

GIORNATE DEL DOTTORATO NAZIONALE

Innovazione nella diagnosi, prevenzione e terapia delle infezioni a rischio endemico-pandemico

13-17 maggio 2024

Certosa di Pontignano, Siena

Programma

Monday - 13th May

12.30 - 14.00 **Networking lunch and registration**

14.00 - 14.30 **OPENING SESSION**

Roberto Di Pietra

Magnifico Rettore, Università di Siena

Donata Medaglini

Pro Rettore Vicaria, Coordinatrice Dottorato Nazionale, Università di Siena

Marco Montorsi

Presidente Fondazione Biotechopolo Siena

Andrea Garulli

Delegato Dottorati di Ricerca, Università di Siena

Jacqueline Irene Müller,

Responsabile Ufficio Dottorato di Ricerca, Università di Siena

Session 1 **Viral infections**

Chairs: Mirko Cortese, Mauro Pistello, Annalisa Santucci

14.30 - 15.30 *Advanced microscopy technologies to study virus infectious cycle*

Mirko Cortese

Università della Campania
"Luigi Vanvitelli"

15.30 - 15.50 *Small molecules: advanced antiviral therapies in the fight against emerging viruses*

Maria Rita Leccese

Sapienza Università di Roma

15.50 - 16.10 *Identification of host factors required for SARS-CoV-2 replication as potential target for development of broad-spectrum antivirals*

Federica Camerota

Università della Campania
"Luigi Vanvitelli"

16.10 - 16.40 Coffee break

16.40 - 17.40 *Emerging virus of pandemic potential*

Mauro Pistello

Università di Pisa

17.40 - 18.00 *Antiviral drug development to counteract vector-bone emerging and re-emerging infections*

Chiara Paletti

Università di Siena

18.00 - 18.20 *Development of potent and broad-spectrum antiviral compounds against respiratory viruses with both epidemic and pandemic potential*

Alessia Zago

Università di Padova

18.20 - 18.40 *Synthetic approaches to novel peptidomimetic SARS-CoV-2 protease inhibitors*

Maria Chiara Pieroni

Università di Siena

19.30 Dinner at Certosa di Pontignano

Tuesday- 14th May

Session 2 **Virus-host interaction** *Chair: Lucia Nencioni, Eliana Coccia, Francesco Dotta*

- 08.30 – 09.30 *Investigating the complex network of virus - host interactions to develop cell-targeted approaches against influenza virus infection* **Lucia Nencioni**
Sapienza Università di Roma
- 09.30 – 09.50 *HSPGs involvement in viral infections* **Giulio Bonucci**
Università di Siena
- 09.50 – 10.10 *Further studies on Torque Teno Virus (TTV) as a marker of immune status* **Lilia Cinti**
Sapienza Università di Roma
- 10.10 – 10.30 *N-acylethanolamine metabolism and Flavivirus: definition of novel antiviral targets for pan-flavivirus therapy* **Giulia Sciandrone**
Università di Pisa

10.30 – 11.00 **Coffee break**

Session 3 **Bacterial physiology and new drug targets** *Chair: Pietro Alifano, Agnese Magnani, Luisa Bracci*

- 11.00 – 12.00 *The complementary roles of applied and basic research: how the study of industrial microorganisms can shed light on basic cellular physiology* **Pietro Alifano**
Università del Salento
- 12.00 – 12.20 *Exploring the function of new Rid family members to find new targets for antibacterial therapy* **Andrea Giuliano**
Università del Salento
- 12.20 – 12.40 *Characterization of new drugs against Mycobacterium tuberculosis* **Enrica Campagnaro**
Università di Padova
- 12.40 – 13.00 *Anti-microbial activity from natural sources 11* **Roberta Barletta**
Università di Siena

13.00 – 14.20 **Lunch**

Session 4 **Animal infection models** *Chairs: Marco Rinaldo Oggioni, Elena Pettini*

- 14.20 – 15.20 *Use of Animal Models in Preclinical Research and Italian Legislation* **Elena Pettini**
Università di Siena
- 15.20 – 16.20 *Translational models of infection* **Marco Rinaldo Oggioni**
Università di Bologna
- 16:20 – 16:50 **Coffee break**
- 16.50 – 17.10 *Characterization of a mouse model of invasive Non-Typhoidal Salmonella disease for the evaluation of new iNTS vaccine candidates* **Valentina Mocci**
Università di Siena
- 17.10 – 17.30 *Ex-vivo perfusion: analysis of multispectral images of human spleen sections* **Giulia Cattabriga**
Università di Bologna

