

5th World Congress on Targeting Infectious Diseases

TARGETING PHAGE & ANTIBIOTIC RESISTANCE

Phage therapy and other innovative ideas

Final Program



May 17 - 18, 2018

Florence - Italy



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Topics:

- Phage Therapy 2018: recent advances & challenges
- Innovations against antibiotic resistance

Tracks:

- Phage isolation and characterization
- Phage/Host interaction
- Phage therapy & pathologies
- Clinical Trials
- Strategies to combat antibiotic resistance
- New generation of antibiotics
- Veterinary settings
- Agri-Food industries

TID Registration

Students: 470 €
Academics: 570 €
Industrials: 870 €

CONFIRMED SPEAKERS



Impact of virulent bacteriophages on vibrio cholerae infection and their use in preventing cholera

Minmin Yen, Tufts University, USA



Fighting multi-drug resistant Klebsiella pneumoniae by using lytic phages

Marco Maria D'Andrea, University of Siena, Italy



Microbiota & medicine revolution: the strategic role of phage

Marvin Edeas
Institut Cochin, University Paris Descartes, France



Lytic bacteriophages in the treatment of biofilm-forming bacteria involved in prosthetic joint infections

Mariagrazia Di Luca
Charité-Universitätsmedizin, Germany



Microencapsulation of purified bacteriophages for targeted therapeutic applications

Danish Malik
Loughborough University, United Kingdom



Microarray patches for prevention and treatment of infectious diseases and their potential for reducing antibiotic resistance

Aoife Rodgers
Queen's University Belfast, United Kingdom



Phage-based antimicrobials: novel approaches for managing drug-resistant bacteria

Alexander Sulakvelidze
Intralytix Inc., USA



Antimicrobial discovery from extreme halophiles

Brendan Gilmore
Queen's University Belfast, United Kingdom



Development of Infection-responsive surface coatings for bacteriophage delivery in the catheterised urinary tract

Scarlet Milo,
University of Bath, United Kingdom



Reincarnation of a staphylococcal pathogenicity island as an antibacterial drone

Richard Novick,
New York University, USA



Development and use of personalized bacteriophage-based therapeutic cocktails to treat a patient with a disseminated resistant Acinetobacter baumannii infection

Robert T. Schooley, University of California, USA

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Day 1 – May 17, 2018

- 8h00 Registration & welcoming of attendees – Badges & abstracts book distribution
- 8h55 Opening ceremony
- 9h00 **General Introduction: Aims of Targeting Phage & Antibiotic Resistance 2018**
Domenico Frezza, University of Roma Tor Vergata, Italy
Marvin Edeas, Université Paris Descartes, Founder of the International Society of Microbiota, France

Session 1: Phage Therapy 2018: Recent Advances & Challenges

Chairpersons: Marvin Edeas, Domenico Frezza

- 9h20 **Fighting multi-drug resistant *Klebsiella pneumoniae* by using lytic phages**
Marco Maria D'Andrea, University of Siena, Italy
- 9h45 **Development and use of personalized bacteriophage-based therapeutic cocktails to treat a patient with a disseminated resistant *Acinetobacter baumannii* infection**
Robert T. Schooley, University of California, USA
- 10h10 **Lytic bacteriophages in the treatment of biofilm-forming bacteria involved in prosthetic joint infections**
Mariagrazia Di Luca, Charité – Universitätsmedizin Berlin Hospital, Germany

10h35 Coffee Break, Poster & Networking Session

Chairperson: Marco d'Andrea

- 11h20 **Microencapsulation of purified bacteriophages for targeted therapeutic applications**
Danish Malik, Loughborough University, United Kingdom
- 11h45 **Development of infection-responsive surface coatings for bacteriophage delivery in the catheterised urinary tract**
Scarlet Milo, Queen Victoria Hospital NHS Foundation Trust, United Kingdom
- 12h10 **Impact of virulent bacteriophages on *vibrio cholerae* infection and their use in preventing cholera**
Minmin Yen, Tufts University, USA

12h35 Lunch Break, Poster & Networking Session

Short Oral Presentations (7 minutes for presentation + 3 minutes for questions)

