



**PROGRAM** of the  
**Eleventh International  
Conference on Electron Beam Technologies (EBT 2014),**  
8-12 June 2014,  
Varna, Complex Grand Hotel Varna-St. St. Konstantin and Elena, Bulgaria

*The Conference is organized by*  
**THE INSTITUTE OF ELECTRONICS AT THE BULGARIAN ACADEMY OF  
SCIENCES**

*In cooperation with*

- THE TECHNOLOGICAL CENTRE OF ELECTRON BEAM AND PLASMA TECHNOLOGIES, Sofia
- UNION OF ELECTRONICS, ELECTRICAL ENGINEERING AND TELECOMMUNICATIONS – Bulgaria

*The conference is devoted to  
145 Jubilee of Bulgarian Academy of Sciences*



**INTERNATIONAL ORGANIZING COMMITTEE**

- |  |                           |
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| A. Kaydalov – Ukraine                  | K. Vutova – Bulgaria      |
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|  | V. Vasileva – Bulgaria    |

**LOCAL ORGANIZING COMMITTEE**

- K. Vutova – co-chairman; E. Koleva – co-chairman  
V. Vasileva, V. Donchev

**8 June 2014**  
**Sunday**

**Arrival and registration day**

18.00	Registration	EBT 2014 Conference office - Lobby of the Grand Hotel Varna
19.00	Welcome cocktail party for participants and the all accompanying persons	Lobby-bar of the Grand Hotel Varna

**9 June 2014**  
**Monday**

**Monday morning sessions**

10.00-10.10	<b>Opening Ceremony</b>
<b>SS1</b>	<b>Chairman: Prof. Georgi Mladenov</b>
10.10-10.40	<b>Invited talk</b> <b><u>Electro-optical devices by electron beam technique: polymer dispersed liquid crystal materials</u></b> <b><u>Ulrich Maschke<sup>1</sup>, Mohamed Bouchakoura<sup>2</sup>, Yazid Derouichea<sup>2</sup>, and Zohra Boubberka<sup>1,3</sup></u></b> 1) Unité Matériaux et Transformations (UMET), Université Lille 1 - Sciences et Technologies, France 2) Faculty of sciences and technology, University of Ziane Achour, Djelfa, Algeria 3) Laboratoire Physico-Chimie des Matériaux - Catalyse et Environnement, Université des Sciences et de la Technologie d'Oran «USTO», Oran, Algeria

10.40-10.50 Coffee break

<b>SS2</b>	<b>Chairman: Dr. Goesta Mattaush</b>
10.50-11.10	<b><u>High angle, high integrity beam deflection</u></b> <b><u>Colin Ribton</u></b> <i>Electron Beam Processes, TWI Ltd., Cambridge, UK</i>
11.10-11.30	<b>Company Presentation</b> <b><u>Von Ardenne GmbH, Dresden, Germany</u></b> <b><u>M. Neumann</u></b>
11.30-12.00	<b>Invited talk</b> <b><u>Numerical Modeling of Parameters of the Plasma, Generated during Electron Beam Welding</u></b> <b><u>D. N. Trushnikov, G. M. Mladenov</u></b> 1) Perm National Research Polytechnic University, Perm, Russian Federation; 2) Institute of electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria
12.00-12.20	<b>Company Presentation</b> <b><u>Kurt J. Lesker Co. Ltd.</u></b> <b><u>P. Szanto</u></b>

12.00-14.00 Lunch (in the hotel restaurants)

**Monday afternoon sessions**

<b>SS3</b>	<b>Chairman: Assoc. Prof. Dmitrii Trushnikov</b>
14.00-14.20	<b><u>Accurate diagnostic of electron beam characteristics</u></b> <b><u>U. Reisgen, S. Olschok, S. Ufer,</u></b> <i>RWTH Aachen University, Welding and Joining Institute, Aachen, Germany</i>
14.20-14.40	<b><u>Electron beam characterization at changes of EBW process parameters</u></b> <b><u>E. Koleva, G. Mladenov, M. Kardjiev, D. Todorov</u></b> <i>Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria</i> <i>University of Chemical Technology and Metallurgy - Sofia, Bulgaria</i> <i>TC EPTT Ltd. - Sofia, Bulgaria</i>

