

**The 12th Conference of the Hellenic Society for
Computational Biology and Bioinformatics**

**11-13 October, 2017, Athens, Greece
Hellenic Pasteur Institute**

Program



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Wednesday 11/10/2017

- 10:00 - 12:00** **Workshop:** *Complex network analysis for systems biology* (Costas Bouyioukos)
- 12:30 - 14:30** **Workshop:** *In silico functional investigations of miRNAs* (DIANALAB)
- 14:00 - 15:00** **Registration & Poster set up**
- 15:00 - 15:30** **Opening Session** (Welcome)
- 15:30 - 18:00** **Session 1 - Systems**
- 15:30 - 15:50** Panos Balomenos, Andrei Dragomir, Anastasios Bezerianos. *Differential Expression Analysis on the Subpathway Level of Biological Pathways and its Application Areas.*
- 15:50 - 16:10** Maria-Konstantina Ioannidi, M. Margarity and M.I Klapa. *Metabolomics in Systems Physiology: Studying the effect of adult-onset-hypothyroidism (AOH) on heart primary metabolism in a mouse model.*
- 16:10 - 16:30** Mukesh Nitin, Ourania Melita, Athanasios Kaldis, Nirala Ramchiary, Andreas Voloudakis. *Transcriptome-wide identification of tomato gene targets for virus-derived small interfering RNAs (vsiRNAs) and virus-activated tomato small interfering RNAs (vasiRNAs) in Tomato yellow leaf curl virus infected tomato.*
- 16:30 - 17:00** **Coffee break & Poster Session.**
- 17:00 - 18:00** **Keynote Lecture:** Takis Benos. Multi-modal data integration and causal inference for systems medicine.

Thursday 12/10/2017

- 10:00 - 13:30** **Session 2 – Translational**
- 10:00 - 11:00** **Keynote Lecture:** George Patrinos. Computational tools and repositories for translational medicine in the post-genomic era.
- 11:00 - 11:30** **Coffee break & Poster Session.**
- 11:30 - 11:50** Evridiki-Pandora Tsare, Aris Gioutlakis, Maria I. Klapa, Nicholas K. Moschonas. *Investigating the genetic architecture of hypertension through integrated analysis of gwas and the human protein interaction network*
- 11:50 - 12:10** Christina Vasileiou, Theodora-Dafne Michalettou, Gerasimos Digaletos, Panagiota I. Kontou, Pantelis G. Bagos, Alexandros G. Georgakilas, Ioannis Michalopoulos. *Detecting low dose ionizing radiation effects in gene expression using microarray data meta-analysis*

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- 12:10 - 12:30** Elena Critselis, Vasiliki Lygirou, Despoina Chatzicharalambous, Panagiota Liapi, Maria Frantzi, Jerome Zoidakis, Antonia Vlahou. *Diagnostic and prognostic performance of Secreted Protein Acidic and Rich in Cysteine (SPARC) assay in combination with clinicopathological characteristics for detecting incident and recurrent urinary bladder cancer.*
- 12:30 - 13:30** **Invited talk:** Daniele Parisi. ISCB student council, European branch- the road to Athens.
- 13:30 - 14:30** **Lunch.**
- 14:30 - 18:30** **Session 3 – Machine Learning**
- 14:30 - 15:30** **Keynote Lecture:** Grigorios Tsoumakas. Machine Learning for Understanding Biomedical Publications.
- 15:30 - 16:00** **Coffee break & Poster Session.**
- 16:00 - 16:20** Theodoros Koutsandreas, Aristotelis Chatziioannou. *Automated in-silico characterization of the enzymatic universe, through machine-learning, protein domain-based, analysis*
- 16:20 - 16:40** Christoforos Nikolaou. *Invisible Cities. Segregated domains in the yeast genome with distinct structural and functional attributes.*
- 16:40 - 17:00** Alexandros C. Dimopoulos, Martin Reczko. *Genome-wide RNA folding including pseudoknots.*
- 17:00 - 17:30** **Coffee break.**
- 17:30 - 18:30** **Keynote Lecture:** Ioannis Tsamardinos. Automating predictive modelling and knowledge discovery for biomedical application.

Friday 13/10/2017

- 10:00 - 15:30** **Session 4 – Transcriptome**
- 10:00 - 11:00** **Invited Lecture:** Rafael Jimenez. ELIXIR: An update on technical activities and plans for 2018.
- 11:00 - 11:30** **Coffee break & Poster Session**
- 11:30 - 11:50** Nikolaos Papadopoulos, Rodrigo G. Parra, Johannes Soeding. *MERLoT and PROSSTT! Reconstructing and modelling differentiation lineage trees for single-cell RNAseq experiments.*
- 11:50 - 12:10** Panagiotis Moulos, Pantelis Hatzis. *PANDORA: optimizing the tradeoff between precision and recall for RNA-Seq.*

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- 12:10 - 12:30** Timokratis Karamitros, Bonnie Van Wilgenburg, Gkikas Magiorkinis and Paul Klenerman. *Nanopore sequencing and full genome de novo assembly of Human Cytomegalovirus reveals clonal diversity and structural variations.*
- 12:30 - 14:30** Lunch.
- 13:00 - 14:30** HSCBB / Elections.
- 14:30 - 15:30** **Keynote Lecture:** Roderic Guigó. *The human transcriptome across tissues and individuals.*
- 15:30 - 16:00** Closing Remarks. Coffee break.
- 16:00 - 18:30** Scientific organization of ECCB18. Kick-off meeting.

