

**SIXTEENTH INTERNATIONAL SUMMER SCHOOL
ON VACUUM, ELECTRON, AND ION TECHNOLOGIES**

ORGANIZED BY

INSTITUTE OF ELECTRONICS
BULGARIAN ACADEMY OF SCIENCES, SOFIA, BULGARIA

INSTITUTE OF ION BEAM PHYSICS AND MATERIALS RESEARCH
FORSCHUNGSZENTRUM DRESDEN-ROSSENDORF, DRESDEN, GERMANY

VEIT 2009

28 September - 2 October 2009
Sunny Beach, Bulgaria

<http://www.veit.dir.bg>
<http://www.veit.8k.com>

FINAL ANNOUNCEMENT

The VEIT 2009 International Summer School on Vacuum, Electron and Ion Technologies is the 16th in a series of events organized with the aim to act as a forum for interchange and dissemination of knowledge and ideas on the latest developments in electron-, ion-, and plasma-assisted technologies. Reviews of state-of-the-art laboratory research and industrial applications with emphasis on both the physics and the engineering aspects of these technologies that have become important research tools and production processes will be presented. The scientific program will include about 20 invited lectures and reviews. Contributed papers are also solicited and will be presented mainly in poster sessions. Informal atmosphere will stimulate further collaborations and joint works.

THE OFFICIAL LANGUAGE OF THE SCHOOL IS ENGLISH

CHAIRMEN OF THE SCHOOL:

N. Guerassimov,
Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria
W. Möller,
Institute of Ion Beam Physics and Materials Research,
Forschungszentrum Dresden-Rossendorf, Germany

INTERNATIONAL ADVISORY COMMITTEE:

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B. Rauschenbach	IOM and Leipzig University, Leipzig, Germany
A. Ricard	Université Paul Sabatier, Toulouse, France
D. C. Schram	Eindhoven University of Technology, Eindhoven, The Netherlands

LOCAL ORGANIZING COMMITTEE:

M. Damjanova, M. Dimitrova, Ch. Ghelev,
N. Guerassimov (chairman), I. Martev, L. Mladenov, P.I. Petrov

PROGRAM

MONDAY, 28 SEPTEMBER

9:15 OFFICIAL OPENING

9:30 – 10:30 PLENARY SESSION 1 Title of the invited lecture (IL)
Chairman: W. Möller

9:30 IL-1 D.C. Schram Plasma nature and plasma processing

10:30 – 11:00 COFFEE BREAK

11:00 – 13:00 PLENARY SESSION 2 Title of the invited lecture (IL)
Chairman: B. Rauschenbach

11:00 IL-2 T. Czerwiec

12:00 IL-3 Tsv. Popov

Plasma and ion assisted diffusion treatments:
nitriding, carburizing and nitrocarburizing
Plasma potential and electron energy
distribution function measured by Langmuir
probe in magnetized plasma

13:00 – 16:00 LUNCH AND BREAK

16:00 – 19:00 POSTER SESSION A

Electron, ion beam and plasma modification
of materials

20:00 WELCOME PARTY

TUESDAY, 29 SEPTEMBER

8:30 – 10:30 PLENARY SESSION 3 Title of the invited lecture (IL)
Chairman: D.C. Schram

8:30 IL-4 M.C.M. van de Sanden

Thin film and plasma technology for
photovoltaics: from fundamentals to
industrial application

9:30 IL-5 B. Rauschenbach

Self-organized nanostructuring on semiconductor
surfaces by low-energy ion bombardment

10:30 – 11:00 COFFEE BREAK

11:00 – 13:00 PLENARY SESSION 4 Title of the invited lecture (IL)
Chairman: U. Helmersson

