

Background and Scope

Grain and interphase boundaries play very important role in the advanced materials, especially in the nanostructured materials, composites, coatings and thin films. Interfaces determine strongly the plasticity, transport phenomena, adhesion, diffusion permeability etc.

Discussions at recent meetings like EuroConference *Structure and Composition of Interfaces in Solids* (August 2002, Kloster Irsee, Germany), NATO ASI *Synthesis, Functional Properties and Applications of Nanostructures* (July 2002, Crete, Greece), *Nucleation and Non-Linear Problems in First-Order Phase Transitions NPT'2002* (July 2002, St.-Petersburg, Russia), *Crystal defects and strength* (June 2002, Chernogolovka, Russia), *Diffusion, Stresses and Segregation DSS-02* (May 2002, Moscow, Russia), *Phase transitions at high pressures FVD-2002* (May 2002, Chernogolovka, Russia) and *10th International Conference on Intergranular & Interface Boundaries iib2001* (July 2001, Haifa, Israel) demonstrated that it will be interesting to organize the workshop joining both the specialists in investigation of interfaces and development of modern materials. The idea of such workshop would be to stimulate the reluctant and unstressed discussions on recent achievements in the fundamental investigations of interfaces and possible applications of these knowledge in the development of advanced materials. The tentative list of topics below is not closed, and all interface-related contributions are welcome.

Workshop topics

- Grain and interphase boundary diffusion, grooving, wetting, segregation and embrittlement.
- Interfaces in thin films, coatings, multilayers, nanostructured materials.
- Phase transitions at interfaces (faceting, roughening, wetting, premelting etc.) and the role of interfaces in the bulk phase transmissions.
- Atomic-scale theoretical modeling (*ab initio* and molecular dynamics).
- Structural investigations.
- Investigation of interface-related phenomena (superplasticity, mechanical properties, sintering, diffusion bonding, soldering).
- Interfaces in magnetic materials.
- New high-resolution experimental methods for investigation of interfaces.

Organization

This workshop is organized by the Institute of Solid State Physics supported by Russian Academy of Sciences, Russian Foundation for Basic Research, Russian Ministry of Industry, Science and Technology, Government of Moscow Region and European Foundations.

Format

The conference language will be English. The conference will include invited lectures (40 min with discussion) and oral presentations (20 min) without parallel sections. Poster sessions will also be included. Round table discussions will be organized. It is supposed to create an atmosphere which will best matched to the free discussion.

There will be also an accompanying persons program including full day tour to Sergiyev Posad – celebrated Russian monastery located at 30 km from Chernogolovka. Most probably, the visits to the Russian space research center and/or aviation museum (large collection of historical airplanes) located about 20 km from Chernogolovka will be organized.

Location

IAM-03 will be held at the Institute of Solid State Physics (<http://www.issp.ac.ru>) which is located in Chernogolovka research center of Russian Academy of Sciences (RAS) about 40 km to north-east from Moscow (<http://www.chg.ru>).

Weather

The weather in Moscow at the end of May is moderately warm and dry. The average daily temperature is usually 20 - 25°C and nightly – 10-15°C. The umbrella not be undue.

Conference fees

The fees should be about 350 USD for participants and 200 USD for accompanying persons. Discounted students fees will also be available. The fees include participation at the conference, book of abstracts, one copy of the proceedings (not for accompanying persons), coffee breaks, lunches, welcome party and conference banquet. Students must send a letter from their department head with their registration form.

Call for papers

Prospective authors are invited to submit an abstract (about 400 words, one page maximum) by completing the attached pre-registration and abstract submission form. Prospective participants are kindly requested to return both forms by November 20, 2002, preferably by e-mail. The presenting author will be informed of the abstract acceptance (oral or poster) by December 02, 2002. The Advisory Committee will decide on the mode of presentation (oral, poster) but authors are invited to indicate their preference.

Conference Proceedings

IAM-03 Proceedings will be published in special issue of *Interface Science*. The Proceedings will be available within about 9 months after the workshop. The text prepared according to the guidelines of *Interface Science* must be submitted at the Workshop Desk both as hard copy and in electronic form.

