



## IV EURO WG Conference on Operational Research in Computational Biology, Bioinformatics and Medicine

Poznań – Biedrusko, Poland  
26-28 June 2014

<http://cbbm2014.cs.put.poznan.pl>

### Conference Program

#### Wednesday, June 25th, 2014

- 17:00 – 20:00 Registration  
19:00 – 21:00 Welcome Reception

#### Thursday, June 26th, 2014

8:45 – 9:00 **Opening**

9:00 – 10:40 **Session I** Chair: *Jacek Blazewicz*

- 9:00 **Constraints and Limits Due to Base Tautomerism in Ribosome Decoding Fidelity (Eric Westhof)**  
9:50 TRANScendence: a Web-Based Transposon Mining and Activity Chronology Reconstruction Tool (Michał Startek)  
10:15 Strategies for Predicting the Immunity of Vaccines (Eva Lee)

10:40 – 11:00 **Coffee break**

11:00 – 12:40 **Session II.A** Chair: *Ryszard W. Adamiak*

- 11:00 Tabu Search Algorithm for Classical and Isothermic DNA Sequencing by Hybridization with Partial Information about Repetitions (Kamil Kwarciak)  
11:25 Graphlet Method for Improving the Prediction of Functionally Related Genes (Klaus Ecker)  
11:50 Exploring Genetic Networks with Time-Discrete Dynamics (Liana Amaya Moreno)  
12:15 A Petri Net Based Model of Interleukin-18 Involvement in Atherosclerosis (Marcin Radom)

**Session II.B** Chair: *Piotr Formanowicz*

- 11:00 A New Greedy Randomized Procedure for the Feature Selection Problem (Giulia Fiscon)  
11:25 Graph Construction for the Whole Genome Assembly Problem (Michał Kierzyńska.)  
11:50 New Approach to De Novo Assembly of a Long Genome (Wojciech Frohmberg)  
12:15 High-Order Statistical Compressor for Long-Term Storage of DNA Sequencing Reads (Marek Chłopkowski)

12:40 – 14:00 **Lunch**

14:00 – 15:40 **Session III** Chair: *Klaus Ecker*

- 14:00 **RNAComposer. Challenges in Modelling Three-Dimensional Structures of Large RNAs (Katarzyna J. Purzycka)**  
14:50 RNAlyzer - a Web Server for Computational Quality Evaluation of RNAs (Tomasz Ratajczak)  
15:15 An Algorithm to Extract RNA Secondary Topology from the 3D Structure (Tomasz Zok)

15:40 – 16:00 **Coffee break**

16:00 – 17:15 **Session IV.A** Chair: *Aleksandra Swiercz*

- 16:00 Petri Nets Formalism Facilitates Analysis of Complex Structural Data (Anna Gogolińska)  
16:25 Modelling Classification of Breast Cancer Grading with Type-II Fuzzy Sets and Spectral Data (Shabbar Naqvi)  
16:50 A Role of Hemojuvelin in Iron Metabolism Modeled and Analyzed by Petri Net Approach (Adam Kozak)

**Session IV.B** Chair: *Paola Bertolazzi*

- 16:00 AmiRNA Designer - a New Method of Artificial miRNA Design (Agnieszka Mickiewicz)  
16:25 Sorting Signals Targeting mRNA into Hepatic Extracellular Vesicles (Natalia Szostak)  
16:50 Automatic Landmarking App for Bioanthropology (Celia Cintas)

19:00 **Dinner**

## Friday, June 27th, 2014

- 9:00 – 10:40**    **Session V**      Chair: *Giovanni Felici*  
9:00    **20 Years of Haplotyping: an Overview (Giuseppe Lancia)**  
9:50    A Column Generation Approach for Pure Parsimony Haplotyping (Luigi De Giovanni)  
10:15    Rule Based Analysis of Genomic Sequences: a Viral Case Study (Emanuel Weitschek)
- 10:40 – 11:00**    **Coffee break**
- 11:00 – 12:15**    **Session VI.A**      Chair: *Marta Szachniuk*  
11:00    Orderly Colored Paths for the RNA Assignment Problem in 3D NMR Spectra (Maria C. De Cola)  
11:25    Automating the Usage of Unambiguous NOEs in Nuclear Vector Replacement for NMR Protein Structure-Based Assignments (Mehmet S. Apaydin)  
11:50    Modeling Conformational Preferences of Modified Uridines with Polarizable Force Fields (Rupak Pal)
- Session VI.B**      Chair: *Piotr Lukasiak*  
11:00    Towards Efficient Docking of Chemical Compounds into Protein Cavities (Rafal Jakubowski)  
11:25    Structure Based Drug Design for SIRT6 (Mehmet Tardu)  
11:50    Designing Small Organic Molecules to Regulate Circadian Clock in Mammals (Seref Gul)
- 12:15 – 14:00**    **Lunch**
- 14:00 – 18:30**    **Social event (trip)**
- 19:00**            **Conference dinner**

## Saturday, June 28th, 2014

- 9:00 – 10:40**    **Session VII**      Chair: *Metin Turkay*  
9:00    **Copy Number Variations in Plant Genomes (Marek Figlerowicz)**  
9:50    Optimal Discretization of Continuous Features for Mining Gene Expression Data (Giovanni Felici)  
10:15    Integrated Analysis of DNA Copy Number and Gene Expression Data in Lung Cancer Models of Resistance to Targeted Therapy (Valentina Fustaino)
- 10:40 – 11:00**    **Coffee break**
- 11:00 – 12:40**    **Session VIII.A**    Chair: *Pawel Wojciechowski*  
11:00    ModeLang - Controlled Natural Language for Describing Viral Infection Models (Tomasz Prejzandanc)  
11:25    Structure and Electrostatics Based Analysis of Ribosomal RNA Complexes with Aminoglycosides (Marta Kulik)  
11:50    In Silico Comparative Modeling of STAT Proteins as a Novel Approach in Finding Specific Compounds of Functional Inhibition (Malgorzata Szelag)  
12:15    Reconstruction of Gene-Environment Networks Under Uncertainty (Gerhard-Wilhelm Weber)
- Session VIII.B**    Chair: *Ceyda Oguz*  
11:00    Breast Cancer Classification: from Consensus Clustering to Fuzzy Logic (Daniele Soria)  
11:25    Classification of Salmonella Serovars Based on Laser-Diffuse-Light-Images Using Learning Vector Quantizers (Martin Riedel)  
11:50    Computational Modeling of Sphingolipid Metabolism in Cancer and Neurodegeneration (Weronika Wronowska)  
12:15    A Tool for Visualization and Analysis of Molecular Networks on the Example of Parkinson's Disease (Piotr Gawron)
- 12:40 – 13:00**    **Closing**
- 13:00 – 14:30**    **Lunch**