Materials World Network in NanoStructured Carbons (DMR-Award #0806521) Pl: Andrei V. Stanishevsky, University of Alabama at Birmingham

This project is a part of an international interdisciplinary research and training program in plasma-assisted processes of nano-structured carbon-____

Major results:

based materials.

 Multialyer micro-/nanodiamond coatings with increased fracture toughness and hardness up to 70 GPa;

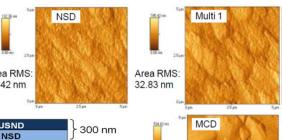
 Controllable plasma surface modification and functionalization of nanodiamond (NCD) films and particles;

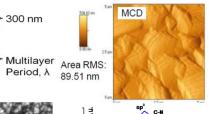
 CVD synthesis of nanocomposites based on NCD and other carbon nanoforms.

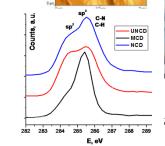
Raman of NCD/WC composite

1000 1100 1200 1300 1400 1500 1600 1700 1800

Raman shift, cm⁻¹







Network members: Technical University of Lodz, Poland (primary); ParisTech - Cluny Center, France; Koszalin University of Technology, Poland, Aalto University, Finland.





Fifteen UAB students participated in research and training activities in Europe.

International conferences organized/co-organized: VaPSE 2009 Czech Republic (2009); 5th Wide Bandgap Materials – Progress in Synthesis and Applications Conference (2010); 7th Diamond and Related Films Conference (2010); 1st and 2nd US-Poland Workshop on Nanoscale Diamond Materials (2009 and 2010); NANOSMAT-6 (2011) (all in Poland), NANOSMAT-USA (2012).





