

**2nd International Workshop on  
Pattern Recognition in Proteomics,  
Structural Biology and Bioinformatics**

**PR PS BB 2013**

9-10 September 2013



in conjunction with the  
*17th International Conference on Image Analysis and Processing (ICIAP)*

**Naples, Italy**

[www.iciap2013-naples.org](http://www.iciap2013-naples.org)



## **MOTIVATIONS AND AIMS**

Pattern recognition, after many years of studies and researches successfully developed in several applicative areas, has now know-how, computing strategies, technologies, methods and tools to exploit in new fields such as proteomics, structural biology and bioinformatics.

PR PS BB 2013 integrates and continues the tradition of the international conferences on image analysis and processing, one of the longest running international conferences, that started in Italy, in 1980.

Through its informal nature, the workshop is intended to become the foremost platform for exchanging ideas and giving to top researchers, practitioners and students from around the world, of the computing and biological communities, excellent opportunities to meet, interact and rise synergies.

## **SCOPE & CALL FOR PAPERS**

The amount and complexity of bioinformatics data such as DNA and protein sequences, genetic information, biomedical text and molecular data had a sort of explosion in the past decade.

The importance of the study such amounts of data, for the analysis of structural building blocks, their comparison and their classification are instrumental to practical problems of the maximum impact, such as the design of a small molecule to bind a known protein or the scan of drugs libraries to detect a suitable inhibitor for a target molecule.

Advanced pattern recognition methods can also have a significant role in high-throughput functional genomics and system biology, where the classification of complex large scale expression profiles, and their link with motif discovery and inference of gene regulatory network, is a major research challenge in the field of Computational Biology.

However, current pattern recognition techniques to tackle these huge data are still not sufficient: the development of approaches for the improvement of the current performances is the scope of the workshop.

A list of open issues on which prospective authors are invited to submit papers is:

- Alignment and comparison of biological structures
- All-to-all comparison and research of structural motifs
- Blocks retrieval in databases
- Classification of known structures

- Computational and comparative genomics
- Docking between proteins and between protein and ligand
- Folding and prediction from amino sequences
- Morphological study for molecules interaction and comparison
- Prediction of links between protein and potential drugs
- Structural genomics and proteomics
- Pathway and network analysis
- Gene and protein expression analysis and classification
- Pattern discovery and motif detection
- High content screening and analysis

## FORMAT

The workshop will feature contributed talks as well as invited presentations. Moreover, feeling that the more informal the better, open and lively discussions and exchange of ideas are solicited. Some panels are allocated to stimulate questions and discussions.

## ORGANIZATION

### *Program Chairs*

Virginio Cantoni, *University of Pavia, Italy*

Michele Ceccarelli, *University of Sannio, Italy*

Robert Murphy, *Carnegie Mellon University, USA*

### *Program Committee*

Pierre Baldi, *Institute for Genomics and Bioinformatics - University of California, USA*

Paola Bertolazzi, *IFAC CNR Roma, Italy*

Mario Cannataro, *Università della Calabria, Italy*

Virginio Cantoni, *University of Pavia, Italy*

Alessandra Carbone, *Université Pierre et Marie Curie, Paris, France*

Jens Michael Carstensen, *Videometer A/S, Copenhagen, Denmark*

Rita Casadio, *University of Bologna, Italy*

Michele Ceccarelli, *University of Sannio, Italy*

Angelo Facchiano, *Istituto di Scienze dell'Alimentazione - CNR - Avellino, Italy*

Concettina Guerra, *Georgia Institute of Technology, USA*

Alamgir Hossain, *Northumbria University, UK*

Tom Lenaerts, *Université Libre de Bruxelles, Belgium*

Le Ly, *Ho Chi Min International University, Vietnam*

Giuseppe Maino, *ENEA & Bologna University, Italy*

Elena Marchiori, *Radboud University, The Netherlands*

Giancarlo Mauri, *University of Milano Bicocca, Italy*

Robert Murphy, *Carnegie Mellon University, USA*

Giovanni Paoletta, *University of Naples Federico II, Italy*

Alfredo Petrosino, *Parthenope University, Italy*

Michael Schroeder, *BiOTEC, TU Dresden, Germany*

Ekaterina Shelest, *Hans Knoell Institute - Jena, Germany*

Roberto Tagliaferri, *Università di Salerno, Italy*

Alfredo Vellido, *Universitat Politècnica de Catalunya, Spain*

### *Keynote Speaker*

Robert Murphy, *Carnegie Mellon University, USA*

### *Workshop Organization and Scientific Secretary*

Alessandra Setti, *University of Pavia, Italy*

## **IMPORTANT DATES**

Paper submission: **21 June 2013**

Notifications: **25 June 2013**

Camera-ready due: **28 June 2013**

*Workshop*: **9-10 September 2013**

## **PAPER SUBMISSION**

Papers must be submitted to <https://cmt.research.microsoft.com/ICIAPWS2013/>.

Manuscripts should be in pdf and formatted according to Springer's Lecture Notes in Computer Science (LNCS) style. Information concerning typesetting can be obtained directly from Springer at: <http://www.springer.com/comp/lncs/authors.html>.

Papers must not exceed 10 pages and should report original work.

All submitted papers will be subject to a rigorous peer-review process. Accepted papers will appear in the workshop proceedings in a Volume of Lecture Notes in Computer Science (Springer).

Submission implies the willingness of at least one of the authors to register and present the paper, if accepted.

## **WORKSHOP VENUE**

The workshop takes place in one of the ICIAP2013 Conference Sites in the historical center of Naples.