

## SEMINAR

### of the Center for Design, Manufacturing, and Materials «Adsorption-Induced Deformation of Nanoporous Materials»

**Gennady Gor**  
Assistant Professor,  
Department of Chemical and Materials Engineering,  
New Jersey Institute of Technology, Newark, NJ, USA

**January 14th**  
**13:00**  
**Room E-R2-A5-2030**



#### SEMINAR ABSTRACT:

All nanoporous materials deform when fluids adsorb in their pores, which is known as adsorption-induced deformation. In recent years, there has been significant progress in both experimental and theoretical studies of this phenomenon, driven by the development of new materials as well as advanced experimental and modeling techniques. Also, adsorption-induced deformation has been found to manifest in numerous natural and engineering processes, e.g., water-actuated movement of non-living plant tissues, swelling of coal and shale, etc. In this lecture, I will present the current most recent developments and challenges, focusing mostly on theoretical aspects.

#### SPEAKER INTRODUCTION:

**Gennady Gor** received Ph.D. in theoretical physics from St. Petersburg State University, Russia in 2009. He continued his postdoctoral research in the United States, at Rutgers University, Princeton University and Naval Research Laboratory. Since 2016 he is an assistant professor in Chemical and Materials Engineering department at NJIT, heading the “Computational Laboratory for Porous Materials”. He is the recipient of the National Research Council Associateship (2014) and the NSF CAREER Award (2019).