector-targeted plant cells
B3	Maria Bergsma-Vlami	Virulence assessment of <i>Ralstonia solanacearum</i> (phylotype II) isolated from ornamental <i>Rosa</i> spp. plants
B4	Myriam Izarra	Relative expression of β hpmeh gene in transgenic events of the potato variety 'Desiree' related to resistance to bacterial wilt caused by <i>Ralstonia solanacearum</i>
B5	Bayo Siregar	Bacterial wilt disease of <i>Eucalyptus pellita</i> in Indonesia: disease trigger factors, pathogen and host plants diversity
B6	Adan Alvarado Ramirez	Microbial community physiological profiles and isolation of <i>Ralstonia solanacearum</i> biocontrol agents of field-growing tomato plants
B7	Belén Álvarez	Effect of conservation by lyophilization on survival and in planta biological control of lytic bacteriophages of <i>Ralstonia solanacearum</i>
B8	Belén Álvarez	Characterization of <i>Solanum lycopersicum</i> defense responses to biocontrol with lytic <i>Ralstonia solanacearum</i> bacteriophages
B9	Belén Álvarez	Genomic and phylogenetic characterization of <i>Ralstonia solanacearum</i> bacteriophages useful for biocontrol in irrigation water and in plant
B10	Wei Ding	Green control technology and products innovation of new strategies based on biological barrier against tobacco bacterial wilt disease
B11	Qi Huang	Isolation and characterization of a jumbo <i>Ralstonia</i> -infecting phage with promising biocontrol potential
B12	Gao-Fei Jiang	Wilt disease suppression via rhizosphere microbiome transplant
B13	Gao-Fei Jiang (Tianjie Yang)	Enhancement of symbiotics on microbial resistance against soil-borne <i>Ralstonia</i> disease
B14	Elena Orellano	<i>Gluconacetobacter diazotrophicus</i> promotes resistance to <i>Ralstonia pseudosolanacearum</i> inducing plant defense routes
B15	Mauricio Rossato	Reaction of chickpea cultivars to bacterial wilt, a new disease to a crop under expansion in Brazil
B16	Mauricio Rossato	Grafting onto "baquicha" confers super protection on tomato against bacterial wilt
B17	Liang Yang	Sustainable natural bioresources: coumarins mediate resistance against <i>Ralstonia solanacearum</i> in tobacco through jasmonic acid signaling
B18	Lilia Carvalhais	Novel assay to detect <i>Ralstonia solanacearum</i> causing Moko disease in banana
B19	Amandine Cuntly	Missions of the Plant Health Laboratory as a National Reference Laboratory regarding the detection of <i>Ralstonia solanacearum</i> species complex
B20	Luis Otavio Saggion Beriam	Molecular differentiation of <i>Ralstonia solanacearum</i> biovars I, II and III
B21	Luis Otavio Saggion Beriam	First report of <i>Ralstonia solanacearum</i> on <i>Kalanchoe blossfeldiana</i> in Brazil
B22	Hyoung Lee	Microbiome and transcriptome analysis of a bacterial wilt resistant tomato plant transplanted with two different soil microbiotas
B23	Maka Muradashvili	Phage therapy for biocontrol of bacterial wilt in strategic crops
B24	Virginia Ferreira	Effect of rhizospheric bacterial communities on resistance to bacterial wilt in potato genotypes