

The 9<sup>th</sup> International Conference on  
**L e g i o n e l l a**

Rome, 26<sup>th</sup> - 30<sup>th</sup> September 2017



Auditorium Antonianum  
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## SPONSORISED SESSION



# SCIENTIFIC PROGRAMME

## TUESDAY, SEPTEMBER 26<sup>TH</sup>, 2017

- 13:00-18:45 Registration and exhibition
- 16:15-17:00 Welcome address and conference opening  
**Paola Borella** University of Modena and Reggio Emilia, Modena, Italy  
**Maria Luisa Ricci** Italian National Institute Health, Rome, Italy  
Chairs, *Legionella* 2017 Organizing Committee
- 17:00-18:30 **SESSION 1 - GLOBAL TREND OF LEGIONNAIRES' DISEASE**  
Chairs: **Valeria Gaia**, **Giovanni Rezza**
- 17:00-17:45 Legionnaires' Disease, a Brief History  
**Paul H. Edelstein**  
University of Pennsylvania, Philadelphia, United States of America  
*Lectio Magistralis*
- 17:45-18:15 Legionnaires' Disease from a European Perspective  
**Birgitta de Jong (Invited speaker)**  
European Centre for Disease Prevention and Control, Stockholm, Sweden
- 18:15-18:45 A Watershed Moment: The Increasing Challenge of Legionnaires' Disease in the United States  
**Laura A. Cooley (Invited speaker)**  
Center for Disease Control, Atlanta, United States of America
- 19:30-21:00 Welcome Cocktail at the "Istituto Nazionale di Studi Romani"  
<http://www.studiromani.it/html/sede.htm>

## WEDNESDAY, SEPTEMBER 27<sup>TH</sup>, 2017

- 08:30-18:00 Registration and exhibition
- 08:30-10:30 **SESSION 2 - PATHOGENESIS, IMMUNOLOGY AND HOST CELL INTERACTIONS**  
Chairs: **Carmen Buchrieser**, **Dario S. Zamboni**
- 08:30-09:00 Modulation of Membrane Dynamics and Cell Migration by *Legionella*  
**Hubert Hilbi (Invited speaker)**  
University of Zürich, Zürich, Switzerland
- 09:00-09:30 A New Approach to Identify *Legionella pneumophila* Effector Mutants with Distinct Virulence Phenotypes  
**Craig Roy (Invited speaker)**  
Yale University of Medicine, New Haven, United States of America
- 09:30-09:45 The Dot/Icm Type IV Secretion System Effector LtpM Defines a New Family of Modular Glycosyltransferases  
**Gunnar Neels Schroeder**  
Queen's University Belfast, Belfast, Northern Ireland
- 09:45-10:00 New Insights Into the *Legionella* Type 1 Secretion System  
**Hussein Kanaan**  
University of Lyon, Lyon, France
- 10:00-10:15 *Legionella pneumophila* Modulates Mitochondrial Dynamics To Trigger Metabolic Repurposing of Infected Macrophages  
**Pedro Escoll**  
Institute Pasteur, Paris, France



