The 18th International Conference on
Computational Intelligence Methods
for Bioinformatics and Biostatistics

6-8 September, 2023   Padova, Italy

18th Computational Intelligence Methods for Bioinformatics and Biostatistics Conference (CIBB 2023)

6-8 September 2023
Padova, Italy ⊙

https://cibb2023.dei.unipd.it/

CALL FOR PAPERS

Short paper submission deadline:
30 April 2023

ABOUT THE CONFERENCE

CIBB's main goal is to provide a multidisciplinary forum for researchers interested in the application of computational intelligence, in a broad sense, to open problems in **bioinformatics**, **biostatistics**, **systems and synthetic biology**, and **medical informatics**. This year's in-person meeting will bring together researchers from the international scientific community interested in advancements and future perspectives in bioinformatics, biostatistics, and medical informatics. CIBB is also looking for contributions on current trends and future opportunities at the interface between computer and life sciences, and applications of computational intelligence to system and synthetic biology. Theoretical and experimental biologists are also encouraged to participate and present their experiences in facing novel challenges to foster multidisciplinary collaboration.

Authors are invited to submit a short paper (4-6 pages) describing their original contribution in the fields of bioinformatics, biostatistics, systems and synthetic biology, and medical informatics. All accepted contributions will be presented in plenary oral sessions and special sessions.

WHEN AND WHERE

CIBB 2023 will take place on September 6-8 2023, in Padova, Italy, at the Multifunctional Psychology Hub of the University of Padova ([Cittadella dello Studente, Via Venezia, 12, 35131 Padova PD](#)). Padova is in a strategic location, just 40 km from Venice and its artistic treasures.

CONTACTS

For any questions, please contact the general chairs via email at cibb2023@dei.unipd.it

PAPER SUBMISSION AND PUBLICATION

Authors are invited to submit a short paper (4-6 pages) describing their original contribution in the fields of bioinformatics, biostatistics, systems and synthetic biology, and medical informatics. Submitted contributions will undergo peer review before acceptance. All accepted contributions will be presented in plenary oral sessions and special sessions.

The conference proceedings will be shared among the participants during the conference. The proceedings will not be indexed on Scopus, but, after the conference, the authors of all the accepted short papers presented at the conference will be invited to submit an extended version of their manuscripts to the conference proceedings book in Springer Lecture Notes in Bioinformatics (LNBI), or to a supplement in a journal such as BMC Bioinformatics or BMC Medical Informatics and Decision Making.

TOPICS

CIBB 2023 welcomes contributions on:

- Applications of machine learning to bioinformatics or health datasets
- Data mining methods in biomedical contexts
- Artificial intelligence in biomedicine
- Next-generation sequencing bioalgorithms
- Multi-omics data analysis
- Statistical analysis of high dimensional omics data
- Algorithms for alternative splicing analysis
- Methods for visualisation of high-dimensional biomedical data
- Software tools for bioinformatics
- Methods for comparative genomics
- Computational tools for proteomics
- Simulation of biological systems and clinical populations
- Methods for the functional classification of genes
- Algorithms for molecular evolution and phylogenetic analysis
- Methods for unsupervised analysis, validation, and visualisation of structures discovered in bio-molecular data
- Health informatics and medical informatics

- Biomedical and microscopy imaging
- Methods for the integration of clinical, genetic, or environmental data
- Heterogeneous data integration and data fusion
- Algorithms for pharmacogenomics
- Biomedical text mining and natural language processing
- Bayesian methods for medical and biological data
- Health big data analytics
- Data-driven approaches for patient stratification, and prognosis or onset prediction
- Process mining in healthcare
- Information retrieval, and temporal and spatial representation and reasoning in biomedicine
- Simulation models, software, and tools (clinical decision support systems, patient engagement support, visual analytics, solutions for assisted living, and telemedicine)
- Biomedical signal processing
- Explainable AI and clinical model interpretation
- Personalised medicine for diagnosis and prognosis
- Statistical methods for the analysis of clinical data
- Prediction of secondary and tertiary protein structures
- Advanced pathway enrichment analysis methods
- Mass spectrometry data analysis in proteomics
- Bio-molecular databases and data mining
- Mathematical modelling and automated reasoning on biological and synthetic systems
- Computational simulation of biological systems
- Methods and advances in systems biology
- Spatio-temporal analysis of synthetic and biological systems
- Network systems biology
- Models for cell populations and tissues
- Methods for the engineering of synthetic components
- Modelling and engineering of interacting synthetic and biological systems
- Software tools for bioinformatics, biostatistics, systems and synthetic biology
- Computational drug discovery
- Operational research in healthcare and bioinformatics

GENERAL CHAIRS

Martina Vettoretti, University of Padova, Italy
Erica Tavazzi, University of Padova, Italy
Enrico Longato, University of Padova, Italy

ORGANISATION

Biostatistics chair
Glen Philip Martin, University of Manchester, UK

Bioinformatics and Systems Biology chair
Federica Eduati, TU Eindhoven, the Netherlands

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IMPORTANT DATES

Deadline for special session proposals: **19 February 2023**
Short paper submission: **30 April 2023**
Acceptance/rejection notification: **9 June 2023**
Camera-ready short paper submission: **23 June 2023**
Deadline for early-bird registration: **15 July 2023**
Registrations close: **30 July 2023**
Conference: **6-8 September 2023**
Invitation to submit extended versions of the accepted short papers: **October, 2023**

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