The 9th International Conference on

Legionella

Rome, 26th - 30th September 2017

Scientific Programme

Auditorium Antonianum
Viale Manzoni, 1 - 00185
Rome

info@legionella2017.com • www.legionella2017.com
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
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-Szysz (*Invited speaker*)
Maria Curie-Skłodowska University, Lublin, Poland

12:00-12:15  ER Remodeling by the Large GTPase Atlastin (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
Nissanka 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 Infectiology, Université de 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
S C I E N T I F I C  P R O G R A M M E

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 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