14.40-15.00	<p><b>Seam tracking during electron beam welding in air</b>  <b>Vladimir Ya. Braverman, Vladimir S. Belozertsev, Valeriy V. Bogdanov, Nikolay V. Uspenskiy, Alexander E. Beniyash*</b>  M.F. Reshetnev Siberian State Aerospace University, Krasnoyarsk, Russia  *Institute of Materials Science of Leibniz University (Hanover)</p>
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15.00-15.10 Coffee break

<b>SS4</b>	<b>Chairman: Prof. Victor Dragunov</b>
15.10-15.30	<p><b>Electron beam welding of elements supporting structure of the front wall module blanket ITER</b>  <b>Sliva A.P., Dragunov V.K., Goncharov A.L., Terentyev E.V., Gribkov M.S.</b>  National Research University "Moscow Power Engineering Institute", Moscow, Russian Federation</p>
15.30-15.50	<p><b>EBW of austenitic stainless steel and ODS ferritic steel</b>  <b>Petr Havlík, Pavel Šohaj, Jan Kouřil, Rudolf Foret, Ivo Dlouhý</b>  Brno University of Technology, Faculty of Mechanical Engineering, Institute of Materials Sciences and Engineering, Brno, Czech Republic</p>
15.50-16.10	<p><b>Model-Based Quality Optimization of EBW of steel</b>  <b>E. Koleva, D. Trushnikov, V. Belenkiy, G. Mladenov, S. Angelov, D. Todorov</b>  Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria  Perm National Research Polytechnic University, Perm, Russian Federation  University of Chemical Technology and Metallurgy - Sofia, Bulgaria  TC EPTT Ltd. - Sofia, Bulgaria</p>

16.10-16.20 Coffee break

<b>SS5</b>	<b>Chairman: Assoc Prof. Elena Koleva</b>
16.20-16.40	<p><b>Electron beam welding superconducting Niobium cavities</b>  <b>Igar L. Pobal, Siarhei Yurevich</b>  Physical Technical Institute of the National Academy of Sciences of Belarus, Belarus</p>
16.40-17.00	<p><b>Prediction of the partial penetration depth on 15-5PH materials during electron beam welding</b>  <b>Kamal Frikach, Jamie White, Jeff Houtz</b>  Technetics Group Enpro Industries Companies, Daytona Beach, Florida, USA</p>

**Monday Poster session PS1**  
**17.10-18.30**

1	<p><b>Morphological, electrical, optical and electro-optical properties of polymer/liquid crystal systems</b>  <b>Y. Derouiche<sup>1,2,3</sup>, M. Bouchakour<sup>1</sup>, K. Koynov<sup>2</sup>, F. Dubois<sup>4</sup>, Z. Boubberka<sup>1,5</sup> and U. Maschke<sup>1</sup></b>  1) Unité Matériaux et Transformations (UMET), Université Lille 1 - Sciences et Technologies, France  2) Max-Planck Institute of Polymer Research, Mainz, Germany  3) Laboratoire des dispositifs des micro-ondes et matériaux pour les énergies renouvelables, Faculté des Sciences et Technologies, Université Ziane Achour, Djelfa, Algeria  4) Unité de Dynamique et Structure des Matériaux Moléculaires (UDSMM), Université du Littoral – Côte d'Opale, Calais, France  5) Laboratoire Physico-Chimie des Matériaux - Catalyse et Environnement, Université des Sciences et de la Technologie d'Oran «USTO», Oran, Algeria</p>
2	<p><b>Radiation-induced degradation of two organic pollutants from aqueous solutions of TiO<sub>2</sub> nanocomposites</b>  <b>Zohra Boubberka<sup>1,2</sup>, Abdelouahab Nadim<sup>2</sup>, A. Khalil Benabbou<sup>1</sup> and Ulrich Maschke<sup>2</sup></b>  1) Laboratoire Physico-Chimie des Matériaux - Catalyse et Environnement, Université des Sciences et de la Technologie d'Oran «USTO», Oran, Algeria  2) Unité Matériaux et Transformations (UMET), Université Lille 1 - Sciences et Technologies, France</p>
3	<p><b>Electron beam radiation as powerful tool to degrade some toxic organobrominated derivatives</b>  <b>Abdelouahab Nadim<sup>1,2</sup>, Yassine Agguine<sup>1,2</sup>, Said Eddarir<sup>2</sup>, Zohra Boubberka<sup>1,3</sup> and Ulrich Maschke<sup>1</sup></b>  1) Laboratoire Physico-Chimie des Matériaux - Catalyse et Environnement, Université des Sciences et de la Technologie d'Oran «USTO», Oran, Algeria  2) Laboratoire de Chimie Bioorganique et Macromoléculaire (LCBM), Faculté des Sciences et Techniques, Université Cadi Ayyad, Guéliz, Marrakech, Morocco  3) Unité Matériaux et Transformations (UMET), Université Lille 1 - Sciences et Technologies, France</p>