Chairpersons: Danish Malik, Robert Schooley

- 14h00 **Selection and characterisation of phages able to degrade biofilm produced by clinical isolates of *E. faecalis***
Pasquale Marmo, University of Roma Tor Vergata, Italy
- 14h10 **Analysis of the conserved genes present in MRSA strains: Can they make phage therapy harder than expected?**
Ignacio Mir-Sanchis, University of Chicago, USA

- 14h20 State-of-the-art of modeling in vivo dynamics of naturally-occurring phages and in vivo dynamics of therapeutic phages**
Victoriya Volkova, Kansas State University, USA
- 14h30 Bacteriophage therapy and urinary tract infections**
Tamara Perepanova, S.R. Institute of Urology and Interventional Radiology, Russia
- 14h40 Experience and perspectives of phage therapy of cardiovascular implant-associated infections**
Evgenii Rubalskii, Hannover Medical School, Germany
- 14h50 Concept of individualized medicine based on personalized phage therapy for intensive care unit patients suffering from healthcare-associated infections**
Andrey Aleshkin, G. N. Gabrichevsky Moscow Research Institute for Epidemiology and Microbiology, Russia
- 15h00 Safe & active sustained release of phages in gastro-intestinal tract**
Farzaneh Moghtader, Hacettepe University, Turkey
- 15h10 Phages intended for preventing and treating infections caused by *paenibacillus larvae* in honey bee larvae**
Ewa Jonczyk-Matysiak, Polish Academy of Sciences, Poland
- 15h20 Coffee Break, Poster & Networking Session
- 16h00 Mycobacteriophage based platforms to discover drug targets for mycobacteria**
Sujoy Das Gupta, Bose Institute, India
- 16h10 Efficient in vivo phage therapy via immunological cloaking**
Yoon Sung Nam, Korea Advanced Institute of Science & Technology, Korea
- 16h20 Bacteriophage Φ SA012 has a broad host range against *Staphylococcus aureus* and effective lytic capacity in a mouse mastitis model**
Hidetomo Iwano, Rakuno Gakuen University, Japan
- 16h30 Comparison of effectiveness of experimental phage cocktail, single phage and commonly used antibiotics in eradication of *salmonella enterica* serotypes found in poultry**
Katarzyna Kosznik-Kwaśnicka, Polish Academy of Sciences, Poland
- 16h40 Acenitobacter prophage mining for production of specific endolysins**
Ahmed Sahib Abdulmir, Alnahrain University, Iraq
- 16h50 Use of a biologTM system for monitoring and overcoming phage and antibiotic resistance during the treatment of MDR infections in humans**
Biswajit Biswas, Biological Defense Research Directorate, USA
- 17h00 A phage-display-generated peptide that transports biologics and phages through the mucosa**
Alf Hamann, Deutsches Rheuma-Forschungszentrum, Germany
- 17h10 Biological reprospecting of FDA approved drugs for identification of potent QS inhibitor and antibiofilm agent: Targeting *Pseudomonas aeruginosa LasR* through enhanced molecular docking and dynamics studies**
Nidhi Verma, Central University of Rajasthan, India

Phage Therapy Speed Collaboration

This session is dedicated to all attendees, academics, start-ups and industrials who are looking for collaboration: each attendee can present his project during one or two minutes to other attendees.

If you would like to take part to the Phage Therapy Speed Collaboration, please contact us.

18h00 End the first day

20h00 Targeting Phage & Antibiotic Resistance 2018 Dinner

Appointment in the lobby of Hotel Brunelleschi - Stemma Restaurant (first floor) - Piazza Santa Elisabetta, 3, Florence

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Day 2 – May 18, 2018

8h55 Opening of the second day

Session 2: Innovations against Antibiotic Resistance

Chairperson: *Brendan Gilmore*

9h00 **Antimicrobial discovery from extreme halophiles**
Brendan Gilmore, Queen's University Belfast, United Kingdom

9h25 **Microarray patches for prevention and treatment of infectious diseases and their potential for reducing antibiotic resistance**
Aoife Rodgers, Queen's University Belfast, United Kingdom

9h50 **Reincarnation of a staphylococcal pathogenicity island as an antibacterial drone**
Richard Novick, New York University, USA