POSTERS

no	Authors	Title
Systems		
P1	Georgia Braliou, Panagiota Kontou, Haralabia Boleti and Pantelis Bagos	Susceptibility to cutaneous and visceral leishmaniasis is affected by host SLC11A1 gene polymorphisms: A systematic review and meta-analysis
P2	Lykourgos Chiniadis, Anastasia Katsidima and Stamatis Boyatzis.	Structural insights into the interactions of Collagen type I and tannic acid as revealed by FT-IR spectroscopy and molecular dynamics
P3	Panagiota Kontou, Athanasia Pavlopoulou, Georgia Braliou, Sripal Bangalore and Pantelis Bagos	Identification of differentially expressed genes in myocardial infarction: a systematic review and meta-analysis
P4	Styliani Geronikolou, Dennis Cokkinos, George Chrousos and Athanasia Pavlopoulou	How mobile phone exposure influences autonomic nervous system? A meta-analysis of its components
P5	Konstantinos Voutetakis, Olga Papadodima, Nicolas Dejeans, Eric Chevet and Aristotelis Chatziioannou	Investigating the role of regulated Ire1 dependent decay (RIDD) of miRNAs in glioblastoma multiforme through a translational bioinformatics approach
P6	Dimitris Sofras, Fotis Baltoumas, Stavros Hamodrakas and Vassiliki Iconomidou	Network analysis of protein-protein interactions in the Nuclear Envelope
P7	Avgi Apostolakou, Fotis Baltoumas, Stavros Hamodrakas and Vassiliki Iconomidou	Using cell expression evidence to refine the study of G-protein coupled receptor signaling networks

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P8	Konstantina Biza, Katerina Nastou, Paraskevi Tsiolaki, Chara Mastrokalou, Stavros Hamodrakas and Vassiliki Iconomidou	Amyloid Interactome: the protein interaction map of amyloidogenicity
P9	Michalis Lazaratos, Lefteris Mainas, Konstantina Karathanou and Zoe Cournia	Modeling and simulations of functionalized magnetic nanoparticles as drug delivery systems
P10	Katerina Nastou, Paraskevi Tsiolaki, Stavros Hamodrakas and Vassiliki Iconomidou	Decoding the relationships between amyloidogenic proteins and membranes: an interaction network approach
P11	Athina Amanatidou, Katerina Nastou, Stavros Hamodrakas and Vassiliki Iconomidou	Visualization and analysis of protein interactions in blood autoimmune diseases
Translational		
P12	Maria Malliarou, Panagiotis Chouvardas, George Kollias and Christoforos Nikolaou	Monitoring the development of Rheumatoid Arthritis through focal gene deregulation in four dimensions
P13	Andromachi Pampalou, Georgia Braliou, Panagiota Kontou and Pantelis Bagos	Field Synopsis and Construction of Association Network with microRNA SNPs and Human Related Diseases
P14	Athena Andreou, Petros Giastas, Athanasios Papakyriakou and Elias Eliopoulos	Pharmacophore assertions: towards the design of potent inhibitors using structural analysis of liganded deacetylase complexes.
P15	Dimitrios-Georgios Kontopoulos, Louis Papageorgiou and Dimitrios Vlachakis	PenDrugOn: A fully automated platform for designing antibody drug conjugates
P16	Georgia Kontogianni, Aristotelis Chatziioannou, Olga Papadodima, Ilias Maglogiannis and Georgia Piroti	Comprehensive analysis of somatic mutations in Greek patients with cutaneous melanoma using multiple bioinformatics tools
P17	Alexios Chatzigoulas, Konstantina Karathanou and Zoe Cournia	A web-based crystallographic tool for the construction of nanoparticles
P18	Anthi Kokkinou, Panagiota Kontou and Pantelis Bagos	Polymorphisms of IRS-1 and their association with coronary artery disease: a meta-analysis
P19	Evaggelia Barba, Georgia G. Braliou, Panagiota I. Kontou, Ioannis Michalopoulos and Pantelis G. Bagos	ITPA gene polymorphisms and their association with side effects of AZA/6-MP drug administration: A systematic review and meta-analysis
P20	Stamatia Zavitsanou and Zoe Cournia	Automating free energy perturbation calculations for drug design.
P21	Georgia Nasi, Paraskevi Tsiolaki, Fotis Baltoumas, Nikolaos Louros, Vassiliki Magafa, Stavros Hamodrakas and Vassiliki Iconomidou	Monitoring the Dynamic Behavior of Human α CGRP Aggregates

