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Inorganic Polymers Department
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CURRENT POSITION
Scientist, Head of research laboratory, Head of TEM laboratory, Head of SAXS laboratory, Manager of GPC-SEC research team

EDUCATION

B.S., "Gh. Asachi" Tech. Univ., Chem. Eng., Organic Chem. **1982**
Ph.D. in Chemistry and Technology of Polymers, **1997**
"Petru Poni" Institute of Macromolecular Chemistry Iasi,
Romanian Academy

AWARDS

Romanian Academy Award "Nicolae Teclu" 2005:
"Organosilicon Polymers with Unconventional Architectures. Methods and Applications"

PROFESSIONAL DEVELOPMENT

Polymer synthesis and properties

Organometallic chemistry and inorganic polymers **2011**
TU Braunschweig, Germany

Polysilanes behaviour in dilute solutions **2012**
Institute of Macromolecular Compounds,
St. Petersburg, Russia

Polysilanes-natural polymers composites **2013**
Technical University of GRAZ, Austria

Structural characterization of polymers

Polymer nanocomposite analysis by HRTEM **2011**
Polish Academy of Sciences,
Centre of Carbon and Polymer Materials, Poland

Polymers and soft materials analysis by HRTEM **2011**
FEI Demo-Port, Eindhoven, Holland

SAXS analysis in solution and thin films **2011**
Aachen University, Material Science Laboratory, Germany

Polymers and bio-materials analysis by HRTEM **2011**
Hitachi Europe GmbH, Dusseldorf, Germany

High resolution SAXS analysis **2012**
Universite Montpellier II, France

SAXS analysis of polymers and polymers based materials **2013**
Technical University of GRAZ, Austria

Research interests

- Polysilane synthesis in heterogeneous and homogeneous systems
- Synthesis of polysilane-metal nanocomposites
- Optical properties and electron transfer in polysilanes and nanocomposites
- Combined nanostructural analysis (TEM/SAXS/GPC)
- Organosilicon polymers with polysilane segments
- Polysilane nanocomposite with applications in sensoristics and medical imaging
- Fluorescent polymer composites and/or semiconductors in matrices of natural polymers
- Interactions between sigma-conjugated polymers and metal complexes
- Polymeric transporters for silicon quantum dots (SiQD)

Reprezentative publications

- Polydiphenylsilanes bearing photosensitive azocrown groups, L. Sacarescu, R. Ardeleanu, G. Sacarescu, M. Simionescu, N. Hurduc, *Chem. Commun.*, 2006.
- Fluorescence detection system based on silicon quantum dots–polysilane nanocomposites, L. Săcărescu, G. Roman, G. Săcărescu, M. Simionescu, *EXPRESS Polym. Lett.*, 2016.
- Dual-emissive polydiphenylsilane nanocomposite: Effect of N,N′-bis(4-hydroxysalicylidene)-1,2-phenylenediamine-Zn complex, L. Săcărescu, C. Cojocaru, R. Ardeleanu, M. Fortuna, G. Săcărescu, M.Simionescu, *Polym. Adv. Technol.*, 2016.
- New dansyl labeled polysilane: Synthesis, characterization and sensor application, A. L. Chibac, M. Simionescu, G. Sacarescu, E. C. Buruiana, L. Sacarescu, *Eur. Polym. J.*, 2017.
- Bichromophoric pyrazoline derivative with solvent-selective photoluminescence quenching, A. L. Chibac, G. Roman, C. Cojocaru, S. Shova, G. Sacarescu, M. Simionescu, L. Sacarescu, *J. Mol. Liq.*, 2019.
- Pyrazoline based chloride sensor for body fluids screening, A.L. Chibac, G. Roman, C. Cojocaru, G. Sacarescu, M. Simionescu, L. Sacarescu, *J. Mol. Liq.*, 2019.