4	<p><b><u>Ion current collected from generated plasma during EBW</u></b>  <b>D.Trushnikov<sup>1</sup>, G.Mladenov<sup>2,3</sup>, V.Ya.Belenkiy<sup>4</sup>, E.Koleva<sup>2,3</sup>,</b>  1)The department for Applied Physics, Perm National Research Polytechnic University, Perm, Russian Federation  2) Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria  3) Technology Centre of Electron Beam and Plasma Technologies and Techniques, Sofia, Bulgaria  4) The department for Welding Production and Technology of Constructional Materials, Perm National Research Polytechnic University, Perm, Russian Federation</p>
5	<p><b><u>Control of electron beam welding of plates, using beam current of back plate side</u></b>  <b>E.Koleva<sup>1,2</sup>,D.Trushnikov<sup>3</sup>, V.Ya.Belenkiy<sup>4</sup>, G.Mladenov<sup>1,2</sup>,</b>  1) Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria  2) Technology Centre of Electron Beam and Plasma Technologies and Techniques, Sofia, Bulgaria  3)The department for Applied Physics, Perm National Research Polytechnic University, Perm, Russian Federation  4) The department for Welding Production and Technology of Constructional Materials, Perm National Research Polytechnic University, Perm, Russian Federation</p>
6	<p><b><u>Simulation evaporation processes in electron beam welding</u></b>  <b>D.N. Trushnikov, E.S. Salomatova, A.I. Tsaplin, V.Ya. Belenkiy</b>  Perm National Research Polytechnic University, Perm, Russian Federation</p>
7	<p><b><u>Compensation of the effect of magnetic fields on the electron beam position in the process of electron beam welding</u></b>  <b>Valery D. Laptanok, Alexandra A. Druzhinina, Alexander V. Murygin, Yury N. Seregin</b>  Siberian State Aerospace University named after academician M. F. Reshetnev, Krasnoyarsk, Russian Federation</p>
8	<p><b><u>Mechanism of onset of keyhole depth fluctuations at beam welding process</u></b>  <b>Vasilyev A.A., Erofeev V. A., Sudnik V. A.</b>  Tula State University, Russia</p>
9	<p><b><u>Modern problems and development methods of an electron beam welding systems</u></b>  <b>Alexey V. Shcherbakov, Alexey L. Goncharov, Alexey S. Kozhechenko, Alexey K. Gordenko, Andrei P. Sliva, Vladimir N. Balashov, Victor K. Dragunov, Viktor P. Rubtsov</b>  Moscow power engineering institute, Moscow, Russian Federation</p>
10	<p><b><u>Influence of electron beam's oscillations on weld's structure formation of dissimilar materials on an example steel with bronze</u></b>  <b>Tatyana V. Olshanskaya, Gleb L. Permyakov, Vladimir Y. Belenkiy, Dmitriy N. Trushnikov</b>  Perm National Research Polytechnic University, Perm, Russian Federation</p>
11	<p><b><u>Electron beam additive manufacturing</u></b>  <b>Matthias Wahl</b>  Evobeam GmbH, Germany</p>
12	<p><b><u>Structure and properties management of cast <math>\alpha</math>-Titanium alloys, produced by electron beam skull melting with electromagnetic stirring</u></b>  <b>Mikhail M. Voron<sup>1</sup>, Alexander N. Doniy<sup>2</sup></b>  1) Physico-technological institute of metals and alloys National academy of science of Ukraine  2) National technical university of Ukraine "Kiev polytechnic institute", Physical engineering faculty, Department of metal science, Ukraine</p>
13	<p><b><u>The electron-beam treatment of water polluted by humic acids and lignin</u></b>  <b>P. K. Metreveli, A. K. Metreveli, A. V. Ponomarev,</b>  A.N.Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences</p>
14	<p><b><u>Surface alloying of titanium alloys with refractory elements by electron-beam processing</u></b>  <b>I.A. Bataev<sup>1</sup>, M.G. Golkovskiy<sup>2</sup>, N.K. Kuksanov<sup>2</sup>, A.A. Ruktuev<sup>1</sup> I.A. Polyakov<sup>1</sup> and A.A. Bataev<sup>1</sup>, V.V. Samoilenko<sup>1</sup>,</b>  1) Novosibirsk State Technical University, Novosibirsk, Russia  2) Budker Institute of Nuclear Physics SB RAS, 11, Akademika Lavrentieva prospect, Novosibirsk, 630090 Russia</p>
15	<p><b><u>Experience of 30 Years Operation of EB treatment installation at PODOLSKKABEL plant</u></b>  <b>N.K. Kuksanov<sup>1</sup>, M.N. Stepanov<sup>2</sup>, A.I. Rojkh<sup>2</sup></b>  <sup>1)</sup> Budker Institute of Nuclear Physics, Novosibirsk, Russia  <sup>2)</sup> "Podolskkabel" JSC, Moskow region, Russia</p>
16	<p><b><u>The exploitation of concentrated energy flows for welding and protective coating production</u></b>  <b>M.V. Radchenko, Yu.O. Shevtsov, T.B. Radchenko, D.A. Nagorniy</b>  Department "Small business in the welding industry", FGBOU VPO Altai State Technical University, Russia</p>

