



FORTEENTH INTERNATIONAL CONFERENCE ON ELECTRON BEAM TECHNOLOGIES

26 June – 1 July 2022, Varna, Bulgaria

The Conference is organized by:
**INSTITUTE OF ELECTRONICS –
BULGARIAN ACADEMY OF SCIENCES
THE TECHNOLOGICAL CENTER OF ELECTRON
BEAM AND PLASMA TECHNOLOGIES LTD., Sofia**

In cooperation with:

**UNION OF ELECTRONICS, ELECTRICAL
ENGINEERING AND TELECOMMUNICATIONS –
Bulgaria**



INVITATION

This triennial (now biennial) meeting brings together physicists, chemists, material and electronic engineers from universities, research institutions and industry who are involved in various studies and applications of electron beam equipment and technologies from different countries: Germany, Russian Federation, Ukraine, Japan, USA, UK, Czech Republic, Slovakia, France, China, Poland, India, etc.

The conference is one of a series, which started in 1985 in Varna by Corr. Member of BAS, Prof. DSc. Georgi Mladenov and has remained the venue for all subsequent meetings. Due to COVID-19 pandemic, which had a tremendous effect on all of us, the fourteenth EBT conference was rescheduled from 2020 to 2022. During the period from the First International Conference on EBT there have been great advances in the field. The success of the thirteen events of this series clearly demonstrates that the scientist and engineers, working in the academia and research and development laboratories of industry continue to make contributions to technology development of community life, based on knowledge. The organized event will show a great scope of activities and the big potential of developed technologies to increase efficiency of industrial fabrication, to create new products and to improve the life standards.

Electron beam technologies celebrate now 70 years from the first machines and industrial technologies based of application of intense electron beams in vacuum. In the Proceedings of Conferences on EBT in Varna, organized during the last almost 40 years is traced the history of ideas, the basic objectives in our field. Personal success of two-three generations researchers could be also seen. Together with the remarkable conventional topics as beam physics and generation, electron beam welding, electron beam melting and refining, electron beam evaporation and deposition of functional coatings and electron accelerator applications for modification of various materials, the flexibility of the conference topics according the subjects of interest of the participating organizations can be pointed by the presented new nanotechnology investigations, a group of sophisticated modern surface treatment methods, additive technologies, as well as the new topic - cyber-physical systems, intelligent industrial system control, data analytica, industrial IoT, cloud computing, digital tweens for electron beam and related technological processes.

All thirteen previous conferences of this series have provided an excellent forum for exchange of results and experience in the development of EB technologies and also were a place for forging human links and for developing learning and understanding between participants. They are also a place to find new partners, cooperation activities, to associate for international projects, work/educational programs and to establish new business contacts.

CONFERENCE PROGRAM AND TOPICS

As during all previous EBT Conferences, high energy beams will be a field of interest in this one, emphasizing on the electron beams. The Conference will address various aspects of theory and applications of electron beams and will present extensive information on the recent advance in research, development and implementation of electron beam technologies and related facilities. Diagnostic methods relevant to this field will also be discussed.

Topics covered during the EBT'22 conference will include:

- physics of intense electron beams;
- electron-optical systems and facilities for measurement and control of electron beams;
- electron beam welding;
- electron beam melting and refining;
- additive electron beam manufacturing, other additive technologies;
- selective electron beam and laser melting;
- high rate deposition of metallurgical coatings;
- electron beam surface modification;
- thermal processing and thin film deposition by electron beams;
- electron beam lithography;
- electron beam curing of polymers and composites;
- ion lithography, ion implantation, laser beam technologies, plasma arc technologies;
- modelling of physical processes during the interaction of charged particle beams with materials;
- applications of charged particle beams and lasers in nanotechnology and nano-electronics, in medicine and industry;
- electron beam equipment design and automation;
- cyber-physical systems, intelligent industrial system control, data analytics, IIoT, cloud computing, digital twins for electron beam and related technological processes;
- company presentation and exhibition.



INTERNATIONAL ORGANIZING COMMITTEE

- | | |
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| B. Baufeld – Germany | M. Zobac – Czech Republic |
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IMPORTANT DATES /Deadlines/

Registration	26.06.2022
Abstracts	15.04.2022
Notification of acceptance	20.04.2022
Papers - full text (after payment of conference fees)	01.06.2022
Payment of the conference fees	26.06.2022
Hotel reservation payment (or confirmation, if conference fees are payed)	20.05.2022

GENERAL INFORMATION ABOUT EBT'2022

The final manuscripts, must be received up to **1 June 2022**. The papers (limited to five printed pages – format A4) will be reviewed and published in:

- the Journal of Physics: Conference Series.(Scopus (SJR), Google Scholar, etc.);
- the International scientific journal “Electrotechnica and Electronica E+E” (indexed by EBSCO, ROAD, RSCI, Google Scholar, etc.).

The authors will be asked to choose optionally between the two journals. For JPCS journal papers will be published after additional two-stage reviewing process (by two expert reviewers and language reviewer, followed by JPCS journal acceptance review). All accepted papers will be published in one of the given scientific journals. All abstracts and papers will be distributed among the Conference participants at their arrival in Varna. If the authors choose the International scientific journal “Electrotechnica and Electronica E+E”, their papers will be published in the journal (after reviewing by two expert reviewers) and distributed among the Conference participants at their arrival in Varna. For instructions for the authors, please visit www.ebtconference.com.

The venue of the EBT'2022 is the in hotels Estreya Palace and Estreya Residence, Resort "Sts. Constantine and Elena", located 10 km north of Varna. The city of Varna is situated at the Black Sea coast. The International communications and means of transportation are good (especially in June when there are many direct charter flights connecting Varna with a number of leading International airports). The seaside Resort "St. Konstantin and Elena" is an excellent place, providing variety of comfortable hotels. The conference location is near the sea cost and a beautiful old park. The participants can do reservation of hotel rooms by the Organizing Committee up to **20 May 2022**.



ADDRESSES FOR INFORMATION AND CORRESPONDENCE

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