11:00 IL-6 S. Facsko

Ion-induced surface patterns as templates for
thin film growth

12:00 IL-7 H. Lebius

Surface patterns by high-energy ions

13:00 – 16:00 LUNCH AND BREAK

16:00 – 19:00 POSTER SESSION B

Thin films and coatings:
deposition, analysis, properties

WEDNESDAY, 30 SEPTEMBER

8:30 – 10:30	PLENARY SESSION 5 <i>Chairman: I. Petrov</i>	Title of the invited lecture (IL)
8:30	IL-8 U. Helmersson	Ionized-PVD with HiPIMS – the future of sputter deposition?
9:30	IL-9 A. Ehasarian	Progress in HIPIMS technology
10:30 – 11:00	COFFEE BREAK	
11:00 – 13:00	PLENARY SESSION 6 <i>Chairman: P. Hovsepien</i>	Title of the invited lecture (IL)
11:00	IL-10 D. Dimova-Malinovska	Structural and optical properties of poly-Si thin films obtained by the method of metal induced crystallization
12:00	IL-11 I. Petrov	Advances in electron microscopy
13:00 – 16:00	LUNCH AND BREAK	
16:00 – 19:00	POSTER SESSION C	New materials, devices, and processes

THURSDAY, 1 OCTOBER

8:30 – 10:30	PLENARY SESSION 7 <i>Chairman: I. Katardjiev</i>	Title of the invited lecture (IL)
8:30	IL-12 P. Hovsepien	New generation nanostructured coatings to perform in severe high temperature environment
9:30	IL-13 R. Yakimova	Epitaxial graphene on SiC substrates
10:30 – 11:00	COFFEE BREAK	
11:00 – 13:00	Student's presentations <i>Chairman: N. Guerassimov</i>	Title of the contributed paper, selected for oral presentation (OP)
11:00	OP-1 Ts. Tsankov	Negative ion density measurements in an inductively driven hydrogen discharge
11:20	OP-2 K. Temelkov	Theoretical and experimental study on gas and electron temperature for gas discharges in Ne and He mixtures with hydrogen, copper and bromine
11:40	OP-3 T. Skeren	Development of the Ni(001) surface morphology upon low energy Ar⁺ ion bombardment
12:00	OP-4 D. Sangiovanni	A formula for increased strength in TiN-based thin films
12:20	OP-5 R. Vasiliasukas	Sublimation epitaxy of cubic silicon carbide in vacuum conditions
12:40	OP-6 B. Blagoev	Magnetron sputtering of polycrystalline LSMO/YBCO sandwiches on sapphire substrates
13:00	LUNCH	
14:00	EXCURSION	
20:00	OFFICIAL DINNER	

FRIDAY, 2 OCTOBER

8:30 – 10:30	PLENARY SESSION 8 <i>Chairman: R. Yakimova</i>	Title of the invited lecture (IL)
8:30	IL-14 M. Vinnichenko	Properties of transparent conductive oxides deposited by magnetron sputtering
9:30	IL-15 N. Nedjalkov	Gold nanoparticles as nanoheaters and nanolenses in the processing of different substrate surfaces
10:30 – 11:00	COFFEE BREAK	
11:00 – 13:00	PLENARY SESSION 9 <i>Chairman: H. Lebius</i>	Title of the invited lecture (IL)
11:00	IL-16 I. Katardjiev	Thin film electroacoustics - current status and trends
12:00	IL-17 G. Dinescu	Surface modification and film deposition with expanding RF plasmas at atmospheric and low pressure
13:00	CLOSING	

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POSTERS

Each poster will be allocated space 120 cm high x 90 cm wide. Please observe the following guidelines for poster preparation: The title followed by the authors' names and affiliations should be written across the top of the poster in large lettering; The name of the presenting author should be underlined; The authors' affiliation should be followed by a summary of the paper; The text and the figures should be easily read from a distance of 1.5 m. Additional facilities like tacks, adhesive, markers and erasers will be provided by the Organizing Committee.

PROCEEDINGS

The full papers of the invited lectures and accepted poster contributions will be published in *Journal of Physics: Conference Series* (<http://jpcs.iop.org>) - an open-access journal dedicated to fast and efficient publication of international conferences. For publication in Proceedings VEIT 2009 will be considered only papers submitted to the Organizing Committee at the latest on the first working day of the School (28 September 2009) and presented for discussion at one of the School's sessions. **The length of the papers should not exceed 8 journal pages for invited lectures and 4 journal papers for contributed papers.** The papers submitted will be thoroughly refereed.

