

# Numerical methods for solving problems at SibFU

Siberian Federal University holds the 27th All-Russian Conference on Numerical Methods for Solving Problems in the Theory of Elasticity and Plasticity dedicated to the 100th anniversary of the birth of Nikolay Yanenko, a Soviet mathematician, geometer and mechanical engineer, from 5 to 9 July 2021.



This hybrid conference bridged scientists from 20 cities of Russia, Armenia and Austria. The conference expects 153 participants who will give 103 talks, with 43 of them online.

The conference covers:

- problems of the dynamic interaction of bodies with complicated physical and chemical properties in a wide range of pressures and temperatures;
- computational problems and methods for solving problems of deformable solid mechanics, including multiscale levels;
- numerical methods for solving problems of strength, stability and fracture of structures made of composite materials;
- problems of mechanics of deformable media with interfaces.

The conference also includes a mini-symposium on Problems of the Mechanics of Deformable Media with interfaces.



*"The problems announced for the conference arise everywhere in structural mechanics: strength calculations of different materials and structures; military, where they solve the problem of creating barriers and breaking them. And scientific too, which is the construction of constitutive equations for composites, the creation of mathematical methods of analysis, as it is very difficult to measure something in experiments, but much easier is to simulate the values on a computer,"* said **Vladimir Sadovsky**, professor of the Specialised Department of Computing and Information Technologies. *"Krasnoyarsk has a very good mathematical school and all conditions have been created for holding this conference at SibFU. Of course, the pandemic has made adjustments, the share of professionals from abroad has decreased, but the geography of participants from Russia is a wide — from Vladivostok to Moscow."*

**Vasily Fomin**, scientific director of S.A. Khristianovich Institute of Theoretical and Applied Mechanics, SB RAS, Doctor of Physical and Mathematical Sciences, Academician of RAS: *"This conference has been held for 54 years already. During this time, new computing technology, new materials and, in general, new opportunities have appeared. So, this year, we place a special focus on the calculations of the behaviour of new heterogeneous and composite materials. We must be able to count and predict how structures made of such materials will behave. Our conference would be especially interesting for students. It's one thing to study books, but to meet with a scientist in person and ask YOUR questions of interest"*



*is something very different.”*

Full-text versions of the talks of the conference participants will be published in [AIP Conference Proceedings](#).

The conference was organized by: the Ministry of Science and Higher Education of the Russian Federation, the Siberian Branch of the Russian Academy of Sciences, S.A. Khristianovich Institute of Theoretical and Applied Mechanics (SB RAS), Institute of Computational Modeling (SB RAS) and Siberian Federal University.

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