

Juraj KRONEK, PhD

Position: principal scientific researcher

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Married, 3 children

Education:

- PhD., Macromolecular chemistry (1997 - 2001), Date of PhD defense: May 31st, 2001
Slovak Academy of Sciences, Polymer Institute, Bratislava, Slovak Republic,
Title of PhD thesis: *õSynthesis and polymerization of functional derivatives of 2-oxazolinesö*, (supervisor Jozef Lusto , PhD)
- M.S., Organic chemistry (1992-1997),
Comenius University, Faculty of Natural Sciences, Bratislava, Slovak Republic,
Title of Diploma thesis: *õSynthesis of functional cyclic imino ethers and their intermediatesö* (supervisor Jozef Lusto , PhD)

Professional Experiences:

- 2011 Slovak Academy of Sciences, Polymer Institute, Bratislava, Slovak Republic,
Principal Research Scientist, Deputy of Department for Biomaterials Research,
- 2003-2011 Slovak Academy of Sciences, Polymer Institute, Bratislava, Slovak Republic,
Head of Department of Monomer Synthesis,
- 2001-2002 Slovak Academy of Sciences, Polymer Institute, Bratislava, Slovak Republic,
Research Fellow,
- 1997-2001 Slovak Academy of Sciences, Polymer Institute, Bratislava, Slovak Republic,
Doctoral Study,

International experiences:

- 2008 Polish Academy of Sciences, Centre of Polymer and Carbon Materials, Zabrze,
Poland (2 months),
- 2005-2006 Polish Academy of Sciences, Centre of Polymer and Carbon Materials, Zabrze,
Poland (10 months),
- 2002-2003 Institute of Polymer Research Dresden e. V., Germany (9 months)

International cooperation:

- Institute of Polymer Research, Dresden in polymer chemistry of 2-oxazolines,
Polymer modification and compatibilization, photochemistry of monomers and
polymers,
- Centre of Polymer and Carbon Materials, Polish Academy of Sciences, Zabrze, Poland
Stimuli sensitive polymers for controlled transport and delivery of drugs.
- Institute of Polymers, Bulgarian Academy of Sciences, Sofia, Bulgaria,
Thermosensitive polymers and copolymers on 2-oxazoline chemistry.
- Charles University, Faculty of physics and mathematics, Prague, Czech republic,
Synthesis and characterization of liquid-crystalline poly(ester-amides)
- Centre of Polymeric Systems, T. Bata University Zlin, Czech Republic
Hydrogels for Biomedical applications

- TU Wurzburg, Germany
Amphiphilic copolymers vs. Self/assembly in aqueous solutions,
- Scuola Superiore Snt Anna, Pontedera (PI), Italy
Thin hydrogel layers as coatings for functional implants,

Participation on the projects:

Participation on 13 Slovak and 11 international projects, coordinator of Slovak-Polish Joint Research Project (2007-2009), Slovak-Polish Joint Research Project (2009-2011), Project of Bilateral Slovak-Polish Cooperation (2010-2011), Project of Bilateral Slovak-Polish Cooperation (2012-2013), M.ERA-Net project (2014-2017)

Publications:

35 papers in WOS/Scopus journals, 4 proceedings in WOS/Scopus journals, 91 presentations at local and international conferences, 3 book chapters, 1 SK patent, 6 invited lectures.

Supervising:

2 Bc, 1 M.S., 3 PhD.

Research Interests:

- Tailor-made polymers, living and controlled polymerizations, star and hyperbranched polymers, polymer gels and hydrogels,
- Stimuli responsive properties, photochemistry of polymers, amphiphilic polymers,
- Reactive processing and surface treatment of polymers, synthesis of functional polymers by modification and functionalization of polymers,
- Biocompatible and biodegradable polymers, polymers for bioapplications,
- Synthesis of bioconjugates containing synthetic polymers and polysaccharides and proteins, vaccine development, immobilization of biomolecules.
- Immunoprotection of cells, macro- and microdevices with biocompatible polymers and hydrogels.

Grants, Memberships and Awards:

- The award "The best publication of young scientists of Slovak Academy of sciences for years 1998-2002" in section Life sciences granted by Presidium of Slovak Academy of Sciences,
- The award "Young Scientist of the Slovak Republic for the year 2001" awarded by the Union of Slovak Societies for Science and Technology and Union of Slovak Journalist,
- Participation on the Grant of 6FP European Commission ToK "NANOSTIM" at Centre of Polymer and Carbon Materials, Polish Academy of Sciences, Gliwice, Poland (2005-2006).

