Department of Civil Engineering

Water Safety Community & Civil Engineering Research Seminar Series

Dr. Santa Jansone-Popova
Research Staff Scientist
Oak Ridge National Laboratory

Santa was born and grew up in Latvia, a country in the Baltic region of Northern Europe. She completed her undergraduate studies at the University of Latvia, where she majored in chemistry and developed a fascination with organic reactions and synthesis of molecules. At the same time, she was gaining research experience working at the Latvian Institute of Organic Synthesis in parallel to her studies. Santa then moved to University of Houston in Texas for graduate school, where she earned her Ph.D. for investigating natural product synthesis and developing a new chemical transformation for the synthesis of complex polycycles. In 2014, she joined the Chemical Separations group at ORNL, where she is a staff scientist and a principal investigator on several projects.

Design of Materials for Selective Ion Sequestration

Preorganization of multiple donor groups at the metal ion binding site leads to unparalleled performance in binding and sequestration of metal ions. The ligand's rigid binding cavity not only leads to increased binding strength with metal ions but the size of the cavity also controls the selectivity, resulting in a highly efficient separation system. On the contrary, ionic polymers, functionally similar to ion-exchange resins, are used to sequester oxoanions. By choosing the appropriate building blocks that control the structure as well as basicity of the ionic groups, highly efficient and selective sequestration of toxic aqueous pollutants is achieved. The design, synthesis and performance of materials with diverse functionalities will be presented and discussed in detail.

Engineering Science Building – Room: 114
Monday, Aug. 26, 2019, 12:00 PM

1:00 PDH certificate will be offered to attendees
For more information, contact: mgkolias@memphis.edu
Pizza and soft drinks will be provided.

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