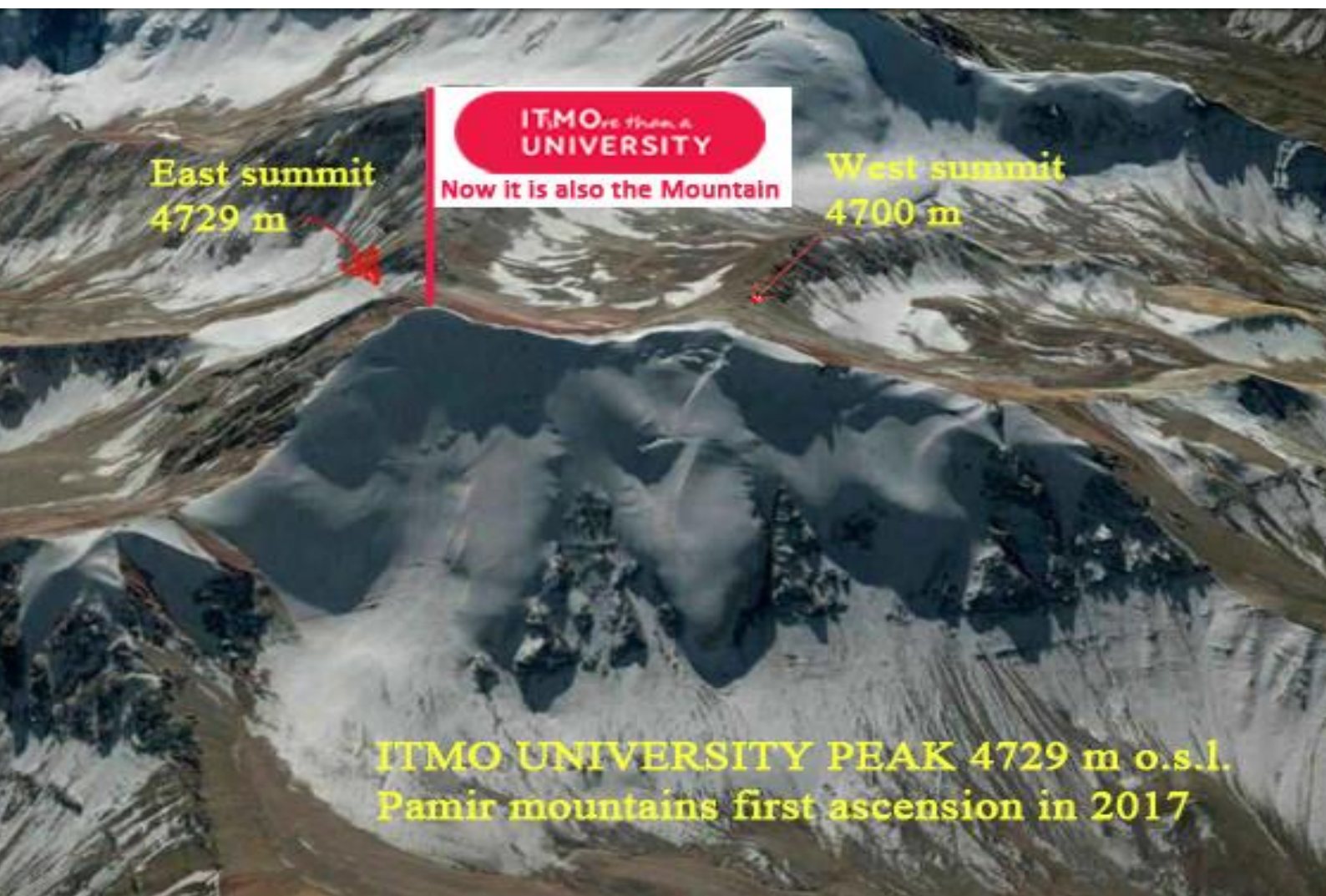


Second Announcement and Call for Papers

**INTERNATIONAL SYMPOSIUM FLAMN-19
FUNDAMENTALS OF
LASER ASSISTED MICRO- & NANOTECHNOLOGIES**

Dedicated to the 50th anniversary of the first Conference “Non-resonant Laser-Matter Interaction”



