



It is a great pleasure to invite you to take part in the 22nd International Conference on Gas Discharges and Their Applications, which will be held in Novi Sad, Serbia, from Sunday, the 2nd to Friday, the 7th of September 2018. The International Conference on Gas Discharges and Their Applications has been held since 1960s in order to promote the growth and exchange of information in the fields of plasma science and gas discharge physics. The conference explores all kinds of gas discharges, ranging from low pressure to high pressure plasmas, from thermal to non-thermal plasmas, and their applications such as pulsed-power technology, light sources, environmental and medical applications.

We hope you will equally enjoy the scientific presentations and discussions together with the atmosphere of Novi Sad. We are looking forward to welcoming you in Novi Sad in September 2018.

Chair Prof. [Vesna Vukobratovic](#)

Co-Chair Dr. [Vesna Vukobratovic](#)

Co-Chair Dr. [Igor Stokich](#)

[www.gdconf.org](#)

Organizer

Conference is organized by the joint committees of the conference and supported by the Serbian Academy of Arts and Sciences and Institute of Physics University of Belgrade.

Conference style

The format of the conference series is well established. Submitted abstracts are refereed, as are the four-page papers which are all orally presented in the conference sessions. There will be plenary sessions with invited speakers, while the contributions will be presented in two parallel sessions. The registration fee covers the conference proceedings for each participant, five lunches, the morning and afternoon refreshments and the social events including the banquet. Reduced fees and rooms at low cost will be available for students.

Scientific Topics

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| A. Arcs | H. Light Sources |
| B. Corona, Barrier and Surface Discharges | J. Lightning |
| C. Glows and Breakdown | K. Test Techniques and Diagnostics |
| D. High Pressure Plasmas and Applications | L. Fundamental Processes and Cross-Sections |
| E. Low Pressure Plasmas and Applications | M. Emerging and Topical Applications of Gas Discharges |
| F. Environmental and Medical Applications | N. Measurement Techniques |
| G. Pulsed-Power Applications | |



Scientific Program

Program of the Conference will consist of Invited Lectures (40+5 min) and Oral Presentations (10+2 min). During the conference three workshops will be organized consisting of invited progress reports and discussion sessions. The GD 2018 conference book of proceedings will be given to all participants as a printed version in black & white (if available for late registration) and as a pdf file in color. Each attendee may present up to 2 contributions.

Invited Lectures

Prof. Jean-Denis Drouot, Université de Valenciennes et du Hainaut-Cambrésien, France
Numerical and experimental study of arc fault in aeronautical conditions

Prof. Vasco Guerra, IST Universidade de Lisboa, Portugal
Nonequilibrium kinetics in CO₂ plasmas

Prof. Masaru Hori, Department of Electronic and Electric Engineering Nagoya University, Japan
Low Temperature Plasma Surface Interactions for Their Future Basic Researches and Applications

Prof. Marc Kushner, MIPSE University of Michigan, USA
Title to be announced

Prof. Yanyan Peng, Institute of Plasma Physics Chinese Academy of Sciences, China
Basic data calculation and fundamental experiment for SF₆-alternative gases

Prof. John McBride, Faculty of Engineering and the Environment University of Southampton, UK
The verification process for computational models of arc motion under short circuit conditions in low voltage circuit breakers

Prof. George Naidis, Joint Institute for High Temperatures, Russian Academy of Sciences, Russian Federation
Simulation of subnanosecond discharges in high-pressure gases

Prof. Stephan Reuter, INP Greifswald, Germany
Laser Spectroscopy on Plasma Liquid Systems

Dr. Martin Seeger, ABB Schweiz AG, Switzerland
Electric breakdown in high voltage gas circuit breakers

Prof. Mohammed Yousfi, LAPLACE Université Paul Sabatier of Toulouse, France
Low temperature plasmas for biological applications: Fundamentals and technology



Workshops

Advanced Plasma Technologies in medicine, biotechnology and agriculture

WS will be held on Tuesday, the 4th of September during the GD2018 conference in Novi Sad, Serbia. The topics covered by the WS are in the rapidly growing fields of plasma medicine and plasma agriculture including non-thermal plasma sources, their diagnostics and applications. The effects of non-thermal plasma in biomedical applications are demonstrated through decontamination and sterilization, interaction with living cells through proliferation and differentiation, biomaterial processing, etc. Likewise, plasmas have more and more applications in field of plasma agriculture and food technology. Not-thermal plasmas are shown to increase germination speed and percentage, give better plant yield, decontaminate food and packaging, etc. Regardless of these achievements there are still a lot of open questions about optimization of not-thermal plasma sources, mechanisms involved in all abovementioned processes and the roles of each plasma constituents.

