



CURRICULUM VITAE

Associated Prof., Dr. Alexander S. Shaplov

(of September 19, 2012)

PERSONAL INFORMATION:

Name: **Alexander S. Shaplov**

Data of Birth: 08 April 1978

Place of Birth: Moscow, Russian Federation

Gender: Male

Social Status: Single

Temporary living

address: 115035 Moscow, Sadovnicheskaya st. 51, apt. 7.

Place of Work: A.N. Nesmeyanov Institute of Organoelement Compounds Russian Academy of Sciences (INEOS RAS), Laboratory of high molecular compounds

119991 Moscow, Russian Federation, GSP-1, Vavilov St. 28

Tel.:+7 499 1359244, Fax: +7 499 1355085; e-mail: zipper@ineos.ac.ru or shaplov@ineos.ac.ru

Position: Associated Prof. Dr., Senior researcher, Vice-chairman of the Council of Young Scientists at INEOS RAS

Field of knowledge,

speciality:

Chemistry of macromolecular compounds, Organic chemistry

including polymer synthesis (polycondensation, polymerization, ROMP, cyclopolymerization, polycyclodehidratation, etc.), polymer membranes, polyelectrolytes, proton and ionic conducting polymers and materials, new reaction media, high performance polymers, polymer catalysis, Ionic Liquids, cross-linked polymers;

EDUCATION:

09/2000 – 03/2005 **A.N. Nesmeyanov Institute of Organoelement Compounds RAS (INEOS RAS), Moscow, Russia**

Doctor of Philosophy (PhD), chemistry of macromolecular compounds

Advisor: Professor Ya. S. Vygodskii

Thesis: "Condensation Polymer synthesis in Ionic Liquids".

04/2005 – 05/2009 **A.N. Nesmeyanov Institute of Organoelement Compounds RAS (INEOS RAS)**, Moscow, Russia

Researcher position.

05/2009-till present **A.N. Nesmeyanov Institute of Organoelement Compounds RAS (INEOS RAS)**, Moscow, Russia

Senior researcher position.

04/2010 **A.N. Nesmeyanov Institute of Organoelement Compounds RAS (INEOS RAS)**, Moscow, Russia

Associated Prof. degree.

RESEARCH EXPERIENCE:

2000 – present *Senior Researcher at the A.N. Nesmeyanov Institute of Organoelement Compounds RAS, Moscow, Russia*

- Implementation of the diploma and PhD theses. INTAS (Independent International Association formed by the European Community), RFBR (Russian Foundation for Basic Research), OPCW (Organization for the Prohibition of Chemical Weapons), DFG (Deutsche Forschungsgemeinschaft), President's of the Russian Federation Foundation "For Young Outstanding PhD", Foundation for Russian Science Assistance, SNCF (Swiss National Science Foundation), FP7 (European 7th Framework Program, Marie Curie action) grants executor. The study of novel methods of polymer formulation, obtaining of practical experience in the basic methods of organic synthesis, polymerization and polycondensation reactions. Polycondensation catalysis. Synthesis of high performance polymers including polyimides, polyamides, poly(1,3,4-oxadiazole)s, poly(1,2,4-triazole)s, etc. having tailored structures and properties, namely, thermal, electric, solubility, etc (including polymers for Fuel Cells). Polyelectrolytes synthesis and characterization. Preparation of various cross-linked networks, including interpenetrating networks, ionic ones in particular. Fabrication of membranes with desired properties. Implementation of Ionic Liquids as solvents, catalysts, fillers and modifying agents in polymer chemistry. X-ray studies of ionic liquids and their co-crystals with organic molecules. Application of polymeric ionic liquids and materials on their basis as solid polyelectrolytes for Li batteries

09/2003 – present *Teaching Assistant in cooperative education program between D.I. Mendeleev University of Chemical Engineering of Russia and A.N. Nesmeyanov Institute of Organoelement Compounds RAS, Moscow, Russia*

- Teaching and organizing of practical work in macromolecular chemistry course, edition of methodical books.