Accommodation

The weekend before the conference all participants will stay at the “Akademicheskaja” hotel in Moscow (located about 2 km from Kremlin, moderate prices). The organizers will meet the guests at the airports. On Monday May 26 the participants will be transferred by the conference bus to Chernogolovka. They will stay there in the hotel of RAS till the end of the conference. The transfer from Chernogolovka to the airports will be ensured by Organising Committee. The organizers will offer also the cultural program for the weekend before and after the conference. Most probably, for the weekend after the conference the trips to the historical places to the north-east (like Sergiyev Posad, Vladimir or Suzdal) will be planned.

Deadlines

1 st announcement	October 2002
2 nd announcement	December 2002
Pre-registration, abstract submission	November 20, 2002
Submission of papers	May 26, 2003
Workshop	May 26-30, 2003

Visa application

If you need visa for Russia, please read carefully the instruction letter (attached to the separate e-mail) and provide us by e-mail the requested information not later than 4 months before workshop beginning.

Conference chairman: B.B. Straumal
Tel/Fax: +7-095-2382326 and +7-095-1117067
Mobile +7 902 6768673
E-mail straumal@issp.ac.ru or straumal@song.ru
Institute of Solid State Physics RAS
Chernogolovka, Moscow district, 142432 Russia

International Advisory Committee:

M.D. Baro (Spain), B.B. Bokstein (Russia), D. Brandon (Israel),
M.A. Fortes (Portugal), E. Glickman (Israel), A.M. Glezer
(Russia), G. Gottstein (Germany), W. Gust (Germany), Chr.
Herzig (Germany), A. King (USA), Yu.R. Kolobov (Russia), P.
Lejcek (Czech Rep.), I. Manna (India), F. Muktepavela (Latvia),
J.-M. Penisson (France), V.N. Perevesentsev (Russia), R.C.
Pond (UK), V. Pontikis (France), E. Rabkin (Israel), M. Rühle
(Germany), F. Rustichelli (Italy), V.V. Rybin (Russia), D.N.
Seidman (USA), H.-E. Schaefer (Germany), A. Serra (Spain),
W. Sigle (Germany), L. Shvindlerman (Germany, Russia), D.
Srolovitz (USA), B.B. Straumal (Russia), A. Sutton (UK), R.Z.
Valiev (Russia), M. Vasylyev (Ukraine), V. Vitek (USA), T.
Watanabe (Japan), D.Y. Yoon (Korea), P. Zieba (Poland)

Organising Committee:

Boris Straumal, Alena Khrusheva, Olga Kostina, Natalia
Lasareva, Sergei Polyakov, Svetlana Protasova (Conference
secretary, sveta@issp.ac.ru), Elena Straumal, Vera Sursaeva

Website: <http://www.issp.ac.ru/libm/iam-03>

PRE-REGISTRATION AND ABSTRACT SUBMISSION
FORM

Return by November 20, 2001 to: Boris B. Straumal
Institute of Solid State Physics RAS
Chernogolovka, Moscow district, 142432 Russia
Tel./Fax: +7-095-2382326 and +7-095-1117067
E-mail straumal@issp.ac.ru or straumal@song.ru

Presenting Author or Prospective Participant

Name.....
First Name.....
Affiliation.....
Address.....
.....
Zip.....Country.....
Tel.Fax.....
E-mail.....

Please check appropriate boxes:

- I would like to present a paper (Abstract is enclosed)
- I plan to attend but I will not present a paper.
- Please supply me with the 2nd announcement of IAM-03

I would like this paper be included:

as an

- Oral presentation
- Poster presentation

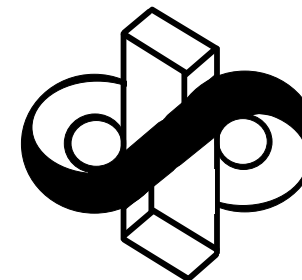
*Final decision about presentation (Oral/Poster) is the
responsibility of Advisory Committee*

Abstract. E-mail submission is preferable.

May be submitted on the other page

The author certifies that making the presentation of the paper is
not under any restriction by law or contract. Author grants
permission to IAM-03 to reproduce the above abstract and
certifies that the intended manuscript has not been published
elsewhere.

Signature.....Date.....



IAM'03

**INTERFACES IN ADVANCED
MATERIALS**

IAM-03

International Workshop

**First Announcement
and Call for Papers**

**Chernogolovka, Moscow district
Russia**

26-30 May, 2003