



Head

Elżbieta Malinowska

Current research

- Development of sensors and biosensors based on electrochemical, optical and mass detection techniques
- Synthesis, modification and stabilization of nanostructures (quantum dots, metallic nanoparticles, graphene) for bioanalytical studies
- Studies on the application of native DNA, aptamers and DNA analogues in receptor layers of DNA biosensors
- Synthesis and application of novel nanoparticles and metallocomplexes as proteins' labels with catalytic activity
- Development of (bio)sensors with polymeric ion-selective membranes

Staff

Łukasz Górski
Mariusz Pietrzak
Robert Ziółkowski

Current PhD students

Agnieszka Bala
Marcin Drozd
Marta Jarczewska
Kamila Konopińska
Joanna Zajda

Former PhD students

Ewa Grygotowicz-Pawlak
Monika Mroczkiewicz
Katarzyna Wyglądacz
Aleksy Matusevich

Selected publications

Konopińska K., Pietrzak M., Malinowska E., *Manganese Porphyrins – Studies on Their Potential Use for Protein Labeling*, *Microchemical Journal*, 115, 1, 2014

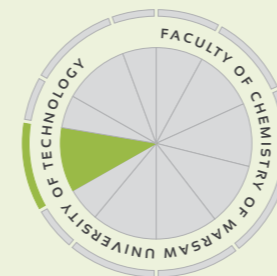
Bell-Vlasov A. K., Zajda J., Eldourghamy A., Malinowska E., Meyerhoff M. E., *Polyion Selective Polymeric Membrane-based Pulstrode as a Detector in Flow Injection Analysis*, *Analytical Chemistry*, 86 (8), 4041, 2014

Jarczewska M., Ziółkowski R., Górski Ł., Malinowska E., *Electrochemical Uranyl Cation Biosensor with DNA Oligonucleotides as Receptor Layer*, *Bioelectrochemistry*, 96, 1, 2014

Ziółkowski R., Jarczewska M., Górski Ł., Malinowska E., *Oligonucleotide-based Electrochemical Biosensor for Hg²⁺ Using Methylene Blue as a Redox Indicator*, *Journal of the Electrochemical Society*, 160 (9), B152, 2013

Konopińska K., Pietrzak M., Malinowska E., *Studies on the Construction and Operation of Miniaturized Potentiometric Biosensors*, *Journal of Solid State Electrochemistry*, 17 (6), 1665, 2013

Drozd M., Pietrzak M., Malinowska E., *Studies on Voltammetric Determination of Cadmium in Samples Containing Native and Digested Proteins*, *Analytica Chimica Acta*, 819, 65, 2014



Research profile

Nanomaterials in bioanalytical applications
DNA, aptamers and oligonucleotide analogues as receptors
Labels for immuno- and DNA sensors
Polymeric membrane ion-selective electrodes
Self-assembled monolayers
Enzymatic systems for bioanalysis

Collaboration

University of Michigan (USA) –
Mark E. Meyerhoff

Max Planck Institute of Colloids and Interfaces (Germany) – Gerald Brezesinski

Aarhus University (Denmark) –
Elena E. Ferapontova

Institute of Physical Chemistry, Polish Academy of Sciences (Poland) – Piotr Zarzycki

Scientific Awards

- 1st grade Team Award of HM Rector of the Warsaw University of Technology for Scientific Achievements in the years 2012-2013
- 2nd grade Team Award of HM Rector of the Warsaw University of Technology for Scientific Achievements in the years 2007-2008

