

Group for Investigation and Modeling of Materials (GIMM)

Nanomaterials, Characterization, Experiment, Computational Modeling, DFT

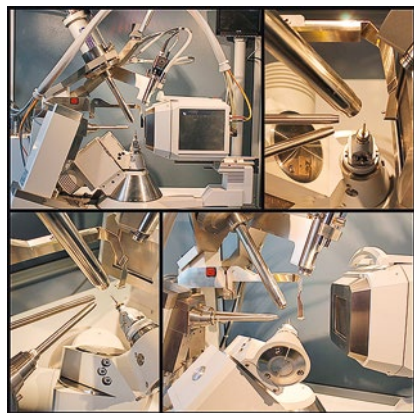
Group for Investigation and Modeling of Materials (GIMM) performs characterization and computational modeling of various materials that include, but are not limited to: (in)organic nanostructures (ferrites, perovskites, fullerenes, nanotubes, graphenes), pharmaceuticals, photovoltaic and OLED molecules, photocatalysts, ionic liquids, buckbowls, liquid crystals, etc.

We are interested in materials with potential for practical applications in the areas of electronics, (bio)sensors, environmental protection, clean energy sources, pharmacy, etc.

The objective of GIMM is to provide high quality characterization and computational modeling services for the University of Novi Sad and for research groups all over the world. We tend to use high quality experimental procedures based on X-ray diffractometry, Raman spectroscopy and conductivity measurements in order to characterize materials. Computational modeling by DFT calculations, molecular dynamics simulations and molecular docking is used to investigate and optimize structural, reactive, adsorption, transport, opto-electronic and other properties of materials of interest.

COLLABORATIONS

- University of Leeds, School of Electronic and Electrical Engineering, Leeds, UK
- Fatima Mata National College, Kollam, Kerala, India
- Hacettepe University, Faculty of Pharmacy, Ankara, Turkey



SELECTED EQUIPMENT

- *Experimental equipment:* The Gemini S single crystal X-ray diffractometer, Thermo Scientific DXR for Raman spectroscopy, Rigaku MiniFlex 600 diffractometer for polycrystalline samples, DuPont DEA 2970 dielectrometer.
- *Computational modeling packages:* Schrödinger Materials Science Suite, Quantum Espresso, GAMESS, Psi4, ATK

SELECTED PROJECTS

Title: *The Synthesis of nanopowders and processing of ceramics and nanocomposites with specific electrical and magnetic properties for an application in the integrated passive components, grant III45021*

Type: Integral Interdisciplinary Research

Duration: 2011 -

Project leader: Dr Vladimir Srđić, Full Professor, email: srdicvv@uns.ac.rs

Contact person at Faculty of Sciences: Dr Željka Cvejić, Full Professor, email: zeljka.cvejic@df.uns.ac.rs

Title: *Phase transitions and characterization of inorganic and organic systems, grant Oh71015*

Type: Fundamental Research

Duration: 2011 -

Project leader: Dr. Sunčica Elezović-Hadžić, Full Professor, email: suki@ff.bg.ac.rs

Contact person at Faculty of Sciences: Dr Maja Stojanović, Full Professor, email: maja.stojanovic@df.uns.ac.rs

Title: *Virtual human osteoarticular system and its application in preclinical and clinical practice, grant III41017*

Type: Integral Interdisciplinary Research

Duration: 2011 -

Project leader: Dr. Miroslav Trajanović, Full Professor, email: miroslav.trajanovic@masfak.ni.ac.rs

Contact person at Faculty of Sciences: Dr Stevan Armaković, Assistant Research Professor, email: stevan.armakovic@df.uns.ac.rs

CONTACT PERSONS

Dr Željka Cvejić, Full Professor, zeljka.cvejic@df.uns.ac.rs

Dr Stevan Armaković, Assistant Research Professor, stevan.armakovic@df.uns.ac.rs

web site: <https://gimm.pmf.uns.ac.rs>