

Janusz Dutkowski

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Education

Ph.D. in Computer Science, expected graduation: 2009
University of Warsaw, Warsaw, Poland
Project title: Evolution of protein interaction networks.
Advisor: Prof. Jerzy Tiuryn

M.Sc. in Computer Science, September 2005
University of Warsaw, Warsaw, Poland
Thesis title: Dimension reduction and classification of mass spectrometry data.
Advisor: Dr. Anna Gambin

Research Interests

Computational methods in systems biology, evolution of biological networks, network alignment algorithms, protein interaction prediction, Bayesian inference, machine learning.

Research Experience

2005 –

Ph.D. Student
Institute of Informatics
University of Warsaw

Design and implementation of CAPPI, a novel framework for comparative analysis of protein interaction networks in the context of their evolution. Defined a probabilistic model for protein network evolution and developed an efficient algorithm for identifying conserved protein modules in multiple species. Developed model based interaction inference method embedded in the CAPPI framework.

2005 – 2006

Research Assistant
Institute of Biochemistry
and Biophysics,
Polish Academy of Sciences

Developed tools for statistical analysis of high-throughput mass spectrometry data. Designed a novel method for biomarker selection based on reconciling multiple rankings. Performed computational analysis of protein interactions and gene expression profiles in *Arabidopsis thaliana*.

Papers

Janusz Dutkowski, Jerzy Tiuryn, *Identification of functional modules from conserved ancestral protein-protein interactions*, Bioinformatics. 2007 Jul 1;23(13):i149-58 (proceedings of ISMB/ECCB 2007).

Janusz Dutkowski, Anna Gambin, *On consensus biomarker selection*, BMC Bioinformatics 2007, 8(Suppl 5):S5.

Anna Gambin, Janusz Dutkowski, Jakub Karczmariski, Bogusław Kluge, Krzysztof Kowalczyk, Jerzy Ostrowski, Jarosław Poznański, Jerzy Tiuryn, Magda Bakun, Michał Dadlez, *Automated reduction and interpretation of multidimensional mass spectra for analysis of complex peptide mixtures*, International Journal of Mass Spectrometry, 2007, 260:20-30.

Conference Talks

Identification of functional modules from conserved ancestral protein-protein interactions at ISMB/ECCB 2007, Vienna.

Posters

J. Dutkowski, J. Tiuryn, *Inference of protein-protein interactions – an evolutionary approach*. RECOMB, 2008. (**Best poster award**)

J. Dutkowski, A. Gambin, *Biomarker selection method based on rank aggregation*. RECOMB, 2006.

Fellowships and Awards

Ph.D. Student Fellowship, University of Warsaw
Research Award (Scholarship), University of Warsaw, 2007
Research Award (Scholarship), University of Warsaw, 2006

Scientific Visits

August, 2008
Visiting student
Burnham Institute for Medical Research,
La Jolla, USA

Research visit at the Bioinformatics and Systems Biology Lab. Performed research on evolution of domain networks.

June – July, 2008
Visiting student
University of Southern California,
Los Angeles, USA

Research visit at the Department of Molecular and Computational Biology. Performed research on biological networks in disease.

June – July, 2006
Scholarship Recipient

Saarland University,
Saarbrücken, Germany

Research visit at the Saarland University Computer Science Department and the Computational Biology and Applied Algorithmics Department at Max Planck Institute for Informatics.

Work Experience

2006 –

Teaching Assistant
University of Warsaw

Assisted in teaching *Database Systems* and *Statistical Data Analysis with R*. Prepared and taught tutorial and programming sessions for undergraduate Computer Science students. Designed and graded course projects and helped grade exams.

2005 – 2006

Research Assistant
Institute of Biochemistry
and Biophysics,
Polish Academy of Sciences

Developed methods for pre-processing and statistical analysis of multidimensional mass spectra. Designed and implemented a novel biomarker selection method based on consensus feature rankings.

2003 – 2005 (part time)

Intern/Consultant
SAS Institute Poland

Designed and implemented a system for optimizing marketing campaigns based on a network flow model. Designed and implemented feature selection strategies. Applied statistical learning and operational research techniques in various business oriented systems.

Skills

Computer Skills: Python, R, Java, C, C++, SAS, SQL, HTML, PHP, L^AT_EX, Linux, MS-Windows, Oracle DBMS.

Languages: Polish (native), fluent English (Certificate of Proficiency in English), basic German and Russian.

References

Available upon request.