

BtBsDay 2022

Milano, 13 dicembre 2022

Giornata del Dipartimento
di

Biotechnologie e Bioscienze
Università degli Studi di Milano-Bicocca

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BtBsDay 2022

Martedì 13 dicembre, 9.00 - 17.30, Aula "Luisella Sironi"

Programma

9.00 - Apertura e saluti istituzionali

Sessione I: Chairs: **Sara Mercurio, Roberta Baldi**

9.15 - **Federica Barbugian**, *Model of 3D bioprinted glioblastoma for drug screening and understanding the role of ECM in malignancy*

9.30 - **Francesca Cadamuro**, *Glycosignature in 3D-printed extracellular matrix in gastrointestinal cancer*

9.45 - **Veronica Krenn**, *Engineering human brain organoids to study the biology underlying neurodevelopmental disorders*

10.00 - **Giulia Stucchi**, *Role of danger and microbial signals in neutrophils subpopulations recruitment during infection*

10.15 - **Giuseppe Rocca**, *Unravelling the human type 3 dendritic cells murine homologue: from scRNAseq cross-species integration to an adenocarcinoma mouse model*

10.30 – Coffee Break

Sessione II - Chair: **Immacolata Serra**

11.00 - **Elisa Perciballi**, *Characterization of the p.L145F and p.S135N mutations in SOD1: impact on the metabolism of fibroblasts derived from Amyotrophic Lateral Sclerosis Patients*

11.15 - **Bruno Galuzzi**, *Machine Learning for Efficient Prediction of Protein Redox Potential: The Flavoproteins Case*

11.30 - **Martina Arici**, *SERCA2a protein purification to study interaction between SERCA2a-PLN complex and new istaroxime follow-on compounds*

11.45 - **Laura Clara Grandi**, *Do orexin and Dopamine interact in ventral tegmental area? Implications for Narcolepsy*

12.00 - **Claudia Maniezzi**, *PLN-R14del mutation: pathogenetic mechanism in a transgenic mouse model of dilated cardiomyopathy*

12:15 - **Paola Branduardi**, *intervento sulla Commissione Dipartimentale Industria e Territorio*

12.30 - Pausa pranzo e sessione POSTER

13.30 - sessione POSTER

Sessione III - Chairs: **Luisa Fiandra, Stefania Garbujo**

14.30 - **Alessio Romero**, *Synthesis Optimization and Biological Characterization of New Toll-Like Receptor 4 (TLR4) Modulators*

14.45 - **Ana Rita Franco**, *Development of New Toll-Like Receptor 4-directed Adjuvants and Clarification of their Mechanism of Action*

15.00 - **Alessandra De Giani**, *In vitro reconstructed human gut microbiota as a new tool for bacterial interaction studies*

15.15 – **Sara Fumagalli**, *Facing the challenges of non-standardized data: a curated meta-analysis on skin microbiome in aging*

15.30 - **Alessandro Marchetti**, *Mn²⁺ binding enhances mesophilic properties of an Antarctic esterase*

15.45 - Coffee Break

16.15 - *I social media nella comunicazione scientifica* (Tavola Rotonda)

Moderatore: **Stefano Bertacchi**

Invitato: **Diego Di Donato**, Social media & community manager UNIMIB

Interverranno: **Alessandra De Giani** (YouTube), **Martina Arici** (Instagram), **Marco Orlandi** (LinkedIn), **Reinaldo Alvarez** (Twitter)

17.15 - Consegna premi e Chiusura evento

POSTER SESSION

P01 - A novel differentiation protocol to obtain functional 3D human neural culture model

Poster presenter – Alessia D'Aloia

D'Aloia A.1, Blasa S.1, Lorenzin S.1, Pastori V.1, Ceriani M.1,2 and Lecchi M1. and Costa B1.

