

SECOND ANNOUNCEMENT



29th Summer School and
International Symposium on
the Physics of Ionized Gases

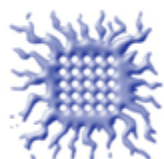
Belgrade, Serbia (28.08. - 1.09. 2018.)



GENERAL INFORMATION

You are cordially invited to participate in the 29th Summer School and International Symposium on the Physics of Ionized Gases (SPIG 2018) to be held in Belgrade, Serbia, August 28th - September 1st, 2018. at the Serbian Academy of Sciences and Arts. The 29th SPIG is organized by the Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia, in collaboration with the Serbian Academy of Sciences and Arts. The SPIG conference covers a wide range of topics from fundamental studies to applications of ionized gases. There will be a workshop associated to the conference: X-ray Interaction with Biomolecules in Gas Phase (XiBiGP).

ORGANIZERS



Vinča Institute of
Nuclear Sciences



Serbian Academy of
Sciences and Arts

SCIENTIFIC PROGRAMME

Program of the Conference will consist of Invited Lectures (45 min), Topical Invited Lectures (30 min), Progress Reports (20min) and Contributed Papers (poster presentations). The Proceedings of Contributed Papers with Abstracts of Invited Lectures and Progress reports will be published and will be available at the Conference, while the Book of Invited Lectures and Progress Reports will be published after the Conference. The official language is English. Contributed Papers will be refereed by the Scientific Committee, and the Scientific Committee will make the final selection for oral and poster presentation. The Proceedings of Contributed Papers with abstracts of Invited Lectures and Progress Reports will be published and will be available at the Conference, while the Book of Invited Lectures and Progress Reports will be published in the special issue of open access journal "Atoms" http://www.mdpi.com/journal/atoms/special_issues/SPIG2018. It will be free of charge for SPIG conference participants.

The deadline for submission of general lectures (up to 12 pages), topical lectures (up to 10 pages) and progress reports (up to 8 pages) is November 30, 2018.

PLENARY LECTURES (CONFIRMED LECTURES)

Section 1.

ATOMIC COLLISION PROCESSES

1. **Ron White** (Australia) (title pending)
2. **Jan Hendrik Bredehöft** (Germany): Electron-induced chemistry in the condensed phase.
3. **John Bozek** (France): Using X-rays to look at quantum mechanics in atoms, molecules and clusters.

Section 2.

PARTICLE AND LASER BEAM INTERACTION WITH SOLIDS

1. **Vincenzo Amendola** (Italy): Laser assisted synthesis of magneto-plasmonic and UV-vis-NIR plasmonic nanoparticles.
2. **Dejan Milošević** (Bosnia and Herzegovina): Atomic and molecular processes in a strong bicircular laser field.

Section 3.

LOW TEMPERATURE PLASMAS

1. **Nikolay A. Dyatko** (Russia): Influence of nitrogen admixture on plasma characteristics in a DC argon glow discharge and in afterglow.
2. **Arnaud Bultel** (France): Thermochemical non equilibrium in thermal plasmas.
3. **Seiji Samukawa** (Japan): Atomic layer defect-free top-down process for future nano-scale devices.

Section 4.

GENERAL PLASMAS

1. **Yasuhiko Takeiri** (Japan), Advanced helical plasma research toward steady-state fusion reactor by deuterium experiment in Large Helical Device
2. **Mark Koepke** (USA), Interrelationship between lab, space, astrophysical, magnetic-fusion, and inertial-fusion plasma experiments
3. **Evgeny Stambulchik** (Israel), Lineshape modeling: A computer experimentalist's perspective

TOPICAL LECTURES (CONFIRMED LECTURES)

Section 1.

ATOMIC COLLISION PROCESSES

1. **Christophe Blondel** (France): Cavity-enhanced photodetachment of H^- as a means to produce energetic neutral beams for plasma heating.
2. **Rashid Nazmitdinov** (Russia): Magnetic field control of the quantum entanglement in two-electron artificial atoms.
3. **Radmila Panajotović** (Serbia): Modifications of 2D-material-organic thin films heterostructures produced by monoenergetic electron beam.
4. **Laurence Campbell** (Australia): Applications of electron-impact excitation of OH in the Solar System.
5. **Kari Jänkälä** (Finland): Theoretical and experimental research of ionic states of atoms with multielectron coincidence detection.

Section 2.

PARTICLE AND LASER BEAM INTERACTION WITH SOLIDS

1. **Miloš Burger** (USA): Intense Laser Filament-Solid Interactions from Near-Ultraviolet to Mid-Infrared.
2. **Leonardo Marušić** (Croatia): Electronic Excitations in Alkali Intercalated Graphene.
3. **Davor Peruško** (Serbia): Laser beam modification of multilayered thin film structures.

Section 3.

LOW TEMPERATURE PLASMAS

1. **Jon Tomas Gudmundsson** (Iceland): Electron heating in electronegative capacitively coupled discharge of complex chemistry.
2. **Dušan Božanić** (Serbia): Synchrotron Radiation VUV Angle-Resolved Photoelectron Spectroscopy on Free Nano-Systems.
3. **Anton Nikiforov** (Belgium): Radio-frequency plasmas at atmospheric pressure: from physics of sustaining to materials engineering and biomedicine.