# SCIENTIFIC PROGRAMME

- 10:15-10:30 Manipulation of Host Metabolism by *Legionella pneumophila* Effectors that Activate and Inhibit mTORC1  
**Justin A. De Leon**  
University of California, Berkeley, United States of America
- 10:30-11:00 Coffee Break
- 11:00-13:00 **SESSION 2 - PATHOGENESIS, IMMUNOLOGY AND HOST CELL INTERACTION (CONTINUED)**  
Chairs: **Craig Roy, Carmen Buchrieser**
- 11:00-11:30 Recognition of *Legionella* by Intracellular Receptors in Macrophages  
**Dario S. Zamboni (Invited speaker)**  
University of São Paulo, São Paulo, Brazil
- 11:30-12:00 The Role of Lipids in *Legionella*-Host Interaction  
**Marta Palusinska-Szys (Invited speaker)**  
Maria Curie-Skłodowska University, Lublin, Poland
- 12:00-12:15 ER Remodeling by the Large GTPase Atlantin (Sey1/Atl3) Promotes Vacuolar Growth of *Legionella pneumophila*  
**Bernhard Steiner**  
University of Zürich, Zürich, Switzerland
- 12:15-12:30 SnpL, a Nucleomodulin Effector Protein of *Legionella pneumophila* Targets Host Transcription Elongation Machinery  
**Shivani Pasricha**  
University of Melbourne, Melbourne, Australia
- 12:30-12:45 Structural Insights Into *Legionella* RidL-Vps29 Retromer Subunit Interaction Reveal Displacement of the Regulator TBC1D5  
**Kevin Bärlocher**  
University of Zürich, Zürich, Switzerland
- 12:45-13:00 When Life Gives You Lemons in the Form of Oxidants...:  
A Peek Into the Molecular Underpinnings of How *Legionella* Copes with Oxidative Stress in Water  
**Nilmini Mendis**  
McGill University, Montreal, Canada
- 13:00-14:00 Lunch
- 14:00-15:30 **POSTER SESSION 1 - ROOMS EXHIBITION AREA**  
• PATHOGENESIS AND IMMUNOLOGY • GENETICS AND GENOMICS
- 15:30-16:45 **SESSION 3 - GENETICS AND GENOMICS**  
Chairs: **Hubert Hilbi, Sophie Jarraud**
- 15:30-16:00 Molecular Mimicry of Eukaryotic Proteins, a Main Virulence Strategy of *Legionella*  
**Carmen Buchrieser (Invited speaker)**  
Institute Pasteur, Paris, France
- 16:00-16:15 Retroelement-Guided Protein Diversification in *Legionella pneumophila*  
**Diego Arambula**  
University of California, Los Angeles, United States of America
- 16:15-16:30 Genetics of Widely Distributed Natural Transformability in *Legionella pneumophila* Clinical Isolates  
**Xavier Charpentier**  
International Centre of Research and Infectology, University of Lyon, Lyon, France



# SCIENTIFIC PROGRAMME

- 16:30-16:45 Evolution of Host-Adaptation in the Bacterial Order *Legionellales*  
**Lionel Guy**  
Uppsala University, Uppsala, Sweden
- 16:45-17:15 Coffee Break
- 17:15-18:00 **SESSION 3 - GENETICS AND GENOMICS (CONTINUED)**  
Chairs: **Jacob Moran-Gilad**, **Christopher Ginevra**
- 17:15-17:30 Genomic Evolutionary History of Legionnaires' Disease in Scotland  
**Bryan Wee**  
University of Edinburgh, Edinburgh, United Kingdom
- 17:30-17:45 The *Legionella* Genus Genome: a Global View of the Genus Evolution  
**Laura Gomez-Valero**  
Institute Pasteur, Paris, France
- 17:45-18:00 Whole Genome Sequence Analysis of the *Legionella pneumophila* Population Within the Water System of a Large Occupational Building  
**Vicky Chalker**  
Public Health England, London, United Kingdom

## THURSDAY, SEPTEMBER 28<sup>TH</sup>, 2017

- 08:15-16:15 Registration and exhibition
- 08:15-09:15 **SESSION 4 - CLINICAL ASPECTS, TREATMENT, ROUTE OF EXPOSURE AND HOST RELATIONSHIP**  
Chairs: **Laura A. Cooley**, **Maria Cristina Rota**
- 08:15-08:45 Clinical Characteristics of *Legionella* Infection  
**Paul H. Edelstein (Invited speaker)**  
University of Pennsylvania, Philadelphia, United States of America
- 08:45-09:00 Route of Exposure to Aerosol and Legionnaires' Disease or Pontiac Fever  
**Richard Bentham**  
Flinders University, Adelaide, Australia
- 09:00-09:15 *Legionella* Aerosols from Shower to an Ex Vivo Human-Porcine Respiratory Model  
**Severine Allegra**  
University of Lyon, Lyon, France
- 09:15-09:45 Coffee Break
- 09:45-11:45 **SESSION 5 - DIAGNOSIS AND TYPING**  
Chairs: **Søren Anker Uldum**, **Christian Lück**
- 09:45-10:15 Diagnosis and *Legionella* Typing of Atypical Forms of Legionellosis  
**Sophie Jarraud (Invited speaker)**  
National Reference Center of *Legionella*, University of Lyon, Lyon, France
- 10:15-10:45 The Future of *Legionella* Typing in the Genomics Era  
**Jacob Moran-Gilad (Invited speaker)**  
National Microbiology Focal Point & Head of Microbiology Cooperation, Jerusalem, Israel