17	<p><b><u>Micro-arc oxidation of aluminum alloy</u></b>  <b><i>E. Krivosova, A. Gorchakov, I. Ponomarev</i></b>  <i>Perm National Research Polytechnic University, Russia</i></p>
18	<p><b><u>Optical and structural investigation of WO<sub>x</sub> films, deposited by electron beam evaporation process</u></b>  <b><i>K. Vutova, V. Vassileva, A. Stoimenov, E. Koleva, T. Ivanova, G. Bodurov, K. Gesheva, G. Mladenov</i></b>  <i>Institute of Electronics, Bulgarian Academy of Sciences</i>  <i>Central Laboratory of Solar Energy and New Energy Sources, Bulgarian Academy of Sciences</i></p>
19	<p><b>Company Presentation</b>  <b><i>TWI Ltd., UK – Materials joining and engineering technologies</i></b>  <b><i>J. Sanderson</i></b></p>

**19.30**      **Dinner in a restaurant of the hotel**

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10 June 2014  
Tuesday

**Tuesday morning sessions**

<b>SS6</b>	<b>Chairman: Prof. Vladimir Engelko</b>
9.30-9.50	<u>Tendency of development of DC type ELV accelerators for industrial application and research experiments</u> <b>N. Kuksanov, Yu. Golubenko, P. Nemytov, R. Salimov, S. Fadeev, A. Korchagin, Kogut, E. V. Domarov, A. V. A. Lavruchin, V. Cherepkov, V. Semenov</b> Budker Institute of Nuclear Physics, Novosibirsk, Russian Federation
9.50-10.10	<u>Electron Beam Technology for Environmental Conservation -</u> <b>Bumsoo Han, Jinkyu Kim, Yuri Kim, SeungTae Jung,</b> EB TECH Co., Ltd. 550 Yongsan-dong Yuseong-gu, Daejeon 305-500, Rep. of Korea
10.10-10.30	<u>Decomposition of a vegetative biomass by electron-beam irradiation and heating</u> <b>A. V. Ponomarev, P. K. Metreveli, A. K. Metreveli, A. V. Bludenko, V.N. Chulkov</b> A.N.Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences
10.30-10.50	<u>Surface layer modification by large-area pulsed electron beams</u> <b>Renate Fetzer, Alfons Weisenburger, Georg Mueller</b> Karlsruhe Institute of Technology (KIT), Germany

10.50-11.00 Coffee break

<b>SS7</b>	<b>Chairman: Dr. Colin Ribton</b>
