



Head

Magdalena
Rakowska-Boguta

Current research

- Systematic measurements of activity and expression levels of enzymes involved in glucose metabolism in yeast mutants with altered levels of tRNA transcription grown under various growth conditions.
- Effect of Maf1, repressor of tRNA transcription, on ethanol production and oxidative metabolism in yeast
- Purification of pyruvate kinase from yeast
- Identification of proteins interacting with pyruvate kinase in yeast
- 2-Phenylethanol production in yeast

Selected publications

Cieśla M., Mierzejewska J., Adamczyk M., ÖstlundFarrants A. & Boguta M., *Fructose Bisphosphatealdolase is Involved in the Control of RNA Polymerase III-Directed Transcription*, BBA Molecular Cell Research, 1843, 1103, 2014

Turowski T., *The Impact of Transcription on Posttranscriptional Processes in Yeast*, Gene 526, 23, 2013

Karkusiewicz I., Turowski T. W., Graczyk D., Towpik J., Dhungel N., Hopper A. K., Boguta M., *Maf1 Protein, Repressor of RNA Polymerase III, Indirectly Affects tRNA Processing*, The Journal of Biological Chemistry, 286(45), 39478, 2011

Graczyk D., Debski J., Muszyńska G., Bretner M., Lefebvre O., Boguta M., *Casein Kinase II-Mediated Phosphorylation of General Repressor Maf1 Triggers RNA Polymerase III Activation*, Proceedings of the National Academy of Sciences of the United States of America, 108(12), 4926, 2011

Adamczyk M., van Eunen K., Bakker B. M., Westerhoff H. V., *Enzyme Kinetics for Systems Biology When, Why and How*, Methods in Enzymology, 500, 233, 2011

Lukowska-Chojnacka E., Mierzejewska J., *Enzymatic Hydrolysis of Esters Containing Tetrazole Ring*, Chirality 2014, submitted for printing

Staff

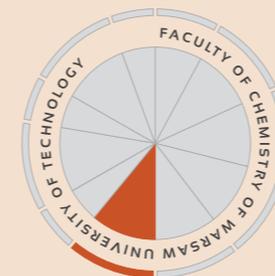
Jolanta Mierzejewska
Matgorzata Adamczyk

Current PhD students

Sylwester Czmieł

Former PhD students

Tomasz Turowski



Research profile

Investigation of the link between glucose metabolism and tRNA transcription pathway in yeast by using molecular and biochemical approach

System biology approach used in the study of glycolysis and gluconeogenesis in yeast mutants

Yeast enzymes purification

Identification of proteins interacting with protein target by using affinity chromatography and mass spectrometry

Increase of ethanol production by applying specific yeast mutants

Increase of 2-phenylethanol production by applying DNA recombination for creation new yeast strains

Collaboration

Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw (Poland)

Laboratory of Technological Processes, Warsaw University of Technology, Warsaw (Poland)

Department of Physical Chemistry, Warsaw University of Technology, Warsaw (Poland)

Institute of Nuclear Chemistry and Technology, Warsaw (Poland)

Scientific Awards

- Jolanta Mierzejewska – beneficiary of the Parent/Bridge Programme of the Foundation for Polish Science, 2013
- Tomasz Turowski – beneficiary of the conference scholarship of the RNA Society, 2012
- Tomasz Turowski awarded for the poster during the EMBO Young Scientists Forum, 2011

Research equipment

- Protein purification system
- Protein gelelectrophoresis system
- PCR amplification
- DNA electrophoresis system
- Incubators for bacterial and yeast cultures

