



**CIBB 2015: 12th International Meeting on Computational Intelligence
Methods for Bioinformatics and Biostatistics,**

CNR Research Area, Naples, Italy, 10-12 September 2015

<http://bioinfo.na.iac.cnr.it/cibb2015/>

cibb2015@gmail.com

**CALL FOR PAPERS - Special Session on
Multi Omic metabolic models and statistical Bioinformatics of
adaptations and biological associations**

Aims and scope

Metabolic network reconstruction has become an indispensable tool for studying the systems biology of metabolism. These reconstructions represent structured knowledge on the biochemical transformations taking place within specific target organisms, including the synthesis of biomolecules that may be of interest in medical applications. Genome-scale metabolic modeling represents a valuable tool to quantitatively simulate chemical reactions fluxes within the cell, including metabolic adjustments in response to external perturbations (e.g. temperature downshift). Linear programming - constraint-based modeling methods (e.g. flux balance analysis, FBA) can then be used to compute the resulting balance of all the active cellular reactions in the cell and to simulate the maximal growth of a cell in a given environmental condition. The challenge is to develop models of species associations, such as bacteria association, bacteria in the gut and in the skin or species living in extreme environments. In order to consider environmental adaptations and biological associations, metabolic models have been extended to include transcriptomics and proteomics data and enriched by advanced computational intelligence and statistical inference approaches.

The special session will focus on Statistical Bioinformatics approaches related to multi omics metabolic models in the context of adaptation, natural selection and biological association

Organisers

Dr. Claudio Angione, Computer Laboratory, University of Cambridge.

Dr. Pietro Liò, Computer Laboratory, University of Cambridge

Dr. Sandra Pucciarelli, University of Camerino.

Dr. Barbara Simionati , BMR Genomics.

Invited Speaker:

Dr. Antonio Starcevic, Faculty of Food Technology and Biotechnology, University of Zagreb,

Dr. Marco Fondi, Department of Biology, University of Firenze.

Submissions

Conference papers must be prepared following the guidelines illustrated on the CIBB website, which include the requirement of being between 4 and 6 pages in length and having five sections:

1. Scientific background
2. Material and methods
3. Results
4. Conclusion
5. References (no more than 10)

These papers should be submitted in PDF format on the Easy Chair conference system (it is necessary to select this special session in the submission system).

A second submission after the conference, in an extended version, is required to be considered for publication in the Springer's Lecture Notes in Bioinformatics (LNBI) series (<http://www.springer.com/computer/lncs?SGWID=0-164-6-73658-0>). Moreover, as it has been the case in previous CIBB conferences, we are planning to publish the best papers of CIBB 2014 in an extended form in a special issue of an international scientific journal, including special session papers.

Important dates

Paper submission deadline: May 30, 2015
Abstract submission deadline: May 30, 2015
Notification of Acceptance: June 19, 2014
Final papers due: July 20, 2015 (*)
Conference: September 10-12, 2015

(*) for the inclusion in the CIBB15 conference proceeding

About the organisers

Dr. **Claudio Angione**

<https://www.cl.cam.ac.uk/~ca394/>

Dr. **Pietro Liò**

<http://www.cl.cam.ac.uk/~pl219/>

Dr. **Sandra Pucciarelli**

<http://docenti.unicam.it/pdett.aspx?Uteld=480&tv=d>

Dr. **Barbara Simionati**

<http://www.bmr-genomics.it>