



FIRST ANNOUNCEMENT

IUTAM Symposium on Growing solids

June 23-27, 2015, Moscow, Russia



International Union of Theoretical
and Applied Mechanics

INSTITUTE FOR PROBLEMS IN MECHANICS
of the Russian Academy of Sciences



About Symposium

The vast majority of objects or solids that surround us arise from some growth processes. As an example, one can present such natural phenomena as growth of biological tissues, glaciers, blocks of sedimentary and volcanic rocks, as well as space objects. Similar processes determine the specific features of many technologies in industry, including well-known technologies of crystal growth, laser deposition, solidification of melts, electrolytic formation, pyrolytic deposition, polymerization and concreting. Recent research has shown that solids which were formed due to the processes of growth differ essentially in their properties from solids in the traditional view. Moreover, the classical approaches of solid mechanics to the modeling of growing solids behavior fail. They have to be replaced by new ideas and methods of modern mechanics, mathematics, physics, and engineering sciences. Thus, at present, a new area of solid mechanics which deals with the construction of adequate models for solids growth processes is forming. The main objectives of the IUTAM Symposium on Growing Solids are a joint discussion of fundamental, computational and applied problems of the new scientific area by leading mechanicians, mathematicians, physicists and technologists, exchange of the latest ideas and achievements, as well as working out the main directions of its further development. The symposium program includes such topics as the fundamental problem of growth processes of solids, numerical modeling of growth, moving boundaries and interfaces, surface science, phase transitions, dislocations and disclinations in solids, crystal growth, growth of bone and soft tissues, laser deposition, solidification of melts, electrolytic formation and engineering applications.

Registration

Online registration will be available at the symposium site <http://sgs2015.ipmnet.ru/reg.html>.

Topics

- Basic problems for growing solids
- Additive manufacturing technologies
- Crystal growth
- Growth in phase transitions
- Growth in biology and medicine
- Growth in astronomical and natural phenomena

Scientific Committee

- Alexander Manzhairov (Chair, Russia)
- Holm Altenbach (Germany)
- James De Yoreo (USA)
- Marcelo Epstein (Canada)
- Gerard Maugin (France)
- John Middleton (UK)
- Qing-Ping Sun (China)

IUTAM Representative

- Narinder Gupta (India)

Call for Papers

Extended abstracts should be submitted two A4 in PDF format not exceeding pages including references and figures. The authors of accepted abstracts will be asked to submit a full-length manuscript, which will be published in the Procedia IUTAM by ELSEVIER.

Contacts

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