

1-5 JULY
2019



Laboratory of
Phase Transitions

RUSSIAN
FOUNDATION
FOR BASIC
RESEARCH

SAINT-PETERSBURG
RUSSIA

International Conference

MECHANISMS AND NON-LINEAR PROBLEMS OF NUCLEATION AND GROWTH OF CRYSTALS AND THIN FILMS

1ST ANNOUNCEMENT

General information

Here with we invite you to take part in the International Conference "Mechanisms and non-linear problems of nucleation and growth of crystals and thin films". The conference is the logical continuation of the series of symposiums "Nucleation theory and applications", organized in the period 1997-2016 each year jointly by colleagues from the Bogoliubov Laboratory of Theoretical Physics of the Joint Institute for Nuclear Research (Prof. Vyatcheslav B. Priezhev, Dubna, Russia) and the Institute of Physics of the University of Rostock (Prof. Juern W.P. Schmelzer, Rostock, Germany), and of the conference "Nucleation and non-linear problems in first-order phase transitions", organized in 1998 and 2002 by the Institute of Problems of Mechanical Engineering (Prof. Sergey A. Kukushkin, St. Peterburg, Russia). The conference is organized in memory of our teacher and friend V.V. Slyozov.

WWW.MGCTF.RU

The main objectives of the conference are

01. to bring together specialists in the field of theory and practice of nucleation and growth of crystals and thin films in order to discuss the latest achievements and the results obtained by their scientific groups
02. to establish and/or tighten direct co-operation links between leading scientists and scientific groups to anticipate joint working themes and common projects
03. to elicit new promising theoretical and practical approaches able to describe, in particular, the growth of wide-bandgap semiconductors (SiC, GaN, AlN, Ga₂O₃, etc.), which are the most frequently employed presently in technological applications

The scientific topics of the conference cover a wide range of issues: mechanisms of nucleation and growth of crystals and thin films; nonlinear and collective effects associated with the nucleation and growth of crystals in both single-component and multi-component systems; associated physical and chemical processes, as well as their influence on crystal formation. Particular attention is directed hereby to crystals and thin films of wide-bandgap semiconductors, such as SiC, GaN, AlN, Ga₂O₃, but it is not limited to them. The particular relevance of mentioned materials is caused by the wide range of applications of semiconductor structures based on them and their relevance in the world industry. The conference is devoted to both fundamental and applied research.

The main topics of the conference

- ▶ Mechanisms of crystal formation and growth in single- and multi-component systems: theoretical description of the process, numerical modeling, experimental results.
- ▶ New methods and approaches to the description of growth and the investigation of different properties of wide-bandgap semiconductors.
- ▶ Nonlinear and collective phenomena in the process of crystal growth.
- ▶ Physics, chemistry, and mechanics of crystal surfaces
- ▶ Origin and statistics of lattice defects and their effect on the properties of the crystals
- ▶ Fundamental problems (nucleation theory, phase transitions etc.)

Plenary sessions and poster sessions are planned to be held in the course of the conference.

Key dates

The registration is already open!

Abstract Submission Deadline: **1 April 2019**

Notification of acceptance: **1 May 2019**

Conference: **1–5 July 2019**

Online-registration

Online-registration is already open at <http://mgctf.ru>

The site also contains full information about conference fees for participants and payment methods.

Conference venue

The conference will be held in St. Petersburg, a “small Europe” of Russia. St. Petersburg is considered as the northern capital of Russia and its cultural capital. In order to bypass all the sights, palaces, museums, and cathedrals of St. Petersburg, even a month is not enough. In addition to the cultural facilities, in St. Petersburg is concentrated a significant part of the country's scientific infrastructure, research institutes, and universities. Detailed information on the location, conference fee, publication of conference materials is available at the conference web-site.

Conference proceedings

The authors of the best presentations will have the opportunity to publish a manuscript in a special themed issue of the Journal "Physics of the Solid State" - Springer. The manuscripts will be considered after a standard peer review procedure in order to meet the scientific requirements of the Journal.

Conference Chair

Sergey A. Kukushkin (Institute of Problems of Mechanical Engineering, Russia)

Conference Vice-Chair

Dr.Sci. A.V. Osipov (Institute of Problems of Mechanical Engineering, Russia)

International Advisory Board:

Abyzov A. S. (Ukraine), prof.	Morozov N.F., acad.
Buravlev A.D., prof.	Neimark A.V., prof.
Chernov A.A. (USA), corr. member	Rusanov A. I., acad.
Churbanov M. F., acad.	Schmelzer J. W. P. (Germany), prof.
Cirlin G.E., prof.	Shchekin A. K., corr. member
Dubrovskii V. G., prof.	Shi F. (USA), prof.
Glas F. (France) ,prof.	Smirnov B. M., prof.
Gusarov V. V., corr. member	Spitsin B.V. prof.
Ievlev V. M., acad.	Suris R. A., acad.
Kashchiev D. (Bulgaria),prof.	Umantsev A. R. (USA), prof.
Kaplyanskiy A.A., acad.	Ustinov V.M, corr.member
Klimov D.M., acad.	Zakharov A. Y., prof.
Koverda V. P., corr.member	Zlomanov V. P., prof.
Krasilnik Z. F., corr.member	

Local Organizing Committee

Dr.Sci. Prof. S.A. Kukushkin (chairman), Dr.Sci. A.V. Osipov (vice-chairman), Ph.D. A.V. Redkov, A.S. Grashchenko, R.S. Telyatnik, T.V. Lavrova, A.V. Kandakov, A.Y. Smolnikov, A.A. Koryakin

Laboratory of Structural and Phase Transitions in Condensed Media, Institute of Problems of Mechanical Engineering RAS sponsored by Russian Foundation for Basic Research, Scientific-Technical Center, New technologies". Ltd.

CONTACTS

Rustour LLC, Monomax Group - member of the
International Congress & Convention Association (ICCA).

Conference manager:

Darya Davydova

+7 812 335 2055, ext. 206

MGCTF@onlinereg.ru

www.mgctf.ru