

## CALL FOR PAPERS – Special Session on Spatial Problems in the Nucleus

CIBB 2014

### 11th International Meeting on Computational Intelligence Methods for Bioinformatics and Biostatistics

Computer Laboratory, University of Cambridge, Cambridge, United Kingdom  
June 26-28 2014

<http://www.cussb.univr.it/cibb2014/>

[cibb2014@univr.it](mailto:cibb2014@univr.it)

#### Aims and scope

Recent advancements in imaging and next generation molecular methods have opened the way to investigate the nuclear architecture in unprecedented resolution and scale.

Understanding the spatial organization at the nuclear, chromosomal and sub-chromosomal levels and its role in key biological processes such as replication, gene regulation and epigenetics is an important challenge with applications to new diagnostics and therapeutics.

The aim of this special session is to bring together researchers interested in the development of cutting-edge Computational Intelligence methods to address the methodological challenges posed by spatio-temporal problems in the Nucleus. Relevant topics within this context include Spatial Modelling, Chromatin Modelling, Nuclear Dynamics, 3C methods, FISH, Bias and Noise in 3C methods, Epigenetics, Spatial Markers, Data Integration methods, Data Analysis Methods.

#### Organisers

Dr Marco Botta (University of Turin, Italy)

Ms Yoli Shavit (University of Cambridge, UK)

#### Submissions

Conference papers must be prepared following the guidelines illustrated on the [CIBB website](#), which includes the requirement of being between four and six pages in length and having five sections:

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

Papers should be submitted in PDF format on the Easy Chair conference system. Correct submission requires selecting this special session in the submission system. Each paper will be peer-reviewed and the resulting scores will be used to determine invitations for oral or poster presentations.

After the conference, a second submission of the paper in a 12-page format is required to be considered for publication in the Springer's Lecture Notes in Bioinformatics ([LNBI](#)) series. Furthermore, as it has been the case in previous CIBB conferences, we are planning to

publish an extended version of the best papers of CIBB 2014, including special session papers, in a special issue of BMC Bioinformatics.

### **Important dates**

Paper submission deadline: March 15, 2014  
Notification of Acceptance: May 1, 2014  
Final papers due: May 30, 2014 (\*)  
Conference: June 26-28, 2014

(\*) for the inclusion in the CIBB14 conference proceeding

### **About the organisers**

Prof. **Marco Botta** graduated, with laude, in Computer Science at Università di Torino in 1987. He received the Ph. D. in Computer Science from Università di Torino in 1993. Since Nov. 2001, he is an associate professor of Computer Science at the Faculty of Mathematical, Physical and Natural Sciences of the Università di Torino, Italy. He is affiliated to the Department of Computer Science of the same University. His research activity was mainly focused on artificial intelligence topics and, in particular, on machine learning problems. In his early research years he mainly studied and developed new methods for learning concepts from instances. Such methods were oriented both to the construction of knowledge bases for expert systems and to their refinement. Since 1996 his research activity has been devoted to the integration of symbolic and sub-symbolic learning approaches with the aim of combining the expressive power of first-order logic with the refinement mechanisms that are typical of a connectionist approach. Since 2004, his research interest shifted to study algorithms for learning from spatio/temporal sequences of data, with applications in bioinformatics, user profiling, log analysis and musical pieces analysis. He is currently applying these techniques for studying properties of the nuclear architecture.

Web: <http://www.di.unito.it/~botta/>

Ms **Yoli Shavit** 's research interests include the application of machine learning and statistical methods to spatial and temporal problems in nuclear architecture, with the aim of developing new spatial markers for diseases and in particular for cancer. She is currently a Cambridge Trust PhD scholar at the Artificial Intelligence Group of the Computer Laboratory, University of Cambridge (UK), and a member of Churchill College. Previously, she was awarded an MSc in Bioinformatics and Systems Biology from Imperial College London (UK) and a BSc in Computer Science and in Life Science from Tel Aviv University (Israel).

Web: <http://www.cl.cam.ac.uk/~ys388/>