



13th
PhD
meeting
2021

UNiMiB
TeCSBi

September 21-23, 2021

University of Milano-Bicocca



Organising Committee

Prof. Paola Branduardi	PhD Coordinator
Prof. Dario Pescini	PhD Vice-Coordinator
Dott. Isabella Mauri	Organising Secretariat
Alessandra De Giani	PhD student, XXXIV cycle
Daniele D'Arrigo	PhD student, XXXIV cycle
Erika Casari	PhD student, XXXIV cycle
Giulia Agostinetto	PhD student, XXXIV cycle
Riccardo Milanesi	PhD student, XXXIV cycle
Letizia Maestroni	PhD student, XXXV cycle
Elisa Perciballi	PhD student, XXXVI cycle

Tuesday 21st of September 2021

Room-U4-08

Webex link:

<https://unimib.webex.com/unimib/onstage/g.php?t=a&d=26701060650>

08:00 – 09:00 *Registration*

09:00 – 09:15 *Opening and welcome:*

Prof. Paola Branduardi, PhD program Coordinator

SESSION I

INTRODUCTION TO MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE

Chairs: Giulia Agostinetto, Daniele D'Arrigo, Sofia Magli

09:15 – 09:45

Invited lecture

To1

Prof. Paolo Soda, Biomedical Campus University, Rome, Italy
Artificial Intelligence and Machine Learning: an introduction

09:45 – 10:10

PhD student's presentation: 2nd year **So1**

Martina Arici, University of Milano-Bicocca, Milan, Italy
Intracellular Ca²⁺ dynamics in Vascular Smooth Muscle Cells (VSMCSs) isolated from rat pulmonary artery through a non-enzymatic method

10:10 – 10:35

PhD student's presentation: 3rd year **So2**

Erika Casari, University of Milano-Bicocca, Milan, Italy
Dual role for Dpb4 in DNA double strand break repair: regulation of end resection and DNA damage checkpoint

10:35 – 11:00

PhD student's presentation: 2nd year **So3**

Greta Bianchi, University of Milano-Bicocca, Milan, Italy
Charge patterning is a sequence determinant for protein liquid-liquid phase separation

11:00 – 11:30

COFFEE BREAK

- 11:30 – 11:55 *PhD student's presentation: 2nd year* **So4**
Patricia Perez Schidt, Mario Negri Institute, Milan, Italy
Synthesis of glycan coated nanoparticles for the enhanced active targeting
- 11:55 – 12:20 *PhD student's presentation: 3rd year* **So5**
Valentina Artusa, University of Milano-Bicocca, Milan, Italy
Phytochemical profile and macrophage immunomodulatory activity of extracts from green and roasted coffee beans
- 12:20 – 12:45 *PhD student's presentation: 2nd year* **So6**
Carlo Rinaldi, University of Milano-Bicocca, Milan, Italy
Dissecting the role of the Ku complex in the DNA damage response
- 12:45 – 13:45 LUNCH BREAK

SESSION II

PERSONALIZED MEDICINE

Chairs: Alessandra De Giani, Nicola Tommasi

- 13:45 – 14:30 *Invited lecture and Q&A* **To2**
To2. Prof. Eduard Porta Pardo,
Barcelona Supercomputing center, Spain
Personalized cancer risk prediction with polygenic risk scores:
clinical and biological implications
- 14:30 – 14:55 *PhD student's presentation: 3rd year* **So7**
Gloria Campioni, University of Milano-Bicocca, Milan, Italy
Unraveling metabolic heterogeneity of mammary carcinoma through the development of 2D and 3D culture models
- 14:55 – 15:20 *PhD student's presentation: 3rd year* **So8**
Stefania Blasa, University of Milano-Bicocca, Milan, Italy
Scalable thermal stimulation as a versatile approach to induce neuronal differentiation

15:20 – 15:55

PhD students' flash poster presentation: 1st year

F01. Federica Barbugian,

University of Milano-Bicocca, Milan, Italy

Development of 3D printed pathophysiological *in vitro* device to study microenvironment effect on glioblastoma progression

Link to poster session:

<https://campus-unimib.webex.com/meet/f.barbugian>

F02. Giulia Dellavedova, Mario Negri Institute, Milan, Italy

Overcoming PARP inhibitors drawbacks with a new generation PARP1 selective drug

Link to poster session:

<https://campus-unimib.webex.com/meet/g.dellavedova3>

F03. Giacomo Ducci, University of Milano-Bicocca, Milan, Italy

Profiling metabolic and signaling phenotype of bladder cancer cell lines and patient biopsies

Link to poster session:

<https://campus-unimib.webex.com/join/g.ducci>

F04. Laura Formenti, Mario Negri Institute, Milan, Italy

OXPPOS and pharmacological response to PARP inhibition in ovarian cancer

Link to poster session:

<https://campus-unimib.webex.com/meet/l.formenti5>

F05. Annalisa Morelli, Mario Negri Institute, Milan, Italy

Platform standardization for the detection of histopathological features in murine models of hepatic and pulmonary disorders

Link to poster session:

<https://campus-unimib.webex.com/meet/a.morellig>

F06. Elisa Perciballi, University of Milano-Bicocca, Milan, Italy

Is there a biochemical or molecular switch from healthy to symptomatic phenotype in Amyotrophic Lateral Sclerosis?

