BBCC2020

Bioinformatics and Computational Biology Conference

November 16-18, 2020

Organized with the Department of Agricultural Sciences,
Università di Napoli Federico II
Portici, Naples, Italy

Virtual Conference
Program
(Central Europe Time)

Monday 16

14:00-14:30 Connection to the Virtual Conference Room and Registration

14:30   **Conference Opening**
Maria Luisa Chiusano and Angelo Facchiano – Chairs of BBCC2020

14:45-15:30 Keynote Lecture
Nikolay V. Dokholyan - Penn State College of Medicine, Hershey, PA, USA
Molecular Design for Research and Therapeutics

Session – Bioinformatics for molecular diseases
Chair: Maria Luisa Chiusano, University of Naples Federico II, Naples, Italy

15:30-15:50 **Maria Monticelli**, Andrea Riccio, Mehdi Totonchi, David B Ascher and Maria Vittoria Cubellis
Analysis of whole-exome sequencing and protein modelling: the lesson from cyclin B

15:50-16:10 **Aditi Deokar**
Stratification of Systemic Lupus Erythematosus Patients with Gene Expression Data Reveals Expression of Distinct Immune Pathways

16:10-16:30 **Antonio Facchiano**, Francesco Facchiano, Angelo Facchiano
Molecular basis of cancer co-morbidities in COVID-19 patients

16:30-16:50 **Sohayb Bekkal Brikci**, Imane Abdelli and Faiçal Hassani
Inhibition of angiotensin converting enzyme 2 SARS-CoV-2's receptor by natural compounds: in silico structure-activity relationship study

16:50-17:10 Simone Ciccolella, Luca Denti, Paola Bonizzoni, Gianluca Della Vedova, **Yuri Pirola** and Marco Previtali
MALVIRUS: an integrated web application for viral variant calling

17:10-17:30 **Flavia Villani**, Francesco Porto, Andrea Guarracino, Robert W.Williams, Pjotr Prins, Gianluca Della Vedova, Erik Garrison and Vincenza Colonna
Population genomics analyses on pangenome graphs

17.30-17.40 *Short presentations / posters*

    Carmen Biancaniello, Antonia D'Argenio, Serena Dotolo, Deborah Giordano, Bernardina Scafuri, Antonio d'Acierno, Anna Marabotti, Roberto Tagliaferri and Angelo Facchiano
Investigating structural and functional properties of menin protein

    Francesco Monticolo, Emanuela Palomba and Maria Luisa Chiusano
Identification of novel potential genes involved in programmed cell death by integrated and comparative analyses

17.40-18:00 **Discussion and session closure**

Tuesday 17

9:00-9:20   Connection to the Virtual Conference Room

Invited Session: ELIXIR-IT for COVID-19
Chair: Federico Zambelli – University of Milan, Italy – ELIXIR-IT

9:20-9:30   **Federico Zambelli -** University of Milan, Italy, and ELIXIR-IT
Introduction to ELIXIR infrastructure in Italy

9:30-9:50   **Matteo Chiara -** University of Milan, Italy, and ELIXIR-IT
Open data (and bioinformatics) in the COVID-19 pandemic

9:50-10:10   **Marco Tangaro** – IBIOM-CNR, Bari, Italy and ELIXIR-IT
Galaxy based services for Covid-19 research

10:10-10:30   **Allegra Via** – IBPM-CNR, Roma, Italy, and ELIXIR-IT
Remote teaching and online learning: challenges and opportunities

10:30-10:40   Break

Session: Infrastructures and Services
Chair: Nunzio D'Agostino, University of Naples, Italy

10:40-10:50   **Rosa Siciliano** – ISA-CNR, Avellino, Italy
METROFOOD: an European Research Infrastructure for promoting metrology in Food and Nutrition

10:50-11:10   **Katharina Lauer** – ELIXIR-EU Industry Officer
ELIXIR- promoting public-private partnerships to advance science

Session: Applications of computational methods
Chair: Nunzio D'Agostino, University of Naples, Italy

11:10-11:30   Anna Marabotti, Eugenio Del Prete, **Bernardina Scafuri** and Angelo Facchiano
Assessing the performances of protein stability predictors

11:30-11:50   **Chitaranjan Mahapatra**
Computational Study of Action Potential Generation in Uterine Smooth Muscle cell

11:50-12:10   **Varsha Poondi Krishnan**, Monika Krzak, Shir Toubiana, Sara Selig, Claudia Angelini and Maria Rosaria Matarazzo
Studying the early molecular defects of ICF syndrome in patient-derived and CRISPR-corrected iPSCs using an integrated multi-omic approach

12:10-12:20   ***Short presentations / posters***
Giorgio Maria Vingiani, Pasquale De Luca, Daniele De Luca and Chiara Lauritano
Microalgal RNA-seq analyses to identify enzymes involved in the synthesis of bioactive compounds

