



AGENDA – DAY 1

Tuesday, November 6, 2018

8:00 – 8:55 AM *Registration and Networking Breakfast*

8:55 – 9:00 AM **Welcome and Opening Remarks:** Dr. Vincent A. Fischetti, Professor and Head Laboratory of Bacterial Pathogenesis and Immunology Rockefeller University

SESSION ONE: GRAM-POSITIVE LYSINS AS THERAPEUTICS

9:00 – 10:00 AM **Keynote Speaker: Dr. Martin J. Blaser, Professor of Microbiology, and Director of the Human Microbiome Program at the NYU School of Medicine:** Perturbing the early life microbiota and its health consequences

10:00 – 10:25 AM Raymond Schuch, Ph.D., *Vice President of Research*, ContraFect: Lysin CF-301 Activates Latent Host Factors in Human Blood to Potentiate Bacteriolysis

10:25 – 10:50 AM Chad Euler, Ph.D., *Assistant Professor*, Hunter College: PlySs2 Lysin Kills *Staphylococcus aureus* in a murine model of bovine mastitis

10:50 – 11:10 AM **Break**

11:10 – 11:35 AM Frank Oechlin, Universite Laval, Canada: Post-lytic regulation of bacteriophage lysins explain complex multi-domain architecture and prevents lysis of neighboring bacterial cells

11:35 – 12:00 PM Hang Yang, Ph.D., *Professor*, Wuhan Institute of Virology, CAS, Wuhan, China: Designing and engineering of chimeric lysins specific for *Streptococcus pneumoniae*

12:00 – 12:25 PM Krystyna Dabrowska, Ph.D., Institute of Immunology and Experimental Therapy Polish Academy of Sciences: Safety Studies of Streptococcal Endolysins Cpl-1 and PAL

12:25 – 1:25 PM **Lunch Break**



BACK TO THE LYSIN MEETING II 2018

2nd INTERNATIONAL SYMPOSIUM

on
**ANTIMICROBIAL
HYDROLYTIC ENZYMES**

November 6 - 8, 2018

The Rockefeller University

New York, NY - USA

SESSION TWO: ENGINEERING LYSINS

- 1:25 – 2:25 PM **Keynote Speaker: Dr. Andres J. Garcia, Executive Director, Parker H. Petit Institute for Bioengineering and Bioscience:** Engineering Biomaterials to Fight Infections
- 2:25 – 2:50 PM Daniel Nelson, Ph.D., *Associate Professor*, University of Maryland: A novel design to exploit the synergy of the PlyCA catalytic domains
- 2:50 – 3:15 PM Hans Gerstmans, Ph.D., Ghent University/KU Leuven: High-throughput modular shuffling of engineered endolysins against *Klebsiella pneumoniae* and *Pseudomonas syringae pv. actinidiae*
- 3:15 – 3:40 PM Hugo Oliveria, University of Minho, Portugal: Endolysin is an orthologous gene of all staphylococcal phage genomes
- 3:40 – 4:00 PM **Break**
- 4:00 – 4:25 PM Ana Rodriguez, *Senior Scientist*, Instituto de Productos Lacteos de Asturias (IPLA-CSIC) Spain: Endolysins are hidden out there
- 4:25 – 4:55 PM Natalia Sizochenko, *Postdoctoral Research Associate*, Dartmouth College: Major autolysin in *Staphylococcus aureus*: Quantum chemical studies of amidase-catalyzed peptidoglycan hydrolysis
- 5:00 – 7:00 PM **POSTER SESSION:** Buffet Dinner & Cocktails



AGENDA – DAY 2

Wednesday, November 7, 2018

8:00 – 8:55 AM *Registration and Networking Breakfast*

8:55 – 9:00 AM **Welcome and Opening Remarks**
Raymond Schuch, *Vice President of Research*, ContraFect Corporation

SESSION THREE: GRAM-NEGATIVE LYSINS

9:00 – 10:00 AM **Keynote Speaker: Dr. Yves Briens, Assistant Professor, Centre of Synthetic Biology, Ghent University, Belgium:** From Discovery to high-throughput engineering of endolysins targeting Gram-negative bacteria

10:00 – 10:25 AM Assaf Raz, Ph.D., *Laboratory of Bacterial Pathogenesis*, The Rockefeller University: PlyPa03 and PLYPa91 – phage lysins to kill *Pseudomonas aeruginosa* in infected lung mucosa