IMPORTANT DATES

March 15, 2019	Abstracts submission due date
March 31, 2019	Notification of paper acceptance
March 15, 2019	Visa application deadline
March 15, 2019	Hotel reservation deadline
May 31, 2019	Final program
June 30 - July 4, 2019	Manuscript due date
June 30 - July 4, 2019	Symposium

INTRODUCTION

FLAMN Symposium continues well-known symposia ILATA (Intensive Laser Actions and Technological Applications) consisted of LAMN (Laser-Assisted Microtechnologies) and LMI (Laser-Matter Interaction) conferences used to be organized in former Leningrad, USSR, since the middle of the sixties of the past century. Laser-assisted micro- and nanotechnologies are rapidly growing areas of research, development and production. The Symposium will be devoted to the broad spectrum of laser micro- and nanoprocessing from physical fundamentals of different processes and their experimental demonstration to the development and realization of industrial equipment.

HONORARY CHAIRS

Vladimir N. Vasiliev,
ITMO University, St. Petersburg

Ivan A. Shcherbakov
GPI RAS, Moscow

SYMPOSIUM CHAIRS

Vadim P. Veiko,
ITMO University, St. Petersburg

Vitaly I. Konov
GPI RAS, Moscow

PROGRAM COMMITTEE CO-CHAIRMEN

A. Belikov, ITMO University, Russia

A. Rode, ANU, Australia

S. Garnov, GPI RAS, Russia

A. Semerok, CEA Saclay

B. Chichkov, LUH and Laser Zentrum, Germany

M.J. Soileau, CREOL, USA

Lu Yongfeng, Nebraska University, USA

K. Sugioka, RIKEN, Japan

SCIENTIFIC SECRETARY

Odintsova G., ITMO University

INTERNATIONAL ADVISORY COMMITTEE

Anisimov S., Russia
Ašmontas S., Lithuania
Bulgakova N., Czech Rep
Fotakis K., Greece
Gaponov S., Russia
Gapontsev V., Russia
Garanin S., Russia

Grigoryants A., Russia
Ionin A., Russia
Kashkarov P., Russia
Kautek W., Austria
Kazuyoshi I., Japan
Kivshar Yu., Australia
Klimov V., Russia

Kopaeva V., Russia
Krokhin O., Russia
Luches A., Italy
Miyamoto I., Japan
Ochkin V., Russia
Orlovich V., Belarus
Panchenko V., Russia

Poprawe R., Germany
Sergeev A., Russia
Soifer V., Russia
Soskin M., Ukraine
Zheltikov A., Russia

INTERNATIONAL PROGRAM COMMITTEE

Altshuler G., USA
Arakelyan S., Russia
Caricato A., Italy
Cheng Y., China
Destouches N., France
Detalle V., France
Efimov O., USA
Gelfond M., Russia
Gillner A., Germany
Gordienko V., Russia
Gorny S., Russia
Gruzdev V., USA
Helvajian H., USA
Hennig G., Switzerland

Hermann P., Canada
Inogamov N., Russia
Ivanov D., Germany
Itina T., France
Kabashin A., France
Klimentov S., Russia
Kolobov A., Japan
Komolov V., Russia
Kozlov S., Russia
Kudryashov S., Russia
Luk'yanchuk B.,
Singapore
Makarov S., Russia
Matiushkov V., Belarus

Meunier M., Canada
Mihailescu I., Romania
Odintsova G., Russia
Ostendorf A., Germany
Piqué A., USA
Polyakov D., Russia
Račiukaitis G., Lithuania
Rethfeld B., Germany
Sentis M., France
Sergeev M., Russia
Serra P., Spain
Shahno E., Russia
Shiganov I., Russia
Sirro S., Russia

Smurov I., France
Sobol E., Russia
Szörenyi T., Hungary
Tribelsky M., Russia
Tsuboi Y., Japan
Turichin G., Russia
Tuchin V., Russia
Vartanyan T., Russia
Wintner E., Austria
Yakovlev E., Russia
Zavestovskaya I., Russia
Zergioti I., Greece
Zhigilei L., USA
Zhu Xiao, China