Chair Dr. Uwe Schep

Swarm Physics and Gaseous Dielectrics: Future Challenges in Theory and Practice

The workshop (WS) will be held on Monday, the 3rd of September during the GD2018 conference in Novi Sad, Serbia. It will bring together leading specialists from universities, research laboratories, utilities and funding agencies from throughout the world, interested in swarm based studies for the development and utilization of gaseous dielectrics in the high-voltage technology. The focus of the WS will be on experimental and theoretical methods of studying charged particle interactions with molecules, including scattering and transport, in both gaseous and condensed phases. Particular topics include modeling of charged particle kinetics in low-temperature plasmas focusing on techniques associated with the Boltzmann equation, Monte Carlo method and the fluid equation based models. The workshop will consist of invited progress reports followed by a discussion session on topical issues and future of the field.

Chair Dr. Uwe Schep

Modeling of plasma-materials interactions

Chair Dr. Yann Cressault



Important dates

~~1st November 2017 Call for abstracts~~

~~26th January 2018 Abstract submission deadline~~

~~1st February, 2018 Abstract notifications of acceptance and paper invitations~~

30th March 2018 Paper submission deadline

Until 31st May 2018 Notification of paper acceptance

30th June 2018 Early Registration Deadline

Invitation letters

The secretariat will provide a letter of invitation to the conference on request from any of the delegates following abstract acceptance. These letters do not imply funding support.

Executive management committee:

Dr. J.E. Jones, Chair

Prof. G.R. Jones

Prof. J.W. Spencer

Prof. K Hidaka

Dr. A.B. Murphy

Prof. D. Hong

Dr. P. Robin-Jouan

International scientific committee:

Dr. J.-M. Bauchire, France

Dr. J.-P. Borra, France

Prof. Yann Cressault, France

Prof. M. Farzaneh, Canada

Prof. C.M. Franck, Switzerland

Prof. A. Haddad, UK

Prof. K. Hidaka, Japan

Prof. D. Hong, France

Prof. G.R. Jones, UK

Dr. J.E. Jones, UK

Dr. A.B. Murphy

Prof. G.J. Pietsch, Germany

Prof. V. Rakov, USA

Prof. Ph. Robin-Jouan, France

Prof. A. Robledo-Martinez, Mexico

Prof. Kohki Satoh, Japan

Dr. M. Seeger, Switzerland

Prof. J.W. Spencer, UK

Dr. S. Stangherlin, Switzerland

Dr. T. Teich, Switzerland

Dr. Igor Timoshkin, UK

Prof. J. -Y. Trepanier, Canada

Prof. K.-D. Weltmann, Germany

Prof. Y. Wu, China

Dr. J. D. Yan, UK



Local organizing committee:

- Chair
- Chair

Dr [\[redacted\]](#) Marija Pua[redacted]

Dr Dragana [\[redacted\]](#)

Jasmina Mi[redacted]

Venue

The conference will take place at the Master Congress Center in Novi Sad. The large congress hall and six smaller ones, with state-of-the-art equipment, cover a total area of 2700 m². The Congress Centre has excellent audio and video equipment, necessary for organization of meetings and presentations. In the closest vicinity to the Master Congress Center there are hotels that can accommodate large number of participants. The downtown of Novi Sad is at a 15 minutes walking distance from the Congress Center.

Travel

[\[redacted\]](#) good road and railroad connections between Novi Sad and Belgrade. Shuttle bus transfers and special taxi transfers will be organized by the official travel agency of the conference PANACOMP. Detailed information about the shuttle bus transportation from Airport Nikola Tesla and booking will be available at the conference website.

Accommodation

For all conference participants Technical Organizer Panacomp Wonderland Travel agency offers accommodation in some of the best hotels in Novi Sad at reduced prices during the conference (01.09 to 08.09.2018). All hotels are situated within the walking distance from the conference site and not far away from the city center. List of the hotels and Accommodation booking form are available in the conference website. We strongly recommend that you arrange your hotels and transfers through the official agency of the conference PANACOMP.