4. **Tomáš Hoder** (Czech Republic): High-resolution High-sensitivity Spectroscopic and Electrical Diagnostics of Barrier Discharges.

5. **Andei Pipa** (Germany): Equivalent circuit approach for electrical diagnostics of dielectric barrier discharges.

Section 4.

GENERAL PLASMAS

1. **Vesna Borka Jovanović** (Serbia): Fundamental plane of elliptical galaxies in $f(R)$ gravity: the role of luminosity.

2. **Anđelka Kovačević** (Serbia): Periodicity in spectral variability of active galaxies: A diagnostic of physical processes in their center.

3. **Zheng-Ming Sheng** (United Kingdom): Simulations of laser-fusion plasma interaction.

4. **Guilhem Dif-Pradalier** (France): Self-organization and transport in fusion plasma.

5. **Paola Marziani** (Italy): Quasars: from the Physics of Line Formation to Cosmology.

PROGRESS REPORTS (CONFIRMED LECTURES)

Section 1.

ATOMIC COLLISION PROCESSES

1. **Rim Hadidi** (France): PECD on chiral amino-acids.

2. **Mirjana Vojnović** (Serbia): Development of electron impact ionization spectrometer

3. **Mirjana Novaković** (Serbia): Formation of silver nanoparticles into silicon with mask-assisted ion implantation process.

4. **Bart Oostenrijk** (Sweden): Charge transfer and breakup of free molecules and molecular clusters upon inner shell photoionization.

Section 2.

PARTICLE AND LASER BEAM INTERACTION WITH SOLIDS

1. **Marko Čosić** (Serbia): Quantum rainbows in positron transmission through carbon nanotubes.

2. **Mioljub Nešić** (Serbia): Developing the techniques for solving the inverse problem in photoacoustics.
3. **Miloš Skočić** (Serbia): Shock wave expansion in laser induced plasma.
4. **Maja Popović** (Serbia): Tuning the plasmonic properties of titanium nitride.

Section 3.

LOW TEMPERATURE PLASMAS

1. **Vesna Kovačević** (Serbia): Diagnostics of dielectric barrier discharges in contact with liquid target.
2. **Nikola Ivanović** (Serbia): The study of Ar I and Ne I spectral line shapes in the cathode sheath region of an abnormal glow discharge.
3. **Ana Kramar** (Serbia): Processing of cellulose textile materials with non thermal atmospheric pressure plasma.
4. **Lazar Gavanski** (Serbia): Measurement of Stark halfwidths of spectral lines of ionized oxygen and silicon, emitted from T-tube plasma.
5. **Dejan Maletić** (Serbia): Atmospheric plasma jets: development, diagnostics and application for bacteria sterilization.
6. **Biljana Stankov** (Serbia): Beryllium spectral line studies in the presence of beryllium dust
7. **Mohammed Koubiti** (France): Spectral modeling of hydrogen radiation emission in magnetic fusion plasmas.
8. **James Dedrck** (United Kingdom): (title pending)

Section 4.

GENERAL PLASMAS

1. **Maša Lakićević** (Serbia): Optical and mid-infrared properties of active galactic nuclei and review on my work about dust in supernova remnants.
2. **Vladimir Srećković** (Serbia): Atom-Rydberg atom processes in the Broad Line Region of AGNs.
3. **Dušan Onić** (Serbia): Supernova remnants as collisionless shock waves: an overview of theory and observations.
4. **Nikolai Bezuglov** (Russia): Dynamic instability of Rydberg atomic complexes.
5. **Edi Bon** (Serbia): On the time scales of optical variability of AGN and the shape of their optical emission line profiles.
6. **Miloš Vlainić** (Serbia): Studies of Runaway Electrons in COMPASS Tokamak
7. **Dimitrios Tzimeas** (Greece): Questions and answers on ASTA multicomponent analysis.

X-ray Interaction with Biomolecules in Gas Phase (XiBiGP) Workshop

The 3rd workshop on **X-ray and VUV Interaction with Biomolecules in Gas Phase - XiBiGP** will be organized in the frame of the 29th Summer School and International Symposium on the Physics of Ionized Gases (SPIG). The XiBiGP workshop is principally related (but not exclusively) to the Section 1 of the SPIG topics.

There has been a large interest in recent years to study biological systems (small biomolecules, amino acids, peptides, proteins etc.) by using synchrotron-based spectroscopic techniques, such as Photon electron spectroscopy (PES), Photoelectron photoion coincidence spectroscopy (PEPICO), Near-edge X-ray absorption fine structure (NEXAFS), X-ray photoelectron (XPS), X-ray emission spectroscopies etc. Particularly, gas-phase spectroscopy gives the opportunity to investigate isolated targets, under well-defined conditions. However, there has been always a challenge both to bring a large biomolecule intact into the gas phase and to obtain a high-enough sensitivity for a fine structure (and even coincidence) spectroscopy of desired species in a diluted environment. Additionally, it is even more challenging to investigate e.g. solvation effects under well-defined conditions.