10:25 – 10:50 AM Ryan Heselpoth, Ph.D., *Laboratory of Bacterial Pathogenesis*, The Rockefeller University: Lysocins, Bioengineered Antimicrobials that Deliver Lysins Across the Outer Membrane of *Pseudomonas aeruginosa*

10:50 – 11:10 AM **Break**

11:10 – 11:35 AM Lone Brondsted, *Professor*, University of Copenhagen: Innolysins: A novel approach to engineer endolysins to kill Gram-negative bacteria

11:35 – 12:00 Noon Anatoliy Gyrych, Ph.D., Nomad Bioscience GmbH: Plant-made antimicrobial proteins for control of food borne *Escherichia coli* and *Salmonella* infections

12:00 – 1:00 PM **Lunch Break**



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SESSION FOUR: DIAGNOSTICS

- 1:00 – 2:00 PM **Keynote Speaker: Dr. Joana Azeredo, Associate Professor, Department of Biological Engineering, University of Minho, Portugal:** Bacteriophages lysins to detect pathogens: two case studies
- 2:00 – 2:25 PM Yang Shen, *Senior Research Scientist, Ph.D., ETZ Zurich:* Atomic model of bacteriophage-derived cell wall binding module in complex with *Listeria* wall teichoic acids
- 2:25 – 2:50 PM Jonathan Dordick, *Professor, Rensselaer Polytechnic Institute:* Exploiting Antimicrobial Enzymes for Broad Decontamination
- 2:50 – 3:10 PM **Break**

SESSION FIVE: EXPLOITING LYSINS FOR OTHER APPLICATIONS

- 3:10 – 4:10 PM **Keynote Speaker: Dr. Mathias Schmelcher, Ph.D., Senior Research Associate, Institute of Food, Nutrition and Health, ETH Zurich:** Engineered peptidoglycan hydrolases for treatment of *Staphylococcus aureus* infections
- 4:10 – 4:35 PM Vincent A. Fischetti, Ph.D., *Professor and Head Laboratory of Bacterial Pathogenesis and Immunology, The Rockefeller University:* Lysibodies: Novel chimeric immunoglobulins to control infections by *Staphylococcus aureus* and other gram-positive pathogens
- 4:35 – 5:00 PM Christian Rohrig, Ph.D., *Institute of Food, Nutrition and Health, ETH Zurich:* Improved targeting of intracellular and drug-resistant *Staphylococcus aureus* by fusion of peptidoglycan hydrolases to cell-penetrating peptides
- 5:00 – 5:25 PM Yuncheng Wang, Ph.D., *University of Sydney, Australia:* In vitro study of nebulized endolysin Cpl-1 against *Streptococcus pneumoniae*
- 5:25 – 5:50 PM Ausra Razanskiene, *Scientific Manager, Nomads UAB:* Plant-expressed bacteriophage lysins control pathogenic strains of *Clostridium perfringens*

Dinner on your own in Manhattan.



AGENDA – DAY 3

Thursday, November 8, 2018

8:00 – 8:55 AM *Registration and Networking Breakfast*

8:58 – 9:00 AM **Welcome and Opening Remarks**
Dr. Daniel Nelson, *Associate Professor*, University of Maryland

SESSION SIX: THE PATHWAY FROM BENCH TO BEDSIDE

9:00 – 9:45 AM **Keynote Speaker: Dr. Steven Projan, former *Head of Infectious Diseases & Vaccines Innovative Medicines unit (iMED) at MedImmune***: Challenges and opportunities in development a novel antimicrobial biologics

9:45 – 10:05 AM Patricia A. Bradford, Ph.D., *Antimicrobial Development Specialist, LLC*:
Clinical microbiologic considerations

10:05 – 10:25 AM Dario Lehoux, Ph.D., *Head of Pre-Clinical Development, ContraFect Corporation*:
In vivo pharmacology

10:25 – 10:45 AM Cara M. Cassino, M.D., *EVP of Research & Development and Chief Medical Officer*
ContraFect Corporation: Clinical Development – CF-301 (exebacase) – A Case Study

10:45 – 11:05 AM Yuliya Yasinskaya, M.D., *Lead Medical Officer, Division of Anti-Infective Products, FDA*:
Regulatory considerations for non-traditional antibacterials

11:05 – 11:25 AM **Break**

11:25 – 11:55 AM Panel Discussion: Dr. Cara Cassino, Dr. Steve Projan, Dr. Patricia Bradford, Dr. Dario Lehoux and Dr. Yuliya Yasinskaya

11:55 – 12:00 PM Dr. Vince Fischetti: Closing Remarks and Thank You

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