ORGANIZING COMMITTEE

Ageev E., ITMO University, St. Petersburg
Andreeva Ya., ITMO University, St. Petersburg
Brui E., ITMO University, St. Petersburg
Komolov V., ITMO University, St. Petersburg
Lebedeva E., ITMO University, St. Petersburg

Petrov A., ITMO University, St. Petersburg
Schedrina N., ITMO University, St. Petersburg
Semyashkina Y., ITMO University, St. Petersburg
Sirro S., The State Russia Museum, St. Petersburg
Yakovlev E., ITMO University, St. Petersburg

FLAMN-19 will include two main sections:

Laser-Assisted Micro- and Nanotechnologies and Laser-Matter Interaction

and special scientific events:

- **Conference for young scientists, engineers, and students "Intensive Laser Actions and Applications"**
- **Conference "Intensive Laser Actions for Biology and Medicine"**
- **Workshop "Photophysics of Nano-scale Systems"**
- **Workshop "Laser Technologies for Nanophotonics"**
- **Workshop "Ultrafast Laser-Matter Interaction & Technologies"**
- **Workshop "Laser Surface Microstructuring"**
- **Workshop "Lasers for Surfaces Cleaning, Characterisation and Artifacts Restoration"**
- **Workshop "Industrial Application of Lasers"**

PLENARY SESSION SPEAKERS

Boris Chichkov, Germany

Chunlei Guo, USA

Michel Menu, France

Marc Sentis, France

Ronald Sroka, Germany

Koji Sugioka, Japan

INVITED SPEAKERS

Antonio Ancona, Italy

Eugene Avrutin, UK

Victor Balykin, Russia

Andrey Belashov, Russia

Andrey Belikov, Russia

Vladimir Belotitskii, Russia

Nikita Bityurin, Russia

Jean-Luc Bodnar, France

Jörn Bonse, Germany

Oleg Buganov, Belarus

Nadezhda Bulgakova, Czech Republic

Germán F. De La Fuente, Spain

Philippe Delaporte, France

Vincent Detalle, France

Alexandre Douplik, Canada

Vladimir Drachev, USA

Rafael Drampyan, Armenia

Boris Fainberg, Israel

Roberta Fantoni, Italy

Viktor Farafonov, Russia

Maria Farsari, Greece

Martin Garcia, Germany

Mark Gelfond, Russia

Elina Genina, Russia

Pavel Ginzburg, Israel

Costas Grigoropoulos, USA

Gayane Grigoryan, Armenia

Uwe Griebner, Germany

Vitaly Gruzdev, USA

Stephane Guizard, France

Masaki Hashida, Japan

Guido Hennig, Switzerland

Juergen Ihlemann, Germany

Nail Inogamov, Russia

Tatiana Itina, France

Dmitry Ivanov, Germany

Jozef Kaiser, Czech Republic

Artashes Karmenyan, Taiwan

Peter Kazansky, UK

Alex Kolobov, Japan

Yurii Kolobov, Russia

Vitaly Konov, Russia

Valentina Kopaeva, Russia

Vladimir Kucherik, Russia

Sergey Kudryashov, Russia

Kirill Larin, USA

Javier Laserna, Spain

Sergey Makarov, Russia

Kotaro Makino, Japan

Emilio Mariotti, Italy

Igor Meglinski, Finland

Hamed Merdji, France

Yoshiki Nakata, Japan

Aleksey Perepelitsa, Russia

Elena Perevedentseva, Taiwan

Luis Ponce, USA

Baerbel Rethfeld, Germany

Andrei Rode, Australia

Nikolai Rosanov, Russia

Anton Rudenko, France

Tomokazu Sano, Japan

Andrey Sarychev, Russia

Vladimir Sautenkov, Russia

Alexandre Semerok, France

Igor Shugailov, Russia

Felix Sima, Romania

Constantin Simovski, Finland

Sergey Sirro, Russia

Olga Smolyanskaya, Russia

Valeria Spizzichino, Italy

MJ Soileau, USA

Razvan Stoian, France

Emmanuel Stratakis, Greece

Misha Sumetsky, UK

Michael Tribelsky, Russia

George Tsibidis, Greece

Valery Tuchin, Russia

Tigran Vartanyan, Russia

Vadim Veiko, Russia

John Wochnowski, Germany

Ilya Yaroslavsky, USA

Stanislav Zobotnov, Russia

Irina Zvestovskaya, Russia

Ioanna Zergioti, Greece

Vasilii Zhakhovski, Russia

Leonid Zhigiley, USA

Xiao Zhu, China

It will be allowed 40 minutes for plenary session speakers including discussions, 30 minutes for invited presentations including discussions and 20 minutes for oral presentations including discussions. Also, posters sessions will be held.