09/2005 – 10/2005 *Fellow at NATO Advanced Study Institute (NeMeTOC) // “New methodologies and techniques in organic chemistry: sustainable development in a secure environment”, Certosa di Pontignano (Siena), Italy, Prof. Alessandro Mordini*

- Studying of the new methods and techniques in organic chemistry which are presently available to achieve the goal of production of chemicals in a secure environment. Investigation of the latest methods and techniques, both in academic and in industrial research, which allow to render more benign already known processes thus decreasing the probability of social risks.

02/2006 – 05/2006 *PostDoc Fellow at the Leibniz Institute of Surface Modification, Leipzig, Germany, Prof. M.R. Buchmeiser*

- Synthesis of polymers prepared by ring opening metathesis (ROMP) techniques. Development of the synthetic approaches to high molecular weight polynorbornenes, elaboration of new highly conductive materials (Deutsche Forschungsgemeinschaft, DFG project No 436 RUS 17/15/06).

04/2007 – 06/2007 *Invited scientist at the Leibniz Institute of Surface Modification, Leipzig, Germany, Prof. M.R. Buchmeiser*

- Investigation of ionic 1,6-heptadiyne cyclopolymerization in traditional organic solvents and in ionic liquids by use of various Ru- and Mo-based catalysts. Synthesis of novel conjugated polymers, and new organometallic catalysts. (Deutsche Forschungsgemeinschaft, DFG project No BU 2174/5-1).

Since 2008 *Invited associated professor (Maitres de conférences et professeurs) at the University of Cergy-Pontoise, Cergy (Paris), France, Prof. Frederic Vidal and Prof. Dominique Teyssié*

- Investigation and synthesis of IPNs (interpenetrated networks) based on various ionic monomers, polyethyleneglicoldimethacrylates, polybutadiene or polyepoxides via polymerization/polycondensation (polyaddition) process. Detailed study of the obtained films, including their ionic conductivity, interaction with Li salts, electrochemical windows, application as membrane separators in Li batteries, etc.

Since 2010 *Invited scientist at the Laboratory of Regenerative Medicine and Pharmacobiology (LMRP) École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland PD Dr. Christine Wandrey, MER*

- Study of properties of different linear polymeric ionic liquids (PILs) including the investigation of their molar mass by sedimentation-diffusion analysis, partial specific volume and ionic conductivity in solution.

ACADEMIC HONORS:

- 2007-2008 Personal Grant of President of Russian Federation for young PhD scientists;
- 2008 Gold medal from the XI International saloon of industrial properties “Archimed-2008” in the nomination of “Invention, industrial samples, trade marks” for the scientific work “Ionic Liquids in polymer synthesis”;
- 2009 The article “Conductive Polymer Electrolytes Derived from Poly(norbornene)s with Pendant Ionic Imidazolium Moieties”, *Macromol. Chem. Phys.* (2008, v. 209, P. 40-51) was named in TOP 10 highly read articles of *Macromol. Chem. Phys. Journal* during 2008 year.
- 2009 The article “Synthesis of polymer ionic liquids and the conductivity of obtained materials“ (“*Vysokomol. Soed.*” (*Polymer Science Ser. A*), Ser. A. 2007, v.49, no. 3, P. 256-261) was acknowledged as Polymer Science Journal’s TOP 10 highly downloaded articles from Springer site (www.springer.com) during 2007-2008. Awarded by a special prize from “Nauka/Interperiodica” publishing house (Pleiades Publishing Inc., New York, USA);
- 2010 The poster “ Interpenetrating ionic polymer networks based on 1-ethyl-3-methylimidazolium and N-ethyl-N-methylpyrrolidinium(3-sulfopropyl)methacrylates as novel solid polyelectrolyte materials in lithium batteries” was awarded *1st place* at the 5th All-Russian Kargin’s conference “Polymers 2010”, Moscow State University, Moscow, Russia.
- 2011 The article “Design and synthesis of new anionic “polymeric ionic liquids” with high charge delocalization” in *Polymer Chemistry* journal was identified as a ‘hot article’ (<http://blogs.rsc.org/py/> news from 7 Dec 2011).

Associated Prof. Dr. Alexander S. Shaplov is an author of 43 papers in peer reviewed journals (including 2 reviews), 3 patents, 2 book chapters, 32 posters and 40 oral lectures (included 9 invited talks) on Russian and International conferences.

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