The 9th International Conference on Legionella

Rome, 26th - 30th September 2017

Auditorium Antonianum
Viale Manzoni, 1 - 00185
ROME

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PALL Medical
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
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
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 Infectiology, University 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

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**THURSDAY, SEPTEMBER 28TH, 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

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 TYING

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
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 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  
*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
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
CONTROLLING LEGIONELLA IN BUILDING WATER SYSTEMS: HOW DOES MONOCHLORAMINE MEASURE UP?
Janet E. Stout
Special Pathogens Laboratory, Pittsburgh, United States of America

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

SPONSORED PRESENTATION (GRUNDFOS) EXPERIENCES IN-SITU PREPARED CHLORINE DIOXIDE IN LEGIONELLA TREATMENT
Michael Skovgaard
Senior Manager, Global Programs GPMA Dosing & Disinfection

SESSION 9 - PREVENTIVE AND CONTROL STRATEGIES (CONTINUED)

A MULTICENTER STUDY ON LEGIONELLA AIR CONTAMINATION IN ITALIAN HEALTHCARE FACILITIES: COMPARISON OF DIFFERENT SAMPLING METHODS
Osvalda De Giglio
University of Bari, Bari, Italy

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

PREVENTION AND CONTROL OF LEGIONELLA SPP. COLONIZATION IN DENTAL UNITS
Beatrice Casini
University of Pisa, Pisa, Italy

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

RISK ASSESSMENT OF LEGIONELLA IN HOSPITAL WASHBASINS: WATER AND AEROSOL
Pasqualina Laganà
University of Messina, Messina, Italy

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 Puuiding 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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