MAIN TOPICS OF THE SYMPOSIUM

LASER-ASSISTED MICRO- AND NANOTECHNOLOGIES

- physical fundamentals of laser-based microtechnologies, modeling, and quantitative analysis;
- precision laser microshaping: cutting, drilling, etc.;
- local laser modification of different materials composition and properties;
- laser surface microstructuring;
- laser melting, welding, and soldering of microcomponents including plastics;
- laser processing of thin films;
- laser trimming of electronic and optical components;
- laser technology for MEMs and fluidic devices;
- physical, optical and computer feedbacks on laser microtechnologies;
- in-situ measurements of laser processing;
- laser and optical devices and laser systems for microtechnologies;
- physical conceptions of laser cleaning of solid surfaces;
- applications of laser cleaning in industry;
- advanced applications of phase-change phenomena in optical materials and memory alloys for photonics components fabrication;
- laser forming;
- laser-induced processes in 2D materials.

LASER-MATTER INTERACTION

- mechanisms of laser heating, structural and phase transitions in condensed matter;
- nonlinear optical effects in a matter under intensive laser irradiation;
- physical mechanisms of laser damage of optical materials and components;
- laser-induced surface phenomena;
- laser-matter interaction in the near-field;
- mechanisms and regularities of laser ablation;
- instabilities and self-organization processes under laser conditioning;
- adsorption and orientation of organic molecules on surfaces;
- interaction of ultrashort laser pulses with a matter;
- electronic and optical properties of nanostructures;
- interaction of light with clusters and nanostructures;
- ultrafast dynamics of plasmon excitations in nanostructures;
- physical fundamentals of femtosecond laser technologies;
- ultrafast laser heating, melting, and ablation;
- laser-induced reversible structural transformations in solids;
- photo-induced crystallization and amorphization.

CONFERENCE FOR YOUNG SCIENTISTS, ENGINEERS, AND STUDENTS “INTENSIVE LASER ACTIONS AND APPLICATIONS”

Co-chairman: **Maksim Sergeev, Tigran Vartanyan.**

- fundamental aspects of laser-based microtechnologies (modeling, quantitative analysis);
- electronic and optical properties of nano- and micro-particles, nanostructures;
- laser nanotechnologies including 2D and 3D cases;
- precision laser microshaping: cutting, drilling, etc.;
- laser modification of materials composition (structure and properties);
- laser melting, welding, and soldering of microcomponents including organic materials;
- pulsed laser deposition of thin films;
- laser/optical systems and devices for microtechnologies;
- mechanisms of laser heating, structural and phase transitions in glass/ceramic materials;
- laser processing and nonlinear optical effects in laser-matter interaction;
- physical mechanisms of laser damage of optical materials;
- laser-induced surface phenomena and treatment: cleaning, texturing, marking, annealing, modification, etc.

CONFERENCE “INTENSIVE LASER ACTIONS FOR BIOLOGY AND MEDICINE”

Co-chairman: **Andrey Belikov, Valery Tuchin.**

- light-tissue interaction;
- mechanisms of laser-tissue interaction;
- surgical and other applications of lasers;
- laser and optical diagnostics;
- optical clearing and light propagation in cells and biotissues;
- laser-tissue microprocessing and drug delivery;
- laser printing of living cells;
- photodynamic therapy;
- optical coherence tomography and its application;
- laser action on cartilage tissues;
- laser-induced biotissue regeneration;
- selective laser photothermolysis and its applications;
- subablative laser processing of biotissues;
- adaptive laser for biotissues processing;
- ultrafast lasers for biomedical applications;
- terahertz radiation interaction with cells and tissues.