Selected papers:

- A. Zahoranová, **J. Kronek**. Hydrogels based on poly(2-oxazolines) for pharmaceutical applications, In *Handbook of Polymers for Pharmaceutical Technologies Vol. 4*, **2016**, Ed. V. Kumar, Wiley-Scrivener, p. 231-258
- E. Rollerová, J. Jurčová, A. Mlynáriková, I. Sadlonová, D. Bilanicová, L. Wsolová, A. Kiss, J. Kovriznych, **J. Kronek**, F. Jampor, I. Vávra, S. Scsuková. Delayed adverse effects of neonatal exposure to polymeric nanoparticle poly(ethylene glycol-block-

polylactide methyl ether) on hypothalamic-pituitary-ovarian axis development and function in Wistar rats. *Reproduct. Toxicol.* **2015**, *57*, 165-175, **IF = 3.25** (1 cit.).

- R. Shah, Z. Kroneková, A. Zahoranová, L. Roller, N. Saha, P. Saha, **J. Kronek**. *In vitro* study of partially hydrolyzed poly(2-ethyl-2-oxazolines) as materials for biomedical applications. *J. Mater.Sci. Mater. Med.*, **2015**, *26*, art.no. 157, **IF= 2.59** (2 cit.)
- A. Popelka, **J. Kronek**, I. Novák, A. Kleinová, M. Miščík, A. Třířková, M. Omastová. Surface modification of low-density polyethylene with poly(2-ethyl-2-oxazoline) using a low-pressure plasma treatment. *Vacuum*, **2014**, *100*, 53 ó 56, **IF= 1.43** (6 cit.).
- **J. Kronek**, E. Paulovi ová, L. Paulovi ová, Z. Kroneková, J. Lusto šBiocompatibility and Immunocompatibility assessment of poly(2-oxazolines)ö, In Practical Applications in Medical Engineering, Ed. A. O. Andrade, A. A. Pereira, E. L. M. Naves a A.B. Soares, InTech Open, Rijeka, Croatia, **2013**, (ISBN 980-953-307-441-7, Open Access),chapter 11, pp. 257-284
- **J. Kronek**, E. Paulovi ová, L. Paulovi ová, **Z. Kroneková**, **J. Lusto** šImmunomodulatory efficiency of poly(2-oxazolines)ö, *J. Mater. Sci. Mater. Med.* **2012**, *23*, 1457ó1464, **IF=2.59** (6 cit.)
- A. Kowalczyk, **J. Kronek**, K. Bosowska, B. Trzebicka, A. Dworak šStar poly(2-ethyl-2-oxazoline)s - synthesis and thermosensitivityö, *Polym. Int.* **2011**, *60*, 1001ó1009 **IF=2.06** (15 cit.)
- **J. Kronek**, Z. Kroneková, J. Lusto , E. Paulovi ová, L. Paulovi ová, B. Mendrek šIn vitro bio-immunological and cytotoxicity studies of poly(2-oxazolines)ö, *J. Mater. Sci. Mater. Med.* **2011**, *22*, 1725ó1734, **IF-2.59** (29 cit.)
- P. Farkaš, J. Korcová, **J. Kronek**, S. Bystrický, šPreparation of synthetic polyoxazoline based carrier and Vibrio cholerae O-specific polysaccharide conjugate (vaccine)ö, *Eur. J. Med. Chem.*, **2010**, *45*, 795-799, **IF=3.27** (5 cit.)
- J. Lusto , **J. Kronek**, O. Markus, I. Janigová, F. Böhme šSynthesis and polymerization reactions of cyclic imino ethers. 3. Poly(ester amide)s of the AA+BB Type on the Basis of 2-Oxazolinesö, *Polym. Adv. Technol.* **2007**, *18*, 165 172, **IF=1.72** (8 cit.)
- J. Lusto , **J. Kronek**, F. Böhme šSynthesis and polymerization reactions of cyclic imino ethers 1. Ring-opening homopolyaddition of AB-type hydroxyphenyl substituted 2-oxazolinesö, *J. Polym. Sci., Pt. A: Polym. Chem.* **2006**, *44*, 343ó355, **IF=3.11** (8 cit.)
- T. Huber, F. Böhme, H. Komber, **J. Kronek**, J. Lusto , D. Voigt, B. Voit, New hyperbranched poly(ether amide)s via nucleophilic ring opening of 2-oxazoline-containing monomers, *Macromol. Chem. Phys.*, **1999**, *200*, 126, **IF=2.80** (24 cit.)