Link to poster session:

<https://campus-unimib.webex.com/meet/e.perciballi>

F07. Thomas Vernay, Naicons Laboratories, Milan, Italy

Discovery of novel antibiotics from microbes: a project

Link to poster session:

<https://campus-unimib.webex.com/meet/t.vernay>

15:55 – 16:55	POSTER SESSION and COFFEE BREAK
16:55 – 17:25	<i>TED-like talk and Q&A</i> To3 Dott.ssa Giulia de Martini Humans design technologies and technologies design Humans
17:30	<i>End of day 1</i>

Wednesday 22nd of September 2021

Room-U3-01

Webex link:

<https://unimib.webex.com/unimib/onstage/g.php?t=a&d=26703736038>

SESSION III

ARTIFICIAL INTELLIGENCE and SYNTHETIC BIOLOGY

Chairs: Riccardo Milanese, Valentina Artusa

- 09:00 – 09:45 *Invited lecture and Q&A* **To4**
Prof. Isak S Pretorius, ARC Centre of Excellence in Synthetic Biology, Macquarie University, Sydney, Australia
The convergence of synthetic biology and artificial intelligence
- 09:45 – 10:10 *PhD student's presentation: 2nd year* **S09**
Luca Mastella, University of Milano-Bicocca, Milan, Italy
Development of a sustainable process to produce Vitamin B9
- 10:10 – 10:35 *PhD student's presentation: 3rd year* **S10**
Giulia Agostinetti, University of Milano-Bicocca, Milan, Italy
Convergent technologies in metagenomics: enhancing the available analytical tools
- 10:35 – 11:00 *PhD student's presentation: 2nd year* **S11**
Letizia Maestroni, University of Milano-Bicocca, Milan, Italy
A novel combination of synthetic biology approaches towards Glucobrassicin production in yeast chassis
- 11:00 – 11:30 COFFEE BREAK
- 11:30 – 11:55 *PhD student's presentation: 3rd year* **S12**
Nicola Tommasi, University of Milano-Bicocca, Milan, Italy
A multilevel approach to investigate the impact of anthropogenic stressors on pollinator insects in three continents: problems and possible solutions

- 11:55 – 12:20 *PhD student's presentation: 2nd year* **S13**
Davide Panzeri, University of Milano-Bicocca, Milan, Italy
Bowman-Birk protease inhibitor: from phylogenetic diversity to functional efficacy
- 12:20 – 12:45 *PhD student's presentation: 3rd year* **S14**
Alessandra De Giani,
University of Milano-Bicocca, Milan, Italy
Impact of prebiotics and probiotics on gut microbiota and human health
- 12:45 – 13:45 LUNCH BREAK

SESSION IV

Chairs: Erika Casari, Gloria Campioni

- 13:45 – 14:10 *PhD student's presentation: 2nd year* **S15**
Roberta Torinesi, University of Milano-Bicocca, Milan, Italy
Stress-induced ubiquitin-rich aggregates: identification and visualization in the yeast *Saccharomyces cerevisiae*
- 14:10 – 14:35 *PhD student's presentation: 3rd year* **S16**
Fabrizio Beltrametti, BioC-CheM Solution Srl,
Gerenzano (VA), Italy
Production and purification of biosurfactants from environmental isolates of fungi and bacteria
- 14:35 – 15:00 *PhD student's presentation: 2nd year* **S17**
Alex Pessina, University of Milano-Bicocca, Milan, Italy
Revisiting trehalose production in yeast
- 14:35 – 15:10 *PhD students' flash poster presentation: 1st year*
Fo8. Michela Galli, University of Milano-Bicocca, Milan, Italy
Genetic interaction between Mec1 and Mrc1 in response to replication stress
Link to poster session:
<https://campus-unimib.webex.com/meet/m.galli50>

F09. Giulia Motta, University of Milano-Bicocca, Milan, Italy

Adverse outcome pathways-oriented toxicology in *in vitro* systems for implementing the safety-by-design of new nanomaterials: preliminary studies on Ag NPs

Link to poster session:

<https://campus-unimib.webex.com/meet/g.motta15>

F10. Stefania Pagliari,

University of Milano-Bicocca, Milan, Italy

Development of innovative green procedure for the recovery of active compounds from food and agricultural by-products

Link to poster session:

<https://campus-unimib.webex.com/meet/s.pagliari2>

F11. Emiliano Pioltelli,

University of Milano-Bicocca, Milan, Italy

Unraveling the impact of urbanization on insect pollinators and their role in shaping fruit chemical features

Link to poster session:

<https://campus-unimib.webex.com/meet/e.pioltelli>

F12. Paolo Pizzul, University of Milano-Bicocca, Milan, Italy

Role of the DNA damage response in R-Loops recognition and signalling

Link to poster session:

<https://campus-unimib.webex.com/meet/p.pizzul>

F13. Marta Simonetti,

Albini Group - Cotonificio Albini S.p.A., Albino (BG), Italy

New perspectives for textile waste: recycling material by mechanical/chemical pre-treatment and enzymatic hydrolysis processes

Link to poster session:

<https://campus-unimib.webex.com/meet/m.simonetti12>

F14. Giulia Tomaino, University of Milano-Bicocca, Milan, Italy
Development and characterization of vault-based nanocarriers
in *Pichia pastoris*

Link to poster session:

<https://campus-unimib.webex.com/meet/g.tomaino3>

15:10 – 16:10

POSTER SESSION and COFFEE BREAK

16:10 – 16:40

TED-like talk and Q&A

To5

Dott. Joseph Sassoon

About Storytelling and Artificial Intelligence

16:40 - 16:50

Spotlight on PhD Students

**Valentina Artusa, Stefania Blasa, Fabrizio Beltrametti,
Gloria Campioni, Sofia Magli and Nicola Tommasi**

16:50

End of day 2

Thursday 23rd of September 2021

Room-U3-04

Webex link:

<https://unimib.webex.com/unimib/onstage/g.php?t=a&d=26723640778>

SESSION V

Chairs: Stefania Blasa, Fabrizio Beltrametti

- 09:00 – 09:25 *PhD student's presentation: 2nd year* **S18**
Sara Bertuzzi, CIC bioGUNE,
Basque Research Technology Alliance, Derio, Spain
Cross-linking effects dictate the preference of galectins to bind
LacNAc-derived HMPA copolymers
- 09:25 – 09:50 *PhD student's presentation: 3rd year* **S19**
Daniele D'Arrigo, Ente Ospedaliero Cantonale (EOC),
Lugano, Switzerland
Osteoarthritis theranostics: characterization of synovial fluid
extracellular vesicles and an osteoarthritic joint-on-chip model
- 09:50 – 10:15 *PhD student's presentation: 2nd year* **S20**
Stefania Garbujo, University of Milano-Bicocca, Milan, Italy
Synthesis and characterization of cell-derived biomimetic
nanoparticles and their potential for the investigation of Cancer
Associated Fibroblasts (CAFs) function
- 10:15 – 10:40 *PhD student's presentation: 2nd year* **S21**
Lorenzo Rossi, University of Milano-Bicocca, Milan, Italy
Multimodal polymeric nanoparticles for *in vivo* imaging of
pancreatic islets
- 10:40 – 11:10 COFFEE BREAK
- 11:10 – 11:40 *Invited lecture (2nd part) and Q&A* **To1-second part**
Prof. Paolo Soda, Biomedical Campus University, Rome, Italy
Bio-image informatics: empowering humans' skills by machine
learning

- 11:40 – 12:05 *PhD student's presentation: 3rd year* **S22**
Riccardo Milanese, University of Milano-Bicocca, Milan, Italy
Convergent technologies on eukaryotic and prokaryotic central carbon metabolism
- 12:05 – 12:30 *PhD student's presentation: 2nd year* **S23**
Lucia Morelli, University of Milano-Bicocca, Milan, Italy
The advantages of microfluidics technology for nanoparticles continuous manufacturing designed for oral delivery systems
- 12:30 – 12:55 *PhD student's presentation: 3rd year* **S24**
Sofia Magli, University of Milano-Bicocca, Milan, Italy
Biopolymer-based hydrogels as multifunctional 3D printable bio-ink for tissue engineering applications

12:55 – 14:00 LUNCH BREAK

SESSION VI

WORKSHOP

- 14:00 – 17:00 *Workshop*
T10. Prof. Laura Formenti & Dott. Andrea Galimberti
Department of Human Sciences for Education,
University of Milano-Bicocca, Milan, Italy
Developing a professional identity along the PhD training: issues, struggles, possibilities
- 17:00 – 17:30 *Poster award and Greetings*
Prof. Paola Branduardi & Organising committee
- 17:30 *End of day 3*