10h15 Coffee Break, Poster & Networking Session

11h15 **Microbiota & medicine revolution: the strategic role of phage**
Marvin Edeas, Institut Cochin, University Paris Descartes, France

Short Oral Presentations (7 minutes for presentation + 3 minutes for questions)

11h40 **Gut microbiome and virome after human fecal transfer**
Karin Moelling, University of Zurich, Switzerland

11h50 **In-vitro and in-vivo efficacy of Eligobiotics: sequence-specific anti-microbials**
Xavier Duportet, Eligobiosciences, France

12h00 **Inhibition of Shikimate kinase from *M. Tuberculosis* and *H. Pylori* for antibiotic discovery**
Concepción González-Bello, Universidade de Santiago de Compostela, Spain

12h10 **Genome editing of virulent staphylococcal phages using CRISPR-CAS10**
Asma Hatoum-Aslan, University of Alabama, USA

12h20 **CRISPR-CAS9 promotes the re-sensitization of enterobacteriaceae clinical strains to β -Lactams**
Thaysa Tagliaferri, RWTH Aachen University Hospital, Germany

12h30 **Therapeutic application of phage OMKO1 in two cases of antimicrobial resistant pseudomonas aeruginosa**
Benjamin Chan, Yale University, USA

12h40 **Mycobacterial tuberculosis NadD, a promise for targeting latent and drug-resistant tuberculosis**
Leonardo Sorci, Polytechnic University of Marche, Italy

12h50 **Using phage to select for evolution of reduced virulence in pathogenic bacteria**
Paul E. Turner, Yale University, USA

13h00 Lunch Break, Poster & Networking Session

Session 3: Presentation of Innovations & Perspectives

Chairperson: Richard Novick

14h00 Phage-based antimicrobials: novel approaches for managing drug-resistant bacteria
Alexander Sulakvelidze, Intralytix, USA

Short Oral Presentations (7 minutes for presentation + 3 minutes for questions)

14h25 Novel phage based therapeutics to address antibiotic resistance
Naomi Zak, Biomx, Israel

14h35 Engineering bacteriophage recognition baseplates in staphylococcal phages
Jeffrey Radding, EnBiotix Inc., USA

14h45 Bridging a gap in phage therapy: towards fast and efficient production of highly purified phages for various applications
Frenk Smrekar, Jafra, Slovenia

14h55 Addressing challenges for the clinical development of phage products
Sandra Morales, AmpliPhi Biosciences, Australia

15h05 Detection of bacteria in air by using an air sampler carrying phages and gold nanoparticles by raman probe
Erhan Piskin, Institute of Graduate School of Science and Engineering, Turkey

15h15 Salmonella rissen ϕ 1: a molecular switch
Marina Papaiani, University of Naples Federico II, Italy

15h25 A phase 1 clinical trial to evaluate the safety, tolerability and preliminary efficacy of bacteriophages in patients with staphylococcus aureus chronic rhinosinuitis
Sarah Vreudge, University of Adelaide, Australia

15h35 Coffee Break

Chairpersons: Marvin Edeas, Domenico Frezza

15h50 Isolation of environmental campylobacter phages and their application for meat decontamination and phage-therapy in poultry
Giuseppe Aprea, Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale", Italy

16h00 Isolation and characterization of bacteriophages active against avian pathogenic e. Coli
Džiuginta Jakočiūnė, University of Copenhagen, Denmark

16h10 Effect of dilution rate on continuous production of phages using two chemostats in series
Francesco Mancuso, Loughborough University, United Kingdom

16h20 Metagenome analysis of a russian and georgian cocktails and a placebo-controlled safety trial of a single phage versus phage cocktail in healthy staphylococcus aureus carriers
Shawna McCallin, University of Lausanne, Switzerland

16h30 Listeria monocytogenes' infective prophage that promotes virulence is controlled by an ancient cryptic prophage, an evidence for the co-optation of phage remnant regulatory genes
Anat Herskovits, Tel Aviv University, Israel

16h40 Potential use of phages as sanitizing agents to reduce hospital pathogens on hard surfaces
Elisabetta Caselli, University of Ferrara, Italy

16h50 Conclusion & Awards of Phage Therapy 2018

17h30 End of Targeting Phage & Antibiotic Resistance 2018