11.00-11.20	<u>Surface engineering improvements and opportunities with electron beams</u> <b>T. M. Pinto<sup>1</sup>, A. Buxton<sup>1</sup>, K. Neailey<sup>2</sup>, S. Barnes<sup>2</sup>,</b> <sup>1</sup> ) TWI Ltd, Cambridge, UK <sup>2</sup> ) WMG, International Manufacturing Centre, University of Warwick, Coventry, UK
11.20-11.40	<u>Electron beam heat treatment of aircraft engine combustion chamber casings, made of precipitation-hardened heat-resistant Chrome-Nickel alloys</u> <b>P.D.Zhemanyuk, I.A.Petrik, O.V. Gnatenko, Y.A. Marchenko</b> Motor Sich JSC, Ukraine
11.40-12.00	<u>Principles of choice of electron beam coating in up-to-date production of aircraft engine parts</u> <b>P. D. Zhemanyuk, I. A. Petrik, O. V. Gnatenko, V. S. Yefanov,</b> Motor Sich JSC, Zaporozhye, Ukraine
12.00-12.20	<u>TiAlCN/VCN Nanoscale Multilayer PVD Coatings Deposited by the Combined High Power Impulse Magnetron Sputtering / Unbalanced Magnetron Sputtering, (HIPIMS/UBM) Technology Dedicated to Machining of Al and Ti Alloys</u> <b>P.Eh. Hovsepian<sup>1</sup>, A.P. Ehasarian<sup>1</sup>, I. Petrov<sup>2</sup>,</b> <sup>1</sup> )Sheffield Hallam University, United Kingdom, <sup>2</sup> )Frederick Seitz Materials Research Laboratory and University of Illinois, Urbana,USA

12.20-14.00 Lunch (in the hotel restaurant)

**Tuesday afternoon sessions**

<b>SS8</b>	<b>Chairman: Prof. Papken Eh. Hovsepian</b>
14.00-14.20	<u>Technological electron beams parameters evaluation based on the optical radiation in a vacuum</u> <b>Alexey L. Goncharov, Victor K. Dragunov, Andrey P. Sliva, Maksim A. Portnov, Egor V. Terentyev, Alexey V. Scherbakov</b> National Research University "Moscow Power Engineering Institute", Moscow, Russian Federation
14.20-14.40	<u>Source of radial converging electron beam for modification of long-length cylindrical targets</u> <b>V. Engelko</b> Efremov Inst. of Electrophysical Apparatus. St.Petersburg, Metallostroy, Russia
14.40-15.00	<u>Non-vacuum electron beam cutting is the new high performance process</u> <b>T. Hassel<sup>1</sup>, N. Murray<sup>1</sup>, A. Beniyash<sup>1</sup>, N. Rempe<sup>2</sup>, S. Kornilov<sup>2</sup></b> 1) Institute of Materials Science, Leibniz University of Hannover, Germany 2) Elion Ltd., Tomsk, Russia