P02 - Neuronal differentiation induced by scalable thermal stimulation

Poster presenter – Stefania Blasa

Blasa S.1, Borzenkov M.2, Pastori V.1, Doveri L.3, Pallavicini P.3, Chirico G.4, Collini M.4, Lecchi M.1

P03 - Oxygen plasma treated collagen films for antibacterial properties

Poster presenter – Beatrice Trovò

Trovò B.1, Daghetta M. 3, Piferi C. 3, Nicotra F.1, Riccardi C.3, Russo L.1,2

P04 - Antibacterial Self-Expandable Metal Stents (aSEMS) for bile duct strictures treatment

Poster presenter – Luca Rubino

Rubino L.1, Pellegrino L.3, Cardenas C.3, Nicotra F.1, Rusconi R.3, Russo L.1,2

P05 - Investigating pollinators diet: a comparison of sampling techniques for pollen and nectar

Poster presenter – Emiliano Pioltelli

Pioltelli E.1, Tonietti L.2, Guzzetti L.1, Copetta A.3, Biella P.1, Campone L.1, Galimberti A.1

P06 - Synthetic biology approaches and biochemical biodiversity towards Glucobrassicin production in *Saccharomyces cerevisiae*

Poster presenter – Letizia Maestroni

Maestroni L.1, Butti P.1, Milanese R.1, Pagliari S.1, Campone L.1, Serra I.1, Branduardi P.1

P07 - Role of pollination systems on the nutraceutical value of the "fruit" of *Fragaria vesca* L.

Poster presenter – Beatrice Ienaro

Ienaro B.1, Guzzetti L.1, Pioltelli E.1, Copetta A.2, Mussano P.2, Biella P. 1, Campone L.1, Galimberti A.1 and Labra M.1

P08 - Modulation of a reconstructed in vitro gut microbiota by prebiotic Maitake extract and pre-probiotic mediated protective effects on colorectal cell lines

Poster presenter – Margherita Finazzi

Finazzi M.1, De Giani A.1, Forcella M.1, Fusi P.1, Di Gennaro P.1

P09 - Impact of insect pollinators on the definition of the nutritional composition of *Vigna unguiculata* L. Walp. seeds

Poster presenter – Davide Sala

Sala Davide1, Guzzetti L.1, Pioltelli E. 1, Copetta A.2, Biella P.1, Grassi F.1, Galimberti A.1, and Labra M.1

P10 - Elaboration of an in vitro test for the carcinogenesis evaluation of chemical and natural compounds used in the cosmetic industry

Poster presenter – Alberto Baeri

Baeri A.1, Truchi M.2, Vassaux G.2, Mari B.2

P11 - Beeing healthy: how land-use intensification shapes floral resources nutritional quality and diet of pollinator insects

Poster presenter – Malika Ouled Larbi

Ouled Larbi M.1, Pioltelli E.1, Biella P.1, Guzzetti L.1, Labra M.1, Galimberti A.1

P12 - Role of the Ku complex in the DNA damage response

Poster presenter – Carlo Rinaldi

Rinaldi C.1, Pizzul P.1, Casari E.1, Tisi R.1, Longhese MP.1

P13 - Interconnections between Fe-S cluster biogenesis and genome stability

Poster presenter – Chiara Frigerio

Chiara Frigerio1, Michela Galli1, Diego Bonetti1 and Michela Clerici1

P14 - Easy-to-use vectors for CRISPR genome editing in *Saccharomyces cerevisiae*: from Cas9 to MAD7

Poster presenter – Pietro Butti

Pietro Butti¹, Letizia Maestroni¹, Vittorio Senatore ¹, and Paola Branduardi¹

P15 - Gaining value from waste: synthesis of sugar building blocks from cheese whey permeate

Poster presenters – Federico Acciaretto, Marcella De Divitiis, Daniele Vezzini

Acciaretto F.1, De Divitiis M.1, Vezzini D.1, Pessina A.1, Pasquale A.1, Ami D.1, Brambilla L.1, Di Gennaro P.1, Lotti M.1, Natalello A.1, Mangiagalli M.1, Cipolla L.1, Brocca S.1

