

The National Academy of Sciences of Ukraine  
The E.O.Paton Electric Welding Institute  
International Association “Welding”  
Local Charity Foundation “Society of Welders”

**The Fourth International Conference  
“Mathematical Modeling and Information  
Technologies in Welding and Related Processes”**

The First Call for Papers

May 27-30, 2008

Ukraine, Crimea, vil. Katsiveli

Information support : “The Paton Welding Journal”

Dear colleagues,

We invite You to participate in the work of the IV International Conference “Mathematical Modeling and Information Technologies in Welding and Related Processes”, which will be held in village Katsiveli at the House of Scientists of the NAS of Ukraine on May 27-30, 2008.

The topics of the Conference papers will be focused on the following problems:

\* Mathematical modeling of:

- physical phenomena determining the effectiveness and distribution of heat input in welding heating;
- process of metal transfer in welding;
- formation and hydrodynamics of weld pool in fusion welding of solid and porous metals;
- solidification of weld pool, chemical composition of penetration zone and formation of chemical heterogeneity;
- kinetics of microstructural changes in single- and multipass welding;
- relationships: chemical composition-microstructure-mechanical properties;
- kinetics of deformation processes within the temperature intervals of hot crack formation and conditions of their prevention;
- thermodeformational processes in pressure welding with account for high deformations;
- hydrogen transport in welded joints;
- estimation of a risk of cold (hydrogen) crack formation ;
- residual stresses and strains in multipass welding with account for changes in metal microstructure;
- degradation of properties of materials of welded joints under the action of high temperatures;
- simulation of process of identification of defects in welded joints using NDT methods.

\* Information technologies in welding, surfacing and deposition of coatings:

1. Creation of data bases from characteristics of structural and welding materials for mathematical simulation of physical processes in welding and related technologies;
2. Calculation and information systems for obtaining rational technological solutions on definite problems of welding and related technologies;
3. Internet and information services in the field of welding and related technologies.

Working languages of the Conference: Ukrainian, Russian, English

To participate in the Conference, it is necessary to fill the Registration Form and send it to the Organizing Committee before March 1, 2008.

Abstracts of the papers will be published by the beginning of the Conference.

Requirements to the abstract preparation:

Text should be presented using one of the working languages in WORD (size 12, 1.5 spacing) on 1 page. Please, use laser printer and white paper of format A4. Margin at the top – 2 cm, at the bottom, on the right and on the left – 3 cm. Title of paper should be printed in capital letters at the middle of line. Below, initials and names of authors, again below the affiliation, city, country are followed. Abstract should not contain formula, tables, figures and photos.

Abstracts of the papers are to be sent to E-mails: [d34@paton.kiev.ua](mailto:d34@paton.kiev.ua) or [journal@paton.kiev.ua](mailto:journal@paton.kiev.ua) before March 1, 2008.

Registration fee

The full Registration is €300 (€100 – for accompanying persons).

The Registration Fee includes the preparation and publishing the Conference materials, coffee, tea during breaks between sessions, official dinner, banquet, as well as other organizing expenses.

The Registration Fee for the accompanying persons does not include the cost of the Conference Proceedings and Abstracts.

All fees will be increased by 10% if received after the cut-off date of 25 April, 2008.

The cost of one copy of the published issues:

Abstracts is €15;

Conference Proceedings is €50.

Accommodation:

Cost of one day of living in the House of Scientists of the NASU with three meals a day is approximately:

- Room “Lux” - € 65;
- Single room - € 35;
- One bed in two-bed room - € 25.

The more precise prices will be given in the Second call for papers.

Deadlines:

1. Registration form and abstracts - before March 3, 2008
2. Second call for papers - before March 31, 2008
3. Sending of invitations to the Conference and confirmation of participation - before April 25, 2008
4. Payment of Registration Fee - before April 25, 2008

Website : <http://www.iaw.com.ua/english/conferences/mathematic4.html>

## REGISTRATION FORM

Family name

First name

Affiliation

Scientific degree

Country

Title of paper

Visit duration \_\_\_\_\_ days

Accompanying persons

Address for contact: Telephone/Fax, E-mail

I intend

- to present a plenary paper
- to present a poster paper
- to participate in the Conference without paper

## ORGANIZING COMMITTEE OF THE CONFERENCE

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