15.00-15.10 Coffee break

<b>SS9</b>	<b>Chairman: Prof. Katia Vutova</b>
15.10-15.40	<b>Company presentation</b> <b><u>Variable shaped beam lithography for micro- and nanotechnology - Vistec Electron Beam GmbH, Jena Germany</u></b> <b><u>Wolfgang Dorl, Hartmut Schacke, Ines Stolberg</u></b>
15.40-16.00	<b><u>Maskless lithography cluster for low and medium volume manufacturing</u></b> <b><u>Viacheslav V. Kazmiruk, Ilya G. Kurganov, Tatiana N. Savitskaja</u></b> <i>Institute of Microelectronics Technology And High Purity Materials, RAS Chernogolovka, Moscow district, Russia</i>

16.00-16.10 Coffee break

<b>SS10</b>	<b>Chairman: Dr. Matthias Neumann</b>
16.10-16.30	<b><u>Economic and conservative numerical scheme for non-stationary heat model for EBMR</u></b> <b><u>V. Donchev, K. Vutova, T. Chernogorova</u></b> <i>Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria</i> <i>Sofia University, Faculty of Mathematics and Informatics, Sofia, Bulgaria</i>
16.30-16.50	<b><u>Effects of beam patterns on removal of phosphorous in silicon by electron beam melting</u></b> <b><u>Shuang Shi, Yi Tan, Dachuan Jiang, Wei Dong, Shutao Wen</u></b> <i>School of Materials Science and Engineering, Dalian University of Technology, Dalian, China</i> <i>Key Laboratory for Solar Energy Photovoltaic System of Liaoning Province, Dalian, China</i>
16.50-17.10	<b><u>Modern electron beam technologies and equipment for melting and physical vapor deposition of different materials</u></b> <b><u>M. I. Grechanyuk, A. G. Melnyk, I. M. Grechanyuk, V. G. Melnyk, D. V. Kovalchuk</u></b> <i>SPE Eltechmash, Vinnytsa, Ukraine; JSC NVO Chernova Hvilya, Kiev, Ukraine</i> <i>National Technical University of Ukraine „Kiev Polytechnic Institute</i>

**Tuesday poster session PS2**  
**17.20-18.50**

1	<b><u>Pulse width dependence of the self-ignited plasma using a plasma-based ion implantation</u></b> <b><u>K. Shimono, N. Fujimura, H. Noguchi, H. Toyota, Y. Shiray, T. Tanaka, K. Vutova</u></b> <i>Hiroshima Institute of Technology, Hiroshima, Japan</i> <i>Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria</i>
2	<b><u>Electron beam melting's operator biology protection from X-rays utilizing depleted Uranium</u></b> <b><u>Y. Metelkin</u></b> <i>OAO "VNIINM", Moscow, Russian Federation</i>
3	<b><u>Composite materials with a metal matrix condensed from vapor phase: Dispersion strengthened metals</u></b> <b><u>Nikolay Grechanyuk, Igor Grechanyuk, Olena Khomenko, Andrey Melnik, Vera Grechanyuk</u></b> <i>Frantsevich Institute for Problems of Materials Science of NASU, Ukraine</i>
4	<b><u>Composite materials with a metal matrix condensed from vapor phase: Microlayer materials</u></b> <b><u>Nikolay Grechanyuk, Igor Grechanyuk, Olena Khomenko, Andrey Melnik, Vera Grechanyuk</u></b> <i>Frantsevich Institute for Problems of Materials Science of NASU, Ukraine</i>
5	<b><u>Composite materials with a metal matrix condensed from vapor phase: Microporous materials</u></b> <b><u>Nikolay Grechanyuk, Igor Grechanyuk, Olena Khomenko, Andrey Melnik, Vera Grechanyuk</u></b> <i>Frantsevich Institute for Problems of Materials Science of NASU, Ukraine</i>
6	<b><u>Simulation of time of current increasing in impulse triode high voltage glow discharge electron guns</u></b> <b><u>Igor V. Melnyk</u></b> <i>National Technical University of Ukraine „Kiev Polytechnic Institute“, Faculty of Electronics, Electronic Devices Department</i>
7	<b><u>Electro-optical characteristics of the beams generated by the electron plasma sources</u></b> <b><u>V. Gruzdev, V. Zalesski</u></b> <i>Polotsk State University, Belarus</i>

