

Welcome address

The application of computers and information technologies for the modeling of environmental and technological processes has very long history at the University of Latvia. Probably it will be fair to say that the history of these activities traces back to the beginning of 50-ies when the *Computing Centre* of the University of Latvia was established, and the first large computers appeared there. From the very beginning, physicists were among the most active users of these facilities. These activities eventually lead to the establishment of the chair of *Electrodynamics and Continuum Mechanics*, the first head of which was Prof. Juris Mikelsons. Now when I am looking at the old protocols from that time, it is really interesting to see that among the founders of that chair from the very beginning were physicists as well as mathematicians. This collaboration seems to be very fruitful and maybe is one of the major reasons of the success of this research direction at the University of Latvia.

Then, in the beginning of the 90-ies, when all the higher education system as well as organizational structures of the research in our country underwent dramatic changes, not all ideas and all institutions managed to adapt successfully to the new conditions. Fortunately, the people who were involved in computer modeling related research were among the most successful. Success gradually came in several directions simultaneously. First, people led by Prof. Andris Jakovics and Prof. Andris Muiznieks managed to exploit very actively already existing and newly established contacts in Western Europe and managed to reorient their applied research to the directions actively studied also in partner Universities. As a result, research groups involved in this research successfully joined the international effort related to the application of computer models to industrial processes.

Another remarkable success that came thanks to the efforts of Prof. Andris Jakovics and Dr. Uldis Bethers and their collaborators is related to the application of computer based models to the environmental and technological processes that were important for companies and state institutions in Latvia.

Currently, the field of engineering physics, the core of which is the computer modeling of environmental and technological processes, is one of the large and successfully developing part of a study programme at the Department of Physics of the University of Latvia, as well as a successful and active research field at the University of Latvia. Among the major participants in this activity are people centered around the Chair of *Electrodynamics and Continuum Mechanics* and the *Laboratory of the Mathematical Modeling of Environmental and Technological Processes*, who are among the active organizers of this workshop.

I am sure that this field has very good perspective to develop at The University of Latvia. The Department of Physics will continue to support whole-heartedly people involved in this research.

I wish success to the participants and organizers of the 4th International Scientific Colloquium Modelling for Material Processing. To those who are coming to this meeting from other countries, I wish also a pleasant stay in Riga.

Prof. Marcis Auzinsh
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