



# ЛАБОРАТОРИЯ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ

---

**Понедельник, 12 февраля 2018 г. в 15.00**  
ком. 310

**Prof. Daniel Vizman**  
(West University of Timișoara, Romania)

## **Numerical modelling activities at West University of Timisoara**

Prof. dr. Daniel Vizman is the Dean of Physics Faculty and the leader of the Crystal Growth Laboratory, West University of Timisoara. Professor Vizman is a former Humbolt Fellow at Fraunhofer Institute, Erlangen, Germany and the Secretary of European Network of Crystal Growth.

One of the main research topics of the Crystal Growth Laboratory is the modelling of crystal growth processes. Prof. Vizman developed in collaboration with Fraunhofer Institute a computer code STHAMAS 3D for the 3D numerical simulation of different crystal growth methods (like Czochralski and Bridgman). It allows the study of the influence of different types of magnetic fields on the melt convection and on the interface shape. In the last years the research focus was put on the development of new techniques to control the melt flow with a combination of magnetic and electrical fields by both numerical modelling and model experiment.

Very recently, in the frame of ELI-NP project, a PhD student of Prof. Vizman - Dragos Tatomirescu - is working on numerical modelling of the laser accelerated proton and electron radiation through interaction with a thin film.

The project will cover two main topics:

1. Numerical modelling of crystal growth processes with the focus on the influence of different types of magnetic fields on the melt flow.
2. Numerical modelling of the laser accelerated proton and electron radiation using Particle-in-Cell methods.