

# BioAnalytics group



## HEAD:

Prof. Robert Koncki\*, PhD DSc

## GROUP MEMBERS:

Marta Fiedoruk-Pogrebniak, PhD; Kamil Strzelak, PhD  
PhD students: Justyna Bzura, Natalia Rybkowska,  
Justyna Skoczek

## RESEARCH PROFILE:

Analytical methods, devices and systems for clinical and biomedical diagnostics.

## CURRENT RESEARCH ACTIVITIES:

Mechanized flow bioanalytical systems and microfluidics (Lab on-Paper). Optoelectronic detectors, sensors and biosensors. 3D-printed analytical devices. Analysis of physiological fluids, Monitoring of biomedical processes, Hemodialysis, Iron metabolism. Target analytes: selected electrolytes, metabolites, toxins, vitamins, antibiotics and proteins. Enzyme activity assays and Immunoassays.

## SELECTED PUBLICATIONS:

1. J. Bzura, M. Fiedoruk-Pogrebniak, R. Koncki, Photometric and fluorometric alkaline phosphatase assays using the simplest enzyme substrates, *Talanta*. 190 (2018) 193-198.
2. M. Granica, M. Fiedoruk-Pogrebniak, R. Koncki, Ł. Tymecki, Flow injection analysis in Lab on Paper format, *Sens. Actuators B*. 257 (2018) 16-22.
3. N. Rybkowska, K. Strzelak, R. Koncki, A comparison of photometric methods for serum iron determination under flow analysis conditions, *Sens. Actuators B*. 254 (2018) 307-313.
4. K. Strzelak, N. Rybkowska, A. Wiśniewska, R. Koncki, Photometric flow analysis system for biomedical investigations of transferrin speciation in human serum, *Anal. Chim. Acta*. 995 (2017) 43-51.
5. K. Strzelak, J. Misztal, Ł. Tymecki, R. Koncki, Bioanalyte multicommutated flow analysis system for microproteinuria diagnostics, *Talanta*. 148 (2016) 707-711.
6. M. Michalec, Ł. Tymecki, R. Koncki, Biomedical analytical monitor of artificial kidney operation: monitoring of creatinine removal, *J. Pharm. Biomed. Anal.* 128 (2016) 28-34.

7. M. Michalec, M. Granica, J. Bzura, R. Koncki, J. Matuszkiewicz-Rowińska, Ł. Tymecki, Optoelectronic detectors and flow analysis systems for determination of dialysate urea nitrogen, *Sens. Actuators B.* 226 (2016) 563-569.
  8. M. Pokrzywnicka, R. Koncki, Ł. Tymecki, Towards optoelectronic urea biosensors, *Anal. Bioanal. Chem.* 407 (2015) 1807-1812.
  9. M. Fiedoruk-Pogrebniak, R. Koncki, Multicommutated flow analysis system based on fluorescence microdetectors for simultaneous determination of phosphate and calcium ions in human serum, *Talanta.* 144 (2015) 184-188.
  10. K. Strzelak, R. Koncki, An immunoprecipitation assay in the multicommutated flow analysis format, *Analyst.* 140 (2015) 7271-7277.
- and more: <http://beta.chem.uw.edu.pl/people/RKoncki/publikacje.html>