8	<p><b><u>Electron beam welding machines with plasma cathode gun</u></b>  <b>Sergey Belyuk, Igor Osipov, Alexander Rau, Grigory Semenov</b>  Tomsk Electron Technologies (TETA Ltd), Tomsk, Russia</p>
9	<p><b><u>Study of electron beam resists: Negative tone HSQ and positive tone SML300</u></b>  <b>I. Kostic, A. Bencurova, A. Konecnikova, P. Nemeč, A. Ritomsky, E. Koleva, K. Vutova, G. Mladenov</b>  Slovak Academy of Sciences, Institute of Informatics, Bratislava, Slovakia  Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria</p>
10	<p><b><u>Electron beam micromachining of plastics</u></b>  <b>Libor Dupák</b>  Institute of Scientific Instruments of the ASCR, v. v. i.; Brno, Czech Republic</p>
11	<p><b><u>The microstructure of the surface layers by laser and laser-microplasma doping</u></b>  <b>V. D. Sheliagin, V. M. Spivac, A. V. Bematsky, M. S. Tirsu</b>  Institute of Electric Welding "Paton", Ukraine  National Technical University of Ukraine "Kiev Polytechnic Institute"  Acad. of Sciences - Moldova, Institute Energetiki, Kishinev, Moldova</p>
12	<p><b><u>Laser scalpel</u></b>  <b>Viktor M. Spivak<sup>1</sup>, Vladislav Y. Khaskin<sup>2</sup>, Mikhay S. Tirshu<sup>3</sup></b>  1) National Technical University of Ukraine "Kiev Polytechnic Institute".  2) Institute of Electric welding behalf of the Paton (Ukraine)  3) Energy Institute of the Academy of Sciences of Moldova</p>
13	<p><b><u>Preliminary estimation of incident ion energy by using simulation software (PEGASUS)</u></b>  <b>Hideaki Kozai<sup>1</sup>, Nobuyuki Fujimura<sup>1</sup>, Hiromitsu Noguchi<sup>1</sup>, Hiroshi Toyota<sup>1</sup>, Yoshito Shirai<sup>2</sup> and Takeshi Tanaka<sup>1</sup>, K.Vutova<sup>3</sup></b>  1) Hiroshima Institute of Technology, Hiroshima, Japan  2) KOANKEISO CO., Ehime, Japan  3) Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria</p>
14	<p><b><u>Comparison of plasma spectral characteristics using a plasma-based ion implantation</u></b>  <b>Hiromitsu Noguchi<sup>1</sup>, Nobuyuki Fujimura<sup>1</sup>, Kazuhiro Shimono<sup>1</sup>, Hiroshi Toyota<sup>1</sup>, Yoshito Shirai<sup>2</sup> and Takeshi Tanaka<sup>1</sup></b>  1) Hiroshima Institute of Technology, Hiroshima, Japan  2) KOANKEISO CO., Ehime, Japan</p>
15	<p><b><u>Spore-forming bacteria sterilization using Plasma-based ion implantation</u></b>  <b>Koji Kakugawa<sup>1,2</sup>, Taiki Mataka<sup>2</sup>, Hiromitsu Noguchi<sup>3</sup>, Kazuhiro Shimono<sup>3</sup>, Nobuyuki Fujimura<sup>3</sup>, Yoshinobu Tsuchiya<sup>1</sup>, Kazuhisa Ono<sup>1</sup> and Takeshi Tanaka<sup>3</sup></b>  1) Department of Food Science and Biotechnology, Faculty of Life Sciences, Hiroshima Institute of Technology, Hiroshima, Japan  2) Department of Applied Information Science, Faculty of Applied Information Science, Hiroshima Institute of Technology, Hiroshima, Japan  3) Major in Electrical and Electronic Engineering, Graduate School of Science and Technology, Hiroshima Institute of Technology, Hiroshima, Japan</p>
16	<p><b><u>Estimation of self-ignited plasma density by using plasma-based ion implantation</u></b>  <b>Nobuyuki Fujimura<sup>1</sup>, Kazuhiro Shimono<sup>1</sup>, Hiromitsu Noguchi<sup>1</sup>, Hiroshi Toyota<sup>1</sup>, Yoshito Shirai<sup>2</sup> and Takeshi Tanaka<sup>1</sup></b>  1) Hiroshima Institute of Technology, Hiroshima, Japan  2) KOANKEISO CO., Ehime, Japan</p>
17	<p><b><u>Electron beam melting and recycling of Nickel</u></b>  <b>V. Vassileva, K. Vutova, V. Donchev, A. Stoimenov, Dinesh Amalnerkar*, Nagegownivari Munirathnam**</b>  Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria  *Centre for Materials for Electronics Technology, Pune, India  **Centre for Materials for Electronics Technology, Hyderabad, India</p>
18	<p><b><u>Reconstruction of Irradiated Specimens</u></b>  <b>T. Vesely, Martin Herynk</b>  UJV Řež, a. s. Husinec - Řež, Czech Republic</p>
19	<p><b><u>Development and generalization of scientific and educational information book in field of nanoelectronics</u></b>  <b>Spivak V.M<sup>1</sup>, Koleva E.G<sup>2</sup>, Vlasiuk A.G<sup>1</sup>.</b>  1) National Technical University of Ukraine "Kiev Polytechnic Institute".  2) Institute of electronics, Bulgarian Academy of Sciences</p>