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P22	Michail Batskinis, Katerina Nastou, Zoi Litou, Stavros Hamodrakas and Vassiliki Iconomidou	Computational analysis of human Voltage-Gated Ion Channels: SNPs' distribution and association with diseases
Machine Learning		
P23	Kostantinos Sgantzios	Implementing A Church– Turing–Deutsch Principle Machine on a Blockchain.
P24	Ioannis A. Tamposis, Margarita C. Theodoropoulou, Konstantinos Tsigirigos and Pantelis Bagos	Extending Hidden Markov Models to allow conditioning on previous observations
P25	Alexis Eid, Ioannis Kavakiotis, Evangelia Stalika, Maria Papaioannou and Ioanna Chouvarda.	Graphic methodologies for investigating diversity in next generation immunogenetic sequencing data
P26	Olga Tsave, Ioannis Kavakiotis, Ioanna Chouvarda, Nicos Maglaveras and Athanasios Salifoglou	Overview of Machine Learning and Data Mining in Diabetes Mellitus
P27	Kosmas Galanis, Katerina Nastou, Nikolaos C. Papandreou, Stavros Hamodrakas and Vassiliki Iconomidou	A consensus algorithm for the prediction of linear B-cell epitopes
P28	Ioannis Kavakiotis, Katerina Intzevidou, Alexandros Triantafyllidis and Ioannis Vlahavas	Exploring Marker Selection in High Dimensional Population Genomic Data Through Social Choice and Voting Theory Methods
P29	Ioannis Kavakiotis, Kristi Bardos, Alexandros Triantafyllidis and Ioannis Vlahavas	Experimental Comparison of Marker Evaluation Metrics for High Dimensional Population Genomic Data
P30	Nikos Perdikopanis, Georgios Georgakilas, Ioannis Vlachos, Maria Paraskevopoulou, Peter Yang, Yuhong Zhang, Aris Economides and Artemis Hatzigeorgiou	Identification of microRNA transcription start sites by combining high-throughput experimental techniques and Machine Learning
Transcriptome		
P31	Konstantinos Barsakis, Konstantina Koukourikou, Antonios Klonizakis, Farbod Babrzadeh, Michael Mindrinos, Despina Alexandraki and Christoforos Nikolaou	Genome-wide localization and interdependence of Aft1 and Mac1 transcription factors in <i>S. cerevisiae</i>
P32	Konstantina Vennou, Panagiota Kontou and Pantelis Bagos	Meta-analysis of Gene Expression Profiles in Preeclampsia
P33	Spyros Paparrodopoulos and Maria Klapa	Development of standardized meta-analysis methods for omic data integration
P34	Joana Dulaj and Zoe Cournia	Development of a real-time gene database for an Android application
P35	Katerina Nastou, Georgios Tsaousis, Stavros Hamodrakas and Vassiliki Iconomidou	PerMemDB: a database of peripheral membrane proteins

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P36	Giorgos Skoufos, Joseph N Paulson, Rob Patro, Artemis G Hatzigeorgiou and Ioannis S Vlachos	AGAMEMNON: an Accurate metaGenomic And MEtatranscriptoMic quantification analysis suite
P37	Dimitra Karagkouni, Spyros Tastsoglou, Maria Paraskevopoulou, Ioannis Vlachos, Ioannis Kavakiotis, Dimitris Papadimitriou, Serafeim Chatzopoulos, Ilias Kanellos, Giorgos Skoufos, Thanasis Vergoulis, Theodore Dalamagas and Artemis Hatzigeorgiou	Indexing experimentally verified interactions of microRNAs with coding and non-coding Transcripts
Proteins		
P38	Christina Athanasiou, Sofia Vasilakaki, Dimitris Dellis and Zoe Cournia	Computer-aided drug design for binding pose and affinity predictions in the D3R Grand Challenge 2
P39	Ahmed Roumia, Margarita C. Theodoropoulou and Pantelis Bagos	Computational studies of mitochondrial transmembrane β -barrel proteins
P40	Elias Christoforides, Andreas Papaioannou, Katerina Fourtaka, Athena Andreou and Kostas Bethanis	Computational studies of the inclusion compound of Cholesterol in beta cyclodextrin
P41	Styliani Geronikolou, Athanasia Pavlopoulou, Christina Kanaka-Gantenbein and George Chrousos	R1: the functional inter-interactome of nuclear steroid receptors description
P42	Fotis Baltoumas, Vassiliki Iconomidou and Stavros Hamodrakas	A novel method for modeling lipopolysaccharide – rich outer membranes in Gram negative bacteria
P43	Anna Kapella, Paraskevi Gkeka, Dimitris Stellas, Veroniki Vidali, Zoe Cournia and Elias Couladouros	Design and synthesis of H1047R mutated PI3K α targeted inhibitors