

Dr. Alexei Radchenko
**Chemist,
PhD in Polymer Chemistry**

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PROFESSIONAL EXPERIENCES

- 2018- Present time **IMP@INSA / CNRS. Lyon, France**
Postdoctoral Researcher
Project (i): Ionic polymer materials produced by 3D printing with photopolymerizable ionic liquid.
- Multi-step organic synthesis of epoxy ionic liquids (from 10 mg to 30 g)
 - Study of material properties of the obtained products.
 - Formulations for 3D printing.
- Project (ii): Silicone formulations for 3D printing.
- Study of photo-activated crosslinking of silicone resins.
 - Development of UV-based ultrafast catalytic systems.
- 2015 – 2018 **Bordeaux University/CNRS, LCPO. Bordeaux, France**
Postdoctoral Researcher
Project (i): Optimization of Natural Rubber (NR) performance (cooperation with Michelin).
- Planned and performed the research of Natural Rubber (NR) properties and composition by synthesis of model compounds.
 - Polyisoprene–polypeptide hybrids synthesis by polymerization of NCA.
- Project (ii): Cationic polymerization of terpenes as alternative to oil-based monomers.
- Planned the research based on scientific knowledge and accessible resources.
 - Realized thermo-induced cationic polymerization of myrcene and ocimene.
 - Scale-up to 200 g.
- 2013 – 2015 **PerkinElmer Informatics. Minsk, Belarus**
Software Support Engineer
- Technical support of *ChemBioOffice Enterprise*. Customers: laboratories from Europe and India.
 - Researched clients' issues in a timely manner and follow up with the customer with action plans.
 - Communicated with development and marketing teams when their involvement was required.
- 2008 – 2013 **Research Institute for Physical Chemical Problems, LCPP. Minsk, Belarus**
Junior Researcher
Project: Cationic polymerization of olefins in aqueous media.
- Designed initiating systems for aqueous polymerization of a number of monomers: styrene, cyclopentadiene, vinyl ethers.
 - Realized the first and the only one example of living cationic polymerization in aqueous media.
- 2004 – 2008 **Research Institute for Physical Chemical Problems, LCPP. Minsk, Belarus**
Technician
Project: Cationic polymerization of olefins in the presence of water.
- Developed several systems to conduct living cationic polymerization of a number of monomers in the presence of excess of water at room temperature

TECHNICAL SKILLS

Chemistry:

- Cationic polymerization
- Monomers from renewable resources
- Polypeptide synthesis by polymerization of NCA
- Organic synthesis
- Living/Controlled polymerization
- Polymerization in dispersed media
- Natural rubber, properties and modifications

Analyses:

- NMR spectroscopy including 2D spectra.
- GPC with multi-detection: RI, LS, UV, Viscosimeter.
- Thermal: TGA, DSC
- Mechanical: DMA, Tensile test
- Mass spectrometry: LC(GC)/MS, MALDI

Experimental techniques:

- Reactions in the absence of water and air (Schlenk technique)
- Reactions in dispersed media
- Glovebox technique

COMMUNICATION

Languages:

- English: fluent
- French: fluent
- German: elementary proficiency
- Russian: native language

Publications:

- 13 scientific articles published

Conferences:

- 6 presentations at scientific conferences

EDUCATION

- 2009 – 2013 **PhD** (Polymer Chemistry), Belarusian State University (Faculty of Chemistry), Minsk, Belarus
PhD work: "*Cationic polymerization of p-methoxystyrene, styrene and cyclopentadiene in the presence of water and in aqua-organic media*"
- 2008 – 2009 **Master of Chemistry**, Belarusian State University (Faculty of Chemistry), Minsk, Belarus
MS Diploma work: "*Controlled cationic polymerization of cyclopentadiene in the presence of water and in aqueous dispersions*"
- 2003 – 2008 **Diploma**, Belarusian State University (Faculty of Chemistry), Minsk, Belarus
Diploma work: "*Living cationic polymerization of p-methoxystyrene in organic solvents and in aqueous dispersions*"