# SCIENTIFIC PROGRAMME

- 10:45-11:00 LegioTyper: a Fully Automated and Rapid Detection Method for Serotyping of *Legionella pneumophila*  
**Anne Gründel**  
Dresden University of Technology, Dresden, Germany
- 11:00-11:15 The Average Nucleotide Identity Index is a Taxonomic Tool That Can Also Be Useful for Determining the Epidemiological Relationship Between *Legionella pneumophila* Genomes  
**Maria José Figueras**  
University Rovira i Virgili, Reus, Spain
- 11:15-11:30 Utility of Rapid Techniques in the Legionnaires' Disease Outbreak in Manzanares, Spain, December 2015-February 2016  
**Juan Carlos Montero**  
Regional Public Health Laboratory - Health Sciences Institute Talavera de la Reina, Spain
- 11:30-12:30 **SESSION PROUDLY SPONSORED BY INDEXX**  
Comparing Modern and Traditional Culture-Based Methods for Detection of *Legionella* and the Significance of Quantification of *Legionella Pneumophila* Vs. All *Legionella* Species
- 11:30-11:35 Welcome to participants and Introduction to Legiolert  
**Dan Broder**  
Staff Scientist at IDEXX, Portland, Maine, United States of America
- 11:35-11:45 Performance of Legiolert vs. ISO 11731-2:2004 in German Potable Waters  
**Martin Exner**  
University of Bonn, Bonn, Germany
- 11:45-11:55 Performance of Legiolert vs. ISO 11731:1998 in Italian Waters  
**Maria Luisa Ricci**  
Italian National Institute Health, Rome, Italy
- 11:55-12:30 **ROUND TABLE DISCUSSION:**  
The Merits and Concerns Associated with Exclusive Detection of *L. Pneumophila* in Conjunction with a Water Safety Plan  
Participants: **Martin Exner, Maria Luisa Ricci, Amy Pruden, Nicholas Ashbolt**
- 12:30-13:30 Lunch
- 13:00-14:30 **POSTER SESSION 2 - ROOMS EXHIBITION AREA**  
• EPIDEMIOLOGY AND SURVEILLANCE • OUTBREAKS INVESTIGATION AND CASE REPORT  
• CLINICAL ASPECTS AND TREATMENTS • DIAGNOSIS AND TYPING
- 14:30-16:15 **SESSION 6 - SURVEILLANCE AND OUTBREAK INVESTIGATIONS**  
Chairs: **Pedra Brandsema, Carmen Pelaz Antolin**
- 14:30-14:45 Legionnaires' Disease from the Other Side of the World: the New Zealand Perspective  
**David R. Murdoch**  
University of Otago, Christchurch, New Zealand
- 14:45-15:00 A National Cross-Sectional Study to Uncover the Hidden Burden of Legionnaires' Disease: The LegiNZ Study  
**David R. Murdoch**  
University of Otago, Christchurch, New Zealand
- 15:00-15:15 Community-Acquired Cases of Legionnaires' Disease: the Proportion Technically Preventable by Applying the German Drinking Water Ordinance?  
**Udo Buchholz**  
Robert Koch Institute, Berlin, Germany



# SCIENTIFIC PROGRAMME

- 15:15-15:30 *Legionella pneumophila* in the Flint Water Supply: A Molecular Epidemiology and Virulence Assessment  
**Michele Swanson**  
University of Michigan, Ann Arbor, United States of America
- 15:30-15:45 Spatial Distribution of Legionellosis at the Small Area Level in the City of Barcelona: 2000-2016  
**Pau Gallés**  
Public Health Agency of Barcelona, Barcelona, Spain
- 15:45-16:00 Factors Associated With the Occurrence of Further Cases in Accommodations Associated With a Cluster of Travel-Associated Legionnaires' Disease Cases After Implementation of Control Measures  
**Julien Beauté**  
European Centre for Disease Prevention and Control, Stockholm, Sweden
- 16:00-16:15 Epidemiology and Microbiology of Recurrent Accommodation Sites Implications for Surveillance and Prevention  
**Sebastian Crespi**  
Biolinea Int., Palma de Mallorca, Spain
- 16:45-00:30 Tour of "Villa dei Quintili" and Gala Dinner at "Villa Dino"