P16 - Sustainable up-cycling of PET monomers towards platform organic acids by yeast fermentation

Poster presenter – Vittorio Senatore

Senatore V.G. ¹, Maestroni L. ¹, Serra I. ¹, Branduardi P. ¹

P17 - Facile synthesis of monodisperse nanoparticles for biomedical applications

Poster presenter – Marco Giustra

Giustra M.D.1, Spena F.1, Barbieri L.1, Prosperi D1, Colombo M.1

P18 - Tetracyclic fused glycomimetics by [4+2] ihDA reaction: a computational study

Poster presenter – Laura Legnani

Laura Legnani¹, Giacomo Biagiotti², Barbara Richichi², Maria Assunta Chiacchio ³

P19 - Computational and experimental approaches reveal convergences and differences between mice LPS-MCAO astroglia and PBMC from Parkinson's disease patients

Poster presenter – Claudio Gioia

Gioia C.1,2, Sala G.4,5, Goglia I.1,3, Martorana F.1, Finazzi A.1, Ferrarese C.4,5, Colangelo A.M.1,5

P20 - On-cell NMR screening of bacterial multivalent ligands

Poster presenter – Luca Moretti

Moretti L.1, Palmioli A.1, Rispoli F.2, Vezzoni C. A.2, Baldini L.2, Sansone F.2, Casnati A.2, Airolidi C.1

P21 - Nutraceutical approach to increase healthy aging using *Caenorhabditis elegans* as a model organism

Poster presenter – Roberta Pensotti

Pensotti R.1, Sciandrone B.1, Maiocchi J.1, Palmioli A.1, Airolidi C.1, Regonesi M.E. 1

P22 - Development of lipid nanoparticles functionalized with pulmonary surfactant protein D

Poster presenter – Chiara Colombo

Colombo C.1, Salvioni L.1, Morelli L.A.1, Garbujo S.1, Prosperi D.1, Colombo M.1

P23 - Drunk bees? The effects of vineyard management on pollinator quantity at local scale

Poster presenter – Giulia Parolo

Parolo G.1, Ramazzotti F.1, Brambilla M.2, Salvetti M.3, Biella P.1

P24 - Optimization of the extraction of secondary metabolites from *Vigna unguiculata* L. Walp. leaves through a DoE approach and evaluation as a functional food

Poster presenter – Chiara Sartirana

Sartirana C.1, Guzzetti L.1, Pioltelli E.1, Copetta A.2 and Labra M.1

P25 - All is a matter of Energy: fission-fusion-mitophagy cycling of mitochondria in the NGF-dependent neuronal differentiation

Poster presenter – Ilaria Goglia

Ilaria Goglia^{1,4}, Claudio Gioia^{1,5}, Alessia Finazzi¹, Francesca Martorana¹, Marcella Bonanomi², Noemi Salmistraro², Daniela Gaglio^{2,3} and Anna Maria Colangelo^{1,2,6}

P26 - Liposomes containing chemically synthesized FP20 and QS-21_EA to mimic the AS-01b as an effective vaccine adjuvant system

Poster presenter – Mohammed Monsoor Shaik

Mohammed Monsoor Shaik 1, Alessio Romero 1, Adelino Franco Ana Rita 1,
Alberto Fernández-Tejada 2, Francesco Peri 1

P27 - Study of interactions between tumor cells and cancer-associated fibroblasts in pancreatic ductal adenocarcinoma using 3D models

Poster presenter – Emiliano Sala

Sala E.1, Di Miceli N.1, Prosperi D.1, Fiandra L.1

P28 - Influence of urbanisation on endoparasite load and oxidative damage in bees

Poster presenter – Beatrice Colombo

Colombo B.1, De Felice B.3, Galimberti A.1,2, Tommasi N.1,2

P29 - Mitochondrial active Ras2 protein promotes apoptosis and regulated cell death in a cAMP/PKA pathway-dependent manner in budding yeast

