

S. Sokolowski from UMCS, visit to ICMP

Scientific activities:

1. Together with J. Ilnytskyi he finalized and submitted for publication the review paper, entitled „Description of liquid - tethered polymer brushes interfaces: advances in density functional theories and off-lattice computer simulations”. This work was done in collaboration with O. Pizio (UNAM)
2. Together with A. Trokhymchuk and J. Ilnytskyi we wrote the programs for simulating Janus particles confined in slit-like pores. The first program is for a lattice model and the aim of our study is to investigate phase transitions of coconfined Janus particles. This work will be done in collaboration with W. Rzyzsko (UMCS). Currently we run test calculations. The second program, written by J. Ilnytskyi is for the identification and the statistics of clusters of Janus particles (lattice model) inside slits. This program will be used to analyze the data obtained from the first program and its test runs have been finished. The third program (in collaboration with A. Patrykiewicz from UMCS) is for off-lattice model and its aim is to determine the effective interactions between two planar walls immersed in a fluid of Janus particles.

Transfer of knowledge activities:

1. Several discussions with Yu Kalyuzhnyi on similarities and differences between systems involving Janus particles and some selected systems of associating particles that can form structures (clusters) of a given symmetry. We also discussed phase behavior of both the above systems.
2. On May 23 S. Sokolowski provided the lecture „Electric double-layers in slit-like pores: a DFT approach” for the entire Institute of Condensed Matter Physics, UAS, Lviv. The lecture outlined our results, obtained within this project, and published in the paper: S. Sokolowski, O. Pizio, Restricted primitive model for electrolyte solutions in slit-like pores with grafted chains: Microscopic structure, thermodynamics of adsorption, and electric properties from a density functional approach. *J. Chem. Phys.* 138, 92013) 204715 (2013).