The aim of the XiBiGP workshop is to present the most recent cutting-edge techniques used to investigate X-ray interaction with biomolecules in gas phase. The workshop is dominantly dedicated to young scientists, but also to all SPIG participants who might find interesting possibilities and topics regarding the multidisciplinary studies and developments of new experimental techniques. Finally, the aim of the workshop is to initiate a discussion between experts in the field on X-ray spectroscopy that could lead to further improvement of the techniques and important results.

The present 3rd XiBiGP workshop is co-organized by the **Synchrotron SOLEIL (France)** and will include 4 sessions related to: a) small biologically relevant molecules isolated in the gas phase (coincident spectroscopy); b) bio-functionalized nanoparticles (in vacuo aerosol spectroscopy); c) biomolecules in liquids (in vacuo liquid jet spectroscopy) and d) action spectroscopy of trapped macromolecular ions.

SUPPORTED BY:

[Synchrotron SOLEIL](#)

[L'Orme des Merisiers Saint-Aubin](#)

[BP 48 91192 Gif-sur-Yvette Cedex](#)



CHAIRS:

Dr. Aleksandar Milosavljević, Synchrotron SOLEIL, Saint-Aubin - BP 48, 91192 GIF-sur-YVETTE CEDEX, France, milosavljevic@synchrotron-soleil.fr

Dr. Sanja Tošić, Institute of Physics Belgrade, Pregrevica 118, 11080 Zemun, Belgrade, Serbia, seka@ipb.ac.rs

LIST OF INVITED SPEAKERS:

Session 1 - small biologically relevant molecules isolated in the gas phase / coincident spectroscopy

1. **Gustavo Garcia** (France): Photoelectron spectroscopy and dichroism of small biomolecules and clusters using electron/ion coincidence techniques.
2. **Oksana Plekan** (Italy): Femtosecond time-resolved spectroscopy of some biological molecules.
3. **Miloš Milčić** (Serbia): Computational tools for studying X-Ray - Molecule interactions. A Halothane example.

Session 2 - bio-functionalized nanoparticles, clusters and large biomolecules / aerosol spectroscopy

1. **Ana Martín Somer** (Spain): Computational study of the fragmentation dynamics of bare and nanosolvated protonated leucine-enkephaline peptide ion.
2. **Robin Schürmann** (Germany): Shining (Synchrotron) Light on Nanoparticles.
3. **Jacopo Chiarinelli** (Italy): Photofragmentation of Radiosensitizers.

Session 3 - isolated biomolecular ions / action spectroscopy

1. **Thomas Schlathölder** (Netherlands): Interactions of energetic photons and fast ions with gas-phase DNA.
2. **Lucas Schwob** (Germany): X-Ray absorption spectroscopy of gas-phase biomolecular ions.
3. **Miloš Ranković** (Czech Republic): Oxygen K-shell spectroscopy of isolated bare and solvated peptide.

Session 4 - biomolecules in liquids / liquid jet spectroscopy

1. **Christophe Nicolas** (France): Photoelectron spectroscopy of solvated proteins at the PLEIADES beamline.
2. **Johannes Niskanen** (Finland): Core-hole-state dynamics in aqueous Histidine during resonant inelastic scattering process.
3. **Clara Saak** (Sweden): Ions and Molecules at the Water Interface: A Spectroscopist's View of Solvation.

INSTRUCTIONS FOR AUTHORS

We kindly remind you to register (if you have not already done so) and send your Contributed papers (four pages) and Abstracts of Invited lectures and Progress Reports (one page). The sample for preparation of the Contributed papers/abstracts can be found on the Conference Website and should be sent via Paper submission service on the Website. The Scientific Committee will make the final selection for oral and poster presentation. The Proceedings of Contributed Papers with abstracts of Invited Lectures and Progress Reports will be published and will be available at the Conference.

VENUE

Serbian Academy of Sciences and Arts, Knez Mihajlova 35, Belgrade, Serbia.

ACCOMODATION

We have made a special arrangement of hotel services for the conference participants. Please visit the Conference Web page <http://www.spig2018.ipb.ac.rs/accommodation.php> for more details.

TRAVEL INFORMATION

Belgrade can be reached by plane, train, bus, car or bicycle. Please visit the Conference Web page <http://www.spig2018.ipb.ac.rs/travel.html> for more details.

SCIENTIFIC COMMITTEE

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DEADLINES Early registration: 01/05/2018
Abstracts of Invited lectures and Contributed papers: 01/06/2018
Invited lectures manuscripts: 30/11/2018

CONTACT

e-mail: spig2018@vinca.rs

D. Borka, M. Rajković, V. Borka Jovanović, N. Potkonjak
Vinča Institute of Nuclear Sciences, PO Box 522, 11001 Belgrade, Serbia
<http://www.spig2018.ipb.ac.rs/>

Tel: +381 11 6455451
+381 11 6308 425
Fax: +381 11 6308 425