Poster presenter – Barbara Bonomelli

Barbara Bonomelli1,2, Enzo Martegani1, Sonia Colombo1

P30 - Refining molecular tools for the analysis of wild bee biodiversity

Poster presenter – Marco Catania

Catania M.1, Ramazzotti F.1, Galimberti A.1, Biella P.1

P31 - MADAME, a user-friendly and effective data and metadata retrieval tool

Poster presenter – Giulia Soletta

Soletta G.1, Fumagalli S. 1, Agostinetto G. 1, Bruno A. 1, Labra M. 1

P32 - Surfactant protein D (SP-D) as a biomarker of SARS-CoV-2 infection

Poster presenter – Filippo Testa

Testa F.1, Salvioni L.1, Lovaglio P.G.2, Berta P.2, Leoni V.3, Brambilla P.3, Prosperi D.1, Vittadini G.2, Colombo M.1, Fiandra L.1

P33 - Neuroprotective role of lactate release from astrocytes in a human in vitro model of ischemic stroke

Poster presenter – Marta Cerina

Marta Cerina^{1, 2}, Andrea Becchetti¹, Monica Frega²

P34 - Study of the cross-talk between CAFs and metastatic breast cancer in 3D cell model

Poster presenter – Alessandro Colombo

Colombo A.¹, Del Nero M.¹, Di Miceli N.¹, Prosperi D.¹, Colombo M.¹, Fiandra L.¹

P35 - Intracerebroventricular transplantation of neural stem cells in an experimental model of amyotrophic lateral sclerosis

Poster presenter – Ivan Lombardi

Lombardi I.¹, de la Morena S.², Pastor Campos D.³, Carletti R.⁴, Gelati M.⁵, Profico D.⁵, Grespi V.⁶, Muzi G.⁶, Rasà D.^{2, 7}, Rosati J.⁸, Perciballi E.¹, Mazzini L.⁹, De Marchi F.⁹, Vercelli A.^{2, 7}, Martinez Perez S.¹⁰, Vescovi A.^{1, 4}, Boido M.^{2, 7} and Ferrari D.¹.

P36 - CRISPR/Cas9 strategy for synthetic biology in *Saccharomyces cerevisiae*: The case study of L-Ascorbic Acid production

Poster presenter – Riccardo Milanesi

Milanesi R.¹, Maestroni L.¹, Butti P.¹, Branduardi P.¹

P37 - Influence of formulation and process parameters in the mechanical properties of prototypes prepared using Binder Jetting-3D printing technology

Poster presenter – Evelyn Ochoa

Ochoa, E.¹, Morelli, L.¹, Salvioni, L.¹, Prosperi, D.¹, Colombo, M.¹.

P38 - The glucose sensing GPR1-GPA2 pathway modulates the oscillatory behaviour of Msn2 protein in budding yeast

Poster presenter – Enzo Martegani

Sonia Colombo¹, Enzo Martegani¹

P39 - Cocoa Polyphenols as Functional Food to counteract the Spinocerebellar Ataxia Type 3 disease

Poster presenter – Barbara Sciandrone

Sciandrone B.1, Palmioli A.1, Airolidi C.1, Regonesi M.E. 1

P40 - Development of a variant of vault nanoparticle optimized for antibody-mediated targeting

Poster presenter – Camilla Pantaleoni

Pantaleoni C.1, Cotugno D.1, Tomaino G.1,2, Valsecchi D.1, Vanoni M.1, Tortora P.1, Frascotti G. 1

P41 - Isolation and characterization of two novel extracellular multicopper oxidases laccase-like from *Rhodococcus opacus* R7 for their ability to oxidize polyethylene

Poster presenter – Jessica Zampolli

Zampolli J.1, Mangiagalli M.1, Vezzini D.1, Ami D.1, Natalello A.1, Lotti M.1, Di Gennaro P.1

