

International Workshop on Gene Signalling Pathway Analysis and Representation for the Dendritic Cell

13-14 NOVEMBER 2008, CENTRO STUDI NAZIONALE CISL, VIA DELLA PIAZZOLA 71, FLORENCE, ITALY



Functional evaluation of -omics data is rising its importance as the volume and types of quantitative information on biological systems is increasing.

The use of pathway information in the interpretation of -omics data promises to overcome the problems arising from structural data noise and incomplete knowledge of biological systems.

This workshop aims at exploring the issues related to the representation of signalling pathways, and their application in the interpretation of functional genomics data.

It will have an applied focus, with a public consisting of experts in the field and potential users, and it is held in conjunction with I-ATLAS: International Workshop on Gene Signalling Pathway Analysis and Representation for immuno-genomics.

We will present DC-ATLAS, a highly curated database of pathways of the dendritic cell, structured in a way to facilitate access to knowledge on biological mechanisms at the molecular level using representations that capture the hierarchical structure of signalling from receptors to effectors.

The workshop will draw attention to issues related to pathway representations and ontologies, to statistical methods for the integration of pathway knowledge into data analysis, and to the visualization of pathway information.

Program

13 November 2008 (Thu) - Centro Studi Nazionale CISL

Chair: Andrea Splendiani

-- Session: DC-Atlas introduction

9.00-9.45 Duccio Cavalieri: Presentation of DC ATLAS: An interactive atlas of the modular structure of the dendritic cells

9.45-10.15 Lisa Rizzetto: Towards a Controlled vocabulary for the dendritic cell

10.15-10.45 Discussion and feedback from curators

-- Session: Pathway model reports

10.45-11.15 Damariz Rivero Guedez: INOH as a tool for pathway curation: example with TLR4-NFkB signalling

11.15-11.30 Discussion

11.30-12.00 Pathway model report: Sandra Gessani, Maria Cristina Gauzzi: TLR3 signaling pathway in human dendritic cells

12.00-12.30 Discussion

12.30-14.00 Lunch Break

14.00-15.00 Round table: DC Atlas status of the project.

15.00-15.30 Pathway model report: Renato Ostuni, TLR4 pathway in dendritic cells

15.30-16.00 Pathway model report: Gabriella Torcia, TLR5 pathway in dendritic cells

16.00-16.30 Coffee Break

16.30-17.00 Pathway model report

17.00-18.00 Conclusions and General Discussion

20.00 Social Dinner in Florence

14 November 2008 (Fri) - Centro Studi Nazionale CISL

Chair: Duccio Cavalieri

-- Session: Statistical methods to assess enrichment in cellular functions

9.00-9.20 Duccio Cavalieri: Introduction

9.20-10.00 Keynote: Sorin Draghici, A systems biology approach for pathway level analysis

10.00-10.40 Luca Beltrame: EuGene - a bioinformatic method to query microarray databases using a pathway based logic

10.40-11.00 Coffee Break

-- Session: Cross-species meta-analysis and network reconstruction

11.00-11.40 Keynote: Chiara Romualdi, Statistical approaches to the meta-analysis of microarray data

11.40-12.20 Keynote: Misha Kapushesky, A meta-analytical approach for analyzing condition-specificity of expression in signalling pathways

12.20-12.45 Round Table and Discussion

12.45-14.00 Lunch Break

Chair: Sorin Draghici

-- Session: Graphical representation and ontologies for networks and pathways

14.00-14.40 Keynote: Chris Evelo, WikiPathways and PathVisio

14.40-15.20 Keynote: Emek Demir, Towards a comprehensive map of cellular signaling: Current State and Challenges

15.20-16.00 Keynote: Gabriella Rustici, Reconstructing the Fission Yeast cell cycle gene regulatory network

16.00-16.20 Discussion

16.20-16.40 Coffee Break

16.40-17.00 Selected talk: Antonella Travaglione, Elisabetta Marras, Gautam Chaurasia, Matthias Futschik, Enrico Capobianco: Inferring modularity from human protein interactome classes

17.00-17.30 Michaela Guendel, The DC-THERA Directory: A knowledge management system to support collaboration on dendritic cell and immunology research

17.30-18.00 Conclusions

Free evening

Speakers:

Duccio Cavalieri, University of Florence, Italy

Sorin Draghici, Wayne State University, USA

Luca Beltrame, University of Florence, Italy

Emek Demir, MSKCC, USA

Chris Evelo, Maastricht University, NL

Maria Cristina Gauzzi, ISS, Italy

Sandra Gessani, ISS, Italy

Michaela Guendel, Leaf Bioscience, Italy

Misha Kapushesky, EBI, Cambridge, UK

Renato Ostuni, University of Milano-Bicocca, Milan, Italy

Damariz Rivero Guedez, University of Florence, Italy

Lisa Rizzetto, University of Florence, Italy

Chiara Romualdi, University of Padova, Italy

Gabriella Rustici, EBI, Cambridge, UK

Gabriella Torcia, University of Florence, Italy

Antonella Travaglione, CRS4

Bioinformatics Laboratory, Sardinia, Italy

Workshop chairs

Duccio Cavalieri, University of Florence, Italy

Sorin Draghici, Wayne State University, USA

Andrea Splendiani,

University of Rennes 1, France

Call for papers deadline:
November, 7th

Registration and paper submission:

<http://i-atlas.org>

Information: info@i-atlas.org

