The 9th International Conference on
Legionella
Rome, 26th - 30th September 2017

Auditorium Antonianum
Viale Manzoni, 1 - 00185
ROME

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TUESDAY, SEPTEMBER 26TH, 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 27TH, 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
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
*Invited speaker*
Dario S. Zamboni
University of São Paulo, São Paulo, Brazil

11:30-12:00 The Role of Lipids in *Legionella*-Host Interaction
*Invited speaker*
Marta Palusinska-Szysz
Maria Curie-Sklodowska University, Lublin, Poland

12:00-12:15 ER Remodeling by the Large GTPase Atlastin (Sey1/Atl3) Promotes Vacuolar Growth of *Legionella pneumophila*
*Invited speaker*
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 Bárlöcher
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*
*Invited speaker*
Carmen Buchrieser
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 Infectiology, Université of Lyon, Lyon, France
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 28TH, 2017

08:30-16:45 Registration and exhibition

08:30-09:30 SESSION 4 - CLINICAL ASPECTS, TREATMENT, ROUTE OF EXPOSURE AND HOST RELATIONSHIP
Chairs: Laura A. Cooley, Maria Cristina Rota

08:30-09:00 Clinical Characteristics of Legionella Infection
Paul H. Edelstein (Invited speaker)
University of Pennsylvania, Philadelphia, United States of America

09:00-09:15 Route of Exposure to Aerosol and Legionnaires’ Disease or Pontiac Fever
Richard Bentham
Flinders University, Adelaide, Australia

09:15-09:30 Legionella Aerosols from Shower to an Ex Vivo Human-Porcine Respiratory Model
Severine Allegra
University of Lyon, Lyon, France

09:30-10:00 Coffee Break

10:00-12:00 SESSION 5 - DIAGNOSIS AND TYPING
Chairs: Søren Anker Uldum, Christian Lück

10:00-10:30 Diagnosis and Legionella Typing of Atypical Forms of Legionellosis
Sophie Jarraud (Invited speaker)
National Reference Center of Legionella, University of Lyon, Lyon, France

10:30-11:00 The Future of Legionella Typing in the Genomics Era
Jacob Moran-Gilad (Invited speaker)
National Microbiology Focal Point & Head of Microbiology Cooperation, Jerusalem, Israel
11:00-11:15  LegioTyper: a Fully Automated and Rapid Detection Method for Serotyping of *Legionella pneumophila*
Anne Gründel
Dresden University of Technology, Dresden, Germany

11:15-11:30  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

11:30-11:45  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

11:45-12:00  Could Legionnaires’ Disease diagnosis Criteria Be Improved? Evidence from Two Independent Real Time PCR Assays
Maria Scaturro
Italian National Institute of Health Rome, Italy

12:00-13:00  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

12:00-12:05  Welcome to participants and Introduction to Legiolert
Dan Broder
Staff Scientist at IDEXX, Portland, Maine, United States of America

12:05-12:15  Performance of Legiolert vs. ISO 11731-2:2004 in German Potable Waters
Martin Exner
University of Bonn, Bonn, Germany

Maria Luisa Ricci
Italian National Institute Health, Rome, Italy

12:25-13:00  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

13:00-14:00  Lunch

13:30-15:00  POSTER SESSION 2 - ROOMS EXHIBITION AREA
• EPIDEMIOLOGY AND SURVEILLANCE • OUTBREAKS INVESTIGATION AND CASE REPORT
• CLINICAL ASPECTS AND TREATMENTS • DIAGNOSIS AND TYPING

15:00-16:45  SESSION 6 - SURVEILLANCE AND OUTBREAK INVESTIGATIONS
Chairs: Pedra Brandsema, Carmen Pelaz Antolin

15:00-15:15  Legionnaires’ Disease from the Other Side of the World: the New Zealand Perspective
David R. Murdoch
University of Otago, Christchurch, New Zealand

15:15-15:30  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
SCIENTIFIC PROGRAMME

15:30-15:45  Community-Acquired Cases of Legionnaires’ Disease: the Proportion Technically Preventable by Applying the German Drinking Water Ordinance?  
Udo Buchholz  
Robert Koch Institute, Berlin, Germany

15:45-16:00  Legionella pneumophila in the Flint Water Supply: A Molecular Epidemiology and Virulence Assessment  
Michele Swanson  
University of Michigan, Ann Arbor, United States of America

16:00-16:15  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

16:15-16:30  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

16:30-16:45  Epidemiology and Microbiology of Recurrent Accommodation Sites Implications for Surveillance and Prevention  
Sebastian Crespi  
Biolinea Int., Palma de Mallorca, Spain

16:45-23:30  Tour of “Villa dei Quintili” and Gala Dinner at “Villa Dino”

FRIDAY, SEPTEMBER 29TH, 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  
Barbara Schrammel  
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
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
• MISCELLANEOUS • 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

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
Osvalda 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

**SATURDAY, SEPTEMBER 30TH, 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 Building 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