P42 - Interplays between nucleases and helicases in the DNA damage response

Poster presenter – Michela Galli

Michela Galli,¹ Chiara Frigerio and Michela Clerici¹

P43 - Reprogramming CAFs for tumor killing: a gene therapy approach

Poster presenter – Sara lo Prete

lo Prete S.1, Baioni C.1, Salvioni L.1, Colombo M.1, Prosperi D. 1

P44 - Glucose and glutamine play different roles in 2D and 3D breast cancer models

Poster presenter – Gloria Campioni

Gloria Campioni^{1,2}, Valentina Pasquale^{1,2}, Alessandro Pelusi¹, Francesca Carreras¹, Elena Sacco^{1,2}, and Marco Vanoni^{1,2}

P45 - Brain gene regulation in 3D: long-range promoter-enhancer functional interaction networks in murine Neural Stem Cells, and their relevance for neurodevelopmental disease

Poster presenter – Giorgia Pozzolini

G. Pozzolini¹, S.E. Barilà¹, R. Baldi¹, M. Pagin¹, S.K. Nicolis¹

P46 - INHIBITION OF HBP BY TARGETING PGM3 ENZYME AS NEW ANTICANCER THERAPY

Poster presenter – Barbara Zerbato

Zerbato B.¹, Lattuada C. ¹, Gobbi M. ¹, Brancato V.^{1,2}, La Ferla B.¹, Chiaradonna F. ¹

P47 - Engineering human brain organoids with hPSC-derived microglia to study neurodevelopment and disease

Poster presenter – Anna Cascio

Anna Cascio ^{1,2}, Giulia Protti ^{1,2} and Veronica Krenn ^{1,3}

P48 - Development of a standardized method for the detection of freshwater target species via environmental DNA

Poster presenter – Luca Caprotti

Luca Caprotti¹, Fausto Ramazzotti¹, Andrea Galimberti¹, Valerio Mezzasalma ², Fabrizio De Mattia², Antonia Bruno¹

P49 - Optimization of glucosinolates ultrasound-assisted extraction from *Camelina sativa* L. by-products and their effects on cancer cells

Poster presenter – Stefania Pagliari

Pagliari S.¹, Cannavacciuolo C.¹, Giustra CM.¹, Forcella M.¹, Fusi P.¹, Labra M.¹, Campone L.¹

P50 - Facing the challenges of non-standardized data: a curated meta-analysis on skin microbiome in aging

Poster presenter – Sara Fumagalli

Fumagalli S.¹, Bruno A.¹, Soletta G.¹, Armani A.¹, Labra M.¹, Casiraghi M.¹

P51 - Characterization of the p.L145F and p.S135N mutations in SOD1: impact on the metabolism of fibroblasts derived from Amyotrophic Lateral Sclerosis Patients

Poster presenter – Elisa Perciballi

Perciballi E.1, Bovio F.1, Rosati J.2, Arrigoni F. 1, Lattante S.3, Gelati M.4, De Marchi F.5, Lombardi I.1, Ruotolo G.2, Forcella M.1, Mazzini L.5, D'Alfonso S.6, Corrado L.6, Sabatelli M.7, Conte A.7, De Gioia L.1, Martino S.8, Vescovi A.L.1, Fusi P.1, Ferrari D.1

P52 - A novel strategy for ammonia production using yeast

Poster presenter – Anna Giancontieri

Anna Giancontieri1, A. Pessina1, T. Sassi1, M. Vanoni1,2, L.G. Brambilla1,2

P53 - Nicotinamide cofactors and longevity: relationship between NAD and oxidative stress during chronological aging in yeast

Poster presenter – Francesco Abbiati

Abbiati F.1, Garagnani S. A.1, Orlandi I.1, Vai M. 1

P54 - Istaroxime Effects on Pulmonary Artery Smooth Muscle Cells Ca²⁺ Dynamics

Poster presenter – Alessia Metallo

Alessia Metallo1, Virginia D'Angeli1, Martina Arici1, Mara Ferrandi2, Paolo Barassi2, Marcella Rocchetti1