

# Polymer Group



## HEAD:

Andrzej Sikorski\*, PhD DSc

## GROUP MEMBERS:

PhD student: Aleksander Kuriata

## RESEARCH PROFILE:

physicochemical properties of polymer and biopolymer systems

## CURRENT RESEARCH ACTIVITIES:

- Transport in crowded environments: models of motion in biomembranes and in random media
- Structure of branched polymers and highly branched polymers, dendrimers as drug carriers
- Structure and dynamics of polymer systems in confined geometries
- Percolation of polymer systems: the structure of polymer melts and composites, models of plastic electronics
- Simulation tools used: Cooperative Motion Algorithm Dynamic Lattice Liquid, Random Sequential Adsorption

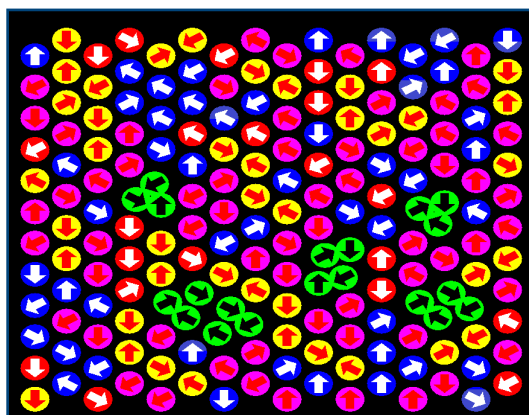


Fig. The idea of the DLL algorithm

## SELECTED PUBLICATIONS:

1. P. Polanowski, A. Sikorski, Diffusion of Small Particles in Polymer Films, *J. Chem Phys.* 147 (2017) 014902.
2. P. Polanowski, A. Sikorski, Simulation of Molecular Transport in Systems Containing Mobile Obstacles, *J. Phys. Chem. B.* 120 (2016) 7529-7537.
3. P. Polanowski, A. Sikorski, Simulation of Diffusion in a Crowded Environment, *Soft Matter.* 10 (2014) 3597-3607.
4. E. Wawrzyńska, S. Eisenhaber, P. Parzuchowski, A. Sikorski, G. Zifferer, Simulation of Hyperbranched Polymers. 1. Properties of Regular Three Generation Dendrimers, *Macromol, Theory Simul.* 23 (2014) 288-299.
5. P. Polanowski, J.K. Jeszka, A. Sikorski, Dynamic Properties of Linear and Cyclic Chains in Two Dimensions. *Computer Simulation Studies, Macromolecules.* 47 (2014) 4830-4839.