20.00 **Dinner at Certosa di Pontignano**

Wednesday- May 15, 2024

Session 5	Antimicrobial resistance and new antibiotics <i>Chairs: Gian Maria Rossolini, Arianna Tavanti</i>	
08.30 – 09.30	<i>La complessità evolutiva dell'antibiotico-resistenza dal punto di vista biologico e clinico"</i>	Gian Maria Rossolini Università di Firenze
09.30 – 09.50	<i>Enhancing the efficacy of bacteriophages for the treatment of infections caused by Multidrug-Resistant bacteria</i>	Sara Bolognini Università di Pisa
09.50 – 10.10	<i>Exploring the unsolved questions about ceftobiprole resistance in Enterococcus faecalis through an in-depth analysis of PBPs and peptidoglycan remodeling</i>	Paola Conti Università di Catania
10.10 – 10.30	<i>Metagenomic analysis for the characterization of resistant pathogens carried by healthy residents or migrants from Latin America rural communities</i>	Chiara Chilleri Università di Firenze
10.30 – 11.00	Coffee break	
11.00 – 12.00	<i>Recent advances and challenges of biosensing in point-of-care bacterial detection</i>	Arianna Tavanti Università di Pisa
12.00 – 12.20	<i>Development of Innovative Antibacterial Strategies Targeting Critical Priority Antibiotic-resistant Pathogens</i>	Sacha Michele Idriss Cancade Università di Siena
12.20 – 13.10	<i>Discovery and development of antibacterial drugs in the era of resistance</i>	Jean Denis Doquier Università di Siena
13.10 – 13.30	<i>Bacterial-derived extracellular vesicles: new player in antimicrobial resistance"</i>	Marco Catania Università di Catania
13.30 – 14.30	Lunch	
Session 6	Host response and vaccines (Part I) <i>Chair: Annalisa Ciabattini, Mario Milco D'Elis</i>	
14.30 – 15.10	<i>The B cell response to vaccination</i>	Annalisa Ciabattini Università di Siena
15.10 – 15.30	<i>Discovery and validation of biomarkers of the immune response associated with infections and vaccinations</i>	Martin Mihula Humanitas University
15.30 – 15.50	<i>Development of Long Pentraxin PTX3 as an Infection Biomarker</i>	Francesca Vaino Humanitas University
15.50 – 16.10	<i>Unravelling plant derived exosomes as novel, safe and efficient delivery systems for drugs and vaccines: isolation, characterization and labelling with MRI contrast agents</i>	Chiara Romiti Università di Torino
16.40	<i>Visit to Siena Vaccines Centre</i>	
20.00	Dinner at Spadaforte Restaurant, Piazza del Campo	

Thursday - 16th May

Session 7		
Host response and vaccines (Part II)		
<i>Chairs: Rino Rappuoli, Cosima Baldari, Vincenzo Sorrentino</i>		
08.30 – 09.30	<i>Passive and active immunization for old and emerging infectious diseases</i>	Rino Rappuoli Fondazione Biotechopolosiena
09.30 – 09.50	<i>Longitudinal analysis of spike specific antibody and memory B cell responses in SOT recipients following SARS-CoV-2 mRNA vaccination</i>	Chiara Coppola Università di Siena
09.50 – 10.30	<i>Antigenic sin drives a convergent broadly neutralizing B cell response evaded by SARS-COV-2JN.1</i>	Emanuele Andreano Fondazione Toscana Life Science
10.30 – 11.00		
Coffee break		
11.00 – 12.00	<i>Mechanisms of cytotoxicity mediated by T lymphocytes</i>	Cosima Baldari Università di Siena
12.00 – 12.20	<i>T-cells in Helicobacter Pylori infection</i>	Evangelia Asvestopoulou Università di Siena
12.20 – 12.40	<i>The immune synapse: an immune response biomarker to evaluate the efficacy of vaccination strategies</i>	Samuele Montano Università di Siena
12.40 – 13.20	<i>RNA sequencing for studying the vaccine immune response</i>	Francesco Santoro Università di Siena
13.20 – 14.20		
Lunch		
Session 8		
Monoclonal antibodies		
<i>Chairs: Luca Varani, Claudia Sala, Eliana Coccia</i>		
14.20 – 15.20	<i>Multispecific antibodies against infectious diseases</i>	Luca Varani Institute for Research of Bellinzona
15.20 – 15.40	<i>Development of functional assays for monoclonal antibody testing</i>	Ludovica Soldateschi Università di Siena
15.40 – 16.10		
Coffee break		
16.10 – 16.50	<i>Human monoclonal antibodies against antibiotic-resistant bacteria</i>	Claudia Sala Fondazione Toscana Life Science
16.50 – 17.10	<i>Isolation of monoclonal antibodies against Klebsiella pneumoniae ST101</i>	Laura Capoccia Università di Siena
Session 9		
Horizon Europe Research Programme and Intellectual Property Rights		
<i>Chair: Donata Medagliani</i>		
17.10 – 18.10	<i>Horizon Europe</i>	Donata Franzì Università di Siena
18.10 – 19.00	<i>Protection of Intellectual Property Rights</i>	Alessandra Romeo Università di Siena
20.00		
Dinner at Certosa di Pontignano		

Friday – 17th May

Session 10	Infectious diseases and host response	
	<i>Chairs: Alessandro Bartoloni, Guido Sebastiani</i>	
08.30 – 09.30	<i>Neglected Tropical Diseases in Italy</i>	Alessandro Bartoloni Università di Firenze
09.30 – 09.50	<i>Immunological features of post-COVID-19 lung sequelae: study and validation of novel non-invasive biomarkers</i>	Irene Paggi Università di Siena
09.50 – 10.10	<i>Impact of antibiotic heteroresistance on the clinical outcomes of infections due to carbapenem-resistant Gram-negative bacteria and on the emergence and spread of resistance to new beta-lactams</i>	Maurizio Guastalegname Università di Firenze
10.10 – 10.30	<i>A Novel Magnetic Resonance Imaging tool for the diagnosis and monitoring of infectious diseases</i>	Chiara Papi Università di Torino
10.30 – 11.00	Coffee break	
11.00 – 12.00	<i>Small non-coding RNAs as regulators of immune responses in autoimmune diseases</i>	Guido Sebastiani Università di Siena
12.00 – 12.20	<i>Deciphering the role of Interferon Type 1 against Mycobacterium paratuberculosis infection and Human Endogenous Retroviruses reactivation</i>	Alshiba Fayaz Università di Sassari
12.20 – 12.40	<i>Development of a city-level Digital Twin through non-invasive metagenomic sensing of epidemic dynamics</i>	Federico Magnani Università di Bologna
12.40 – 13.00	<i>Conclusions</i>	
13.00	Farwell lunch and departures	