## FRIDAY, SEPTEMBER 29<sup>TH</sup>, 2017

- 08:15-19:30 Registration and exhibition
- 08:15-10:00 **SESSION 7 - ECOLOGY OF *LEGIONELLA* AND INTERACTION WITH ENVIRONMENTAL RESERVOIRS**  
Chairs: **Alexander Kirschner, David R. Murdoch**
- 08:15-08:45 The Original Cat and Mouse Interplay: With Picky Amoebae and Persistent *Legionella pneumophila*  
**Nicholas J. Ashbolt (Invited speaker)**  
University of Alberta, Edmonton, Canada
- 08:45-09:15 Natural Antimicrobial Substances to Control Proliferation of *Legionella pneumophila*  
**Jean Marc Berjeaud (Invited speaker)**  
University of Poitiers, Poitiers, France
- 09:15-09:30 Survival Patterns and Virulence of Viable but Non-Culturable *Legionellae* Induced by Starvation  
**Alexander Kirschner**  
Medical University of Vienna, Vienna, Austria
- 09:30-09:45 *Legionella pneumophila* Prevents Cell Division and DNA Replication of *Acanthamoeba Castellanii*  
**Ascel Samba-Louaka**  
University of Poitiers, Poitiers, France
- 09:45-10:00 Temperature Induced Viable but Non-Culturable *Legionella pneumophila* Cells are Virulent Against Amoebae and Macrophage-Like Cells  
**Silvia Cervero-Aragó**  
Medical University of Vienna, Vienna, Austria
- 10:00-10:30 Coffee break



# SCIENTIFIC PROGRAMME

- 10:30-12:00 **SESSION 8 - *LEGIONELLA* DETECTION AND DIFFUSION IN THE ARTIFICIAL RESERVOIRS**  
Chairs: **Nicholas J. Ashbolt, Susanne Lee**
- 10:30-11:00 *Legionella* Colonization of Water Systems Aboard Passenger Ships and Differences with Accommodation Sites (Hotels Etc)  
**Christos Hadjichristodoulou (Invited speaker)**  
University of Thessaly, Larissa, Greece
- 11:00-11:30 *Legionella* Detection in Environments and Their Impacts on the Occurrence of Legionellosis in Japan  
**Kura Fumiaki (Invited speaker)**  
National Institute of Infectious Diseases Tokyo, Japan
- 11:30-11:45 Prevalence and Diversity of *Legionella* in US Cooling Towers  
**Brian H. Raphael**  
Centers for Disease Control and Prevention, Atlanta, United States of America
- 11:45-12:00 Identification of Cooling Tower Microbiota Supporting the Growth of *Legionella pneumophila*  
**Sebastien P. Faucher**  
McGill University, Montréal, Canada
- 12:00-13:00 **SESSION PROUDLY SPONSORED BY PALL**  
Can *Legionella* be controlled by engineering measures?  
Chair & welcome and opening  
**Martin Exner (Invited speaker)**  
University of Bonn, Bonn, Germany
- 12:00-12:30 Compliance with Drinking Water System Regulation: The German Approach  
**Roland Suchenwirth**  
Lower Saxony Health Authorities, Hannover, Germany
- 12:30-13:00 Technical prerequisites for a safe Drinking Water System for *Legionella*  
**Stefan Pleischl**  
University of Bonn, Bonn, Germany
- 13:00-14:00 Lunch
- 13:30-15:30 **POSTER SESSION 3 - ROOMS EXHIBITION AREA**  
• MISCELLANEUS • MICROBIAL ECOLOGY • PREVENTION AND CONTROL
- 14:00-14:30 **ESGLI BUSINESS MEETING**
- 15:30-17:15 **SESSION 9 - PREVENTIVE AND CONTROL STRATEGIES**  
Chairs: **Paola Borella, Sebastian Crespi**
- 15:30-16:00 The Evaluation of Mandatory *Legionella* Environmental Surveillance in Healthcare Facilities in Taiwan: Clinical and Environmental Perspectives  
**Yusen E. Lin (Invited speaker)**  
National Kaohsiung Normal University, Kaohsiung City, Taiwan