**11 June 2014**  
**Wednesday**

**Wednesday morning session**

<b>SS11</b>	<b>Chairman: Prof. Takeshi Tanaka</b>
9.30-9.50	<b>Gas discharge electron sources - proven and novel tools for thin-film technologies</b> <b>Goesta Mattausch, Burkhard Zimmermann, Fred Fietzke, Jens-Peter Heinss, Benjamin Graffel</b> <b>Falk Winckler, Frank-Holm Roegner, Christoph Metzner</b> <i>FEP - Fraunhofer Institute for Electron Beam and Plasma Technology, Dresden, Germany</i>
9.50-10.10	<b>Characterisation of electron beams generated by a plasma cathode gun</b> <b>N. Rempe<sup>1</sup>, S. Kornilov<sup>1</sup>, A. Beniyash<sup>2</sup>, N. Murray<sup>2</sup>, T. Hassel<sup>2</sup>, C. Ribton<sup>3</sup></b> 1) Elion Ltd.; 634045 Tomsk, Russia; 2) Institute of Materials Science, Leibniz University of Hannover; D30823 Garbsen, Germany; 3) TWI Ltd.; CB21 6AL Cambridge, UK
10.10-10.30	<b>A novel RF excited plasma cathode electron beam gun design</b> <b>Sofia del Pozo<sup>1</sup>, Colin N. Ribton<sup>2</sup>, David R. Smith<sup>1</sup></b> 1) Electronic and Computer Engineering, Brunel University, Middlesex, UK 2) TWI Ltd, Cambridge, UK
10.30-10.50	<b>Recent Progress in Development of Gas-Discharge Electron Beam Guns Providing Extension of Their Technological Capabilities</b> <b>V.G.Melnyk, I.V.Melnyk, B.A.Tugai, D.V.Kovalchuk</b> <i>National Technical University of Ukraine „Kiev Polytechnic Institute“, Faculty of Electronics, Electronic Devices Department;</i> <i>JSC NVO Chernova Hvilya, Kiev, Ukraine</i>
10.50-11.20	<b>Closing of the official part of the conference</b>
12.00-13.00	<b>Lunch</b>
13.00	<b>Excursion: 13,00 Meeting in front of the hotel</b>

**12 June 2014**  
**Thursday**

**Departure day**