If you intend to submit your paper in full text for publication in Proceedings VEIT 2009, do the following:

1. Prepare the manuscript of the paper following strictly instructions in the files named "JPCSExampleWordDocument.doc" and "JPCSA4Template.dot"; available in the website of the journal (see above).
2. Prepare one hard copy of the manuscript and two CDs;
3. Prepare Copyright form, file named "JPCSCopyrightForm.pdf" available in the website of the journal (see above): print the form, fill it in and sign as corresponding author, asks the authorized person to sign on behalf of your institution.
4. Submit materials listed in pp 2 and 3 to the Organizing Committee by regular mail services, or on registration in the conference office.

Full papers manuscripts submission started 1 July 2009.

Full papers manuscripts submission deadline: 28 September 2009.

REGISTRATION AND ACCOMMODATION

The activities of the 16th VEIT will take place in the famous Black Sea resort Sunny Beach, situated about 32 km north of the port city of Burgas. Burgas is a marvellous town, easily reached by direct flights from many European cities. Railway and long-distance coach services from Sofia are also available.

The participants will be accommodated in hotel Esperanto and near-by hotels (***) comfortable tourist class hotels) at low rates, starting from € 15 per day in a double room. Meals will be available at approximately € 12 per day. An excellent range of other (better) hotels, restaurants, taverns, etc is also available in the resort.

The Organizing Committee will take care of participants' accommodation booking. You are kindly requested to send your offers by e-mail (veit@dir.bg, veit@ie.bas.bg) well in advance.

Registration fees	before 15 July 2009	after 15 July 2009
Regular registration fee	EUR 200	EUR 250
Students' fee	EUR 100	EUR 150

The registration fees include welcome reception on Monday 28 September, coffee breaks, and the Book of abstracts.

Way of payment: by bank transfer.

The registration fee should be transferred (*with full allowance for bank charges*) to:

Name of the Bank: Bulbank, Kalojan Branch;

Address: 3 Kalojan street, 1000 Sofia, Bulgaria;

IBAN: BG13UNCR76303400001326; *BIC code:* UNCRBGSF;

re VEIT 2009, Institute of Electronics.

All participants are kindly requested to bring to the School a copy of the bank transfer documentation.

Cancellation and refund policy

Registration fees:

- cancellations received by 1 August 2009, full refund less a handling charge of EUR 20;
- cancellations received between 1 August and 1 September 2009, 50% of the registration fees will be refunded;

- cancellations received after 1 September 2009, no refund will be made.

There is no refund for no-shows.

There is no fee if a cancelling participant's registration is transferred to a colleague from the same organization.

All cancellations and/or changes in registration must be made in writing.

PASSPORTS AND VISAS

All foreign visitors entering Bulgaria must carry a valid passport. Please, check with the Bulgarian Consular Office in your country and, if necessary, apply for a Bulgarian entry visa well in advance.

CLIMATE

Late September is usually warm on the Bulgarian Black Sea. The daytime temperature reaches 20-25°C, but at night it may fall as low as 5°C. The seawater temperature is usually close to 20°C. To feel comfortable, visitors are advised to bring both swimming-suits and sweaters.

IMPORTANT DATES TO REMEMBER

27.09.2009 Arrival and registration.

28.09.2009 School opening;

Submission of manuscripts to the Organizing Committee.

CORRESPONDENCE

Please address all inquiries to:

Prof. Dr. N. Guerassimov
VEIT 2009 Organizing Committee
Institute of Electronics
Bulgarian Academy of Sciences
72 Tzarigradsko Chaussee
1784 Sofia
Bulgaria

Tel: +359 2 974 50 13

+359 2 979 59 23

Fax: +359 2 975 32 01

e-mail: veit@dir.bg, veit@ie.bas.bg

website: <http://www.veit.dir.bg>

<http://www.veit.8k.com>