# SCIENTIFIC PROGRAMME

- 16:00-16:30      Controlling *Legionella* in Building Water Systems: How Does Monochloramine Measure Up?  
**Janet E. Stout**  
Special Pathogens Laboratory, Pittsburgh, United States of America
- 16:30-16:45      Corrosive Effect on Various Pipe Materials Following Different Treatments for *Legionella* Spp Control in Hospital Water Systems  
**Isabella Marchesi**  
University of Modena and Reggio Emilia, Modena, Italy
- 16:45-17:15      **Sponsored presentation (Grundfos)** Experiences in-situ Prepared Chlorine Dioxide in *Legionella* Treatment  
**Michael Skovgaard**  
Senior Manager, Global Programs GPMA Dosing & Disinfection
- 17:15-17:45      Coffee Break
- 17:45-19:00      **SESSION 9 - PREVENTIVE AND CONTROL STRATEGIES (CONTINUED)**  
Chairs: **Janet E. Stout, Yusen E. Lin**
- 17:45-18:00      A Multicenter Study on *Legionella* Air Contamination in Italian Healthcare Facilities: Comparison of Different Sampling Methods  
**Osvolda De Giglio**  
University of Bari, Bari, Italy
- 18:00-18:15      Maxi Impact of Temperature, Copper and Silver Exposure on the Viability and Recovery of Clinical and Environmental Strains of *Legionella pneumophila*  
**Michèle Prévost**  
Polytechnique Montréal, Montréal, Canada
- 18:15-18:30      Prevention and Control of *Legionella* spp. Colonization in Dental Units  
**Beatrice Casini**  
University of Pisa, Pisa, Italy
- 18:30-18:45      *Legionella* Colonization Of Hotel Water Supply Systems In Touristic Places Of Greece: Associations With System Characteristics and Physicochemical Parameters  
**Maria A. Kyritsi**  
Department of Medicine University of Tessaly, Larissa, Greece
- 18:45-19:00      Risk Assessment of *Legionella* in Hospital Washbasins: Water and Aerosol  
**Pasqualina Laganà**  
University of Messina, Messina, Italy
- 19:00-19:30      **ROUND TABLE:**  
discussion on the topics (critical aspects, pros and cons, etc.) presented in the session of the day



# SCIENTIFIC PROGRAMME

## SATURDAY, SEPTEMBER 30<sup>TH</sup>, 2017

- 08:30-13:30 Registration and exhibition
- 08:30-11:00 **SESSION 10 - *LEGIONELLA* GUIDELINES IN DIFFERENT COUNTRIES**  
Chairs: **Birgitta de Jong, Maria Luisa Ricci**
- 08:30-09:00 European *Legionella* Guidelines  
**Susanne Lee (Invited speaker)**  
*Legionella* LTD., United Kingdom
- 09:00-09:30 U.S. Guidance and Standards  
**Janet E. Stout (Invited speaker)**  
Special Pathogens Laboratory, Pittsburgh, United States of America
- 09:30-10:00 The German Experiences with *Legionella* Risk Regulation  
**Martin Exner (Invited speaker)**  
University of Bonn, Bonn, Germany
- 10:00-10:20 *Legionella* Guidelines in the Russian Federation:  
Harmonization in Accordance to International Standards  
**Igor Tartakovskiy**  
Gamaleya Research Center of Epidemiology and Microbiology, Moscow, Russia
- 10:20-10:40 *Legionella* Regulation in Australia  
**Richard Bentham**  
Flinders University, Adelaide, Australia
- 10:40-11:00 Italian *Legionella* Guidelines: a Special Focus on Dental Unit Waterlines  
**Maria Luisa Ricci**  
Italian National Institute Health, Rome, Italy
- 11:00-11:30 Coffee break
- 11:30-13:30 **SESSION 11 - CHALLENGES OF *LEGIONELLA* AND FUTURE PERSPECTIVES**  
Chairs: **Paul H. Edelstein, Janet E. Stout**
- 11:30-12:00 Advancing a Framework for Prebiotic/Probiotic Control of *Legionella*  
in Distribution Systems and Puilding Plumbing  
**Amy Pruden (Invited speaker)**  
Virginia Tech in Blacksburg, Virginia, United States of America
- 12:00-12:30 Technology Advancement Supporting *Legionella* Control in Dubai  
**Redha H. Salman**  
Health and Safety Department-Dubai Municipality, Dubai UAE
- 12:30-13:00 The European Perspectives of *Legionella* Surveillance and Control  
**Valeria Gaia (Invited speaker)**  
Swiss National Reference Centre for *Legionella*, Bellinzona, Switzerland
- 13:00-13:30 Presentation of *Legionella* 2021
- Closing remarks: **Paola Borella and Maria Luisa Ricci**



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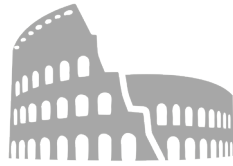


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