Jamal Elhasnaoui, Giulio Ferrero and Michele De Bortoli
A comprehensive evaluation of differential alternative splicing tools for RNA-seq data

12:20-12:30   **Discussion and session closure**

14:10-14:30   Connection to the Virtual Conference Room

Session: Plant Sciences

Chair: Maria Luisa Chiusano, University of Naples Federico II, Naples, Italy
and Alessandro Cestaro, Edmund Mach Foundation, Italy

Invited lectures

14:30-15:15   **Alessandro Cestaro -** Edmund Mach Foundation, Italy

Introduction to Elixir Plant User Community. Apple as model ... lessons learnt

15:15-16:00   **Cyril Pommier -** French National Institute for Agriculture, Food and Environment – URGI, INRA, Université Paris-Saclay, Versailles, France

Plant data management, Elixir services and recommendations for FAIR data publication and findability

16:00-16:45   **Astrid Junker -** Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) Gatersleben, Germany

FAIR Phenomics Data Management

16:45-17:30   **Kristina Gruden -** Department of Biotechnology and Systems Biology, National Institute of Biology, Slovenia

Tools for visualisation of heterogeneous datasets in plant sciences

17:30-17:50   **Francesco Loreto –** Department of Biology, Agriculture and Food Sciences, The National Research Council of Italy

EMPHASIS: The European infrastructural programme on plant phenothyping

Oral contributions proposed by participants

17:50-18:10   **Georgia Tooulakou**, Paraskevi Manolaki, Caroline Urup Byberg, Franziska Eller, Brian Keith Sorrell, Tenna Riis and Maria Klapa

Integrated eco-physiological and metabolomic analyses of the amphibious plant Butomus umbellatus under light limitation and nutrient varying conditions

18:10-18:20   ***Short presentations / posters***

Pierre Larmande

The AgroLD project: A Knowledge Graph Database for plant functional genomics

Emanuela Palomba, Francesco Monticolo, Stefano Mazzoleni and Maria Luisa Chiusano

Integrated bioinformatics to investigate novel biological processes in model species

18:20-18:40   **Alessandro Cestaro and Maria Luisa Chiusano – Session chairs**

Discussion and session concluding remarks

Wednesday 18

9:00-9:20   Connection to the Virtual Conference Room

Session: Methods for biological data analysis
Chair: Claudia Angelini, National Research Council, Naples, Italy

9:20-9:40   **Marco Anteghini**, Edoardo Saccenti and Vitor A.P. Martins Dos Santos
Exploiting deep learning embeddings for sub-peroxisomal localisation

9:40-10:00   **Achal Dhariwal,** Roger Junges, Tsute Chen, and Fernanda Petersen
ResistoXplorer: a web-based tool for visual, statistical and exploratory data analysis of resistome data

10:00-10:20   **Pietro Hiram Guzzi**, Giuseppe Tradigo and Pierangelo Veltri
A novel algorithm for extracting common modular communities from Dual Networks.

10:20-10:40   **Giacomo Baruzzo**, Ilaria Patuzzi and Barbara Di Camillo
Zero-imputation in 16S rRNA gene studies: do we need it?

10:40-11:00   **Massimo Bellato**, Lorenzo Pasotti, Giuseppe Serio, Michela Casanova, Barbara Di Camillo and Paolo Magni
Novel multi- input logic gates for Synthetic Biology: analysis of the interaction between transcription factors and CRISPR interference

11:00-11:10   ***Short presentations/Posters***
Claudia Angelini, Daniela De Canditiis and **Anna Plaksienko**
jewel: a novel method for data integration with applications to omics data analysis
Giulia Babbi, Pier Luigi Martelli and Rita Casadio
Identifying biological functions underlying phenotypes using PhenPath

Invited lecture

11:10-12:00   **Ivo Grosse -** Institute of Computer Science, Martin Luther University Halle-Wittenberg, Germany, and German Center of Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, Germany
Hourglass Patterns of Embryonic and Postembryonic Development in Animals and Plants and the Emergence of Biodiversity on our Planet

12:00   **Maria Luisa Chiusano and Angelo Facchiano – Chairs of BBCC2020**
Meeting announcements and closing remarks

BBCC2020 Scientific Committee

Dr. Angelo Facchiano – National Research Council, Institute of Food Sciences, Avellino, Italy
(Chair / BBCC Coordination)
Prof. Maria Luisa Chiusano – University of Naples "Federico II", Italy
(Chair)

Dr. Claudia Angelini – National Research Council, Institute for Applied Mathematics "M. Picone", Italy
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Prof. Roberto Tagliaferri – University of Salerno, Italy

BBCC2020 Organizing Committee

Dr. Nunzio D'Agostino, Prof. Maria Luisa Chiusano, Dr. Angelo Facchiano

Contacts

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Society