WORKSHOP “PHOTOPHYSICS OF NANO-SCALE SYSTEMS”

Co-chairman: **Tigran Vartanyan, Nathalie Destouches.**

- physics behind laser methods of nanostructures manufacturing;
- nanostructures modification and conditioning via optical means;
- laser-driven self-assembly of nanoparticles;
- spectral and time-resolved optical characterization of nanostructures;
- enhancement of exciton-plasmon interactions in hybrid nanostructures;
- linear and nonlinear optical processes in nanostructured materials;
- nanostructures-based photodetectors and solar cells;
- nanostructures for non-electrical conversion of optical energy: water boiling, chemical reaction, etc.;
- nanocomposite materials for optical chemo- and biosensors;
- plasmon enabled near-infrared overtone molecular sensing;
- nanoscale lasers and spasers;
- advanced computational methods for modeling of photophysical processes in nanostructures.

WORKSHOP “LASER TECHNOLOGIES FOR NANOPHOTONICS”

Co-chairman: **Sergey Makarov, Boris Chichkov.**

- laser fabrication of plasmonic nanostructures;
- laser fabrication of nanoparticles;
- nanostructures under strong laser field;
- laser fabrication of functional nano- and microstructures;
- laser processing of advanced optical materials;
- laser-assisted bio-nanophotonics;
- 3D laser printing;
- nanoscale laser ablation;
- laser-assisted self-organization of nanostructures;
- laser-matter interaction at the nanoscale;
- laser transfer of nano- and microparticles;
- new designs for laser-matter interaction;
- new methods of optical nanolithography.

WORKSHOP “ULTRAFAST LASER-MATTER INTERACTION & TECHNOLOGIES”

Co-chairman: **Dmitry Ivanov, Andrey Rode, Dmitry Polyakov.**

- physical fundamentals of ultrafast laser action technologies;
- experimental study of pico- and femtosecond laser-matter interaction;
- ultrafast laser heating, melting and ablation;
- ultrafast laser microshaping;
- pico- and femtoseconds laser bulk processing;
- ultrafast laser modification of different materials composition.

WORKSHOP “LASER SURFACE MICROSTRUCTURING”

Co-chairman: **Tatiana Itina, Sergey Klimentov, Galina Odintsova.**

- physical fundamentals of laser microstructuring of solid surfaces;
- laser structuring of hard and soft materials;
- laser-induced periodic surface structures;
- main functional surfaces in medical, solar cell, instrumentation and other industrial fields;
- peculiarities of laser control of various properties of materials: optical, chemical, electrical, mechanical, biocompatibility, etc.;
- measuring of surface geometry and properties;
- laser smoothing.

WORKSHOP “LASERS FOR SURFACES CLEANING, CHARACTERISATION AND ARTIFACTS RESTORATION” (LOSCAR-2019)

Co-chairman: **Vincent Detalle, Alexandre Semerok, Sergey Sirro, Elena Shahno.**

- fundamental aspects of laser cleaning and characterization;
- lasers and Instrumentation;
- laser cleaning of stone, metals, wood, paper, parchments, painted surfaces;
- pulse duration, wavelength, repetition rate, and other laser parameter effects;
- combined methods for surface characterization: LIBS/Raman/LIF, LA-ICP-MS, SEM and EDS, SIMS, GD-OES et GD-MS, etc.;
- NDT techniques: spectroscopy, IR-thermography, speckle interferometry, holography, optical coherence tomography, etc.;
- imaging and testing: Terahertz, hyperspectral and multispectral imaging;
- portable device development and applications;
- preservation and conservation methods;
- elemental and isotopic micro- and nanocartography (micro-LIBS and RAMAN, near-field, etc.).

WORKSHOP “INDUSTRIAL APPLICATION OF LASERS”

Chairman: **Sergey Gorny.**

ABSTRACT SUBMISSION

Authors are invited to submit electronically 1-page abstracts of 250-300 words (**in MS WORD only**).

Abstract should be prepared in English and include the following:

1. ABSTRACT TITLE

2. AUTHOR LISTING

Full names and affiliations. The principal author first.

3. CORRESPONDENCE FOR EACH AUTHOR

Mailing address, telephone, fax, and E-mail address.

4. SUBMIT TO: (title from the list of topics)

5. ABSTRACT TEXT

250 to 300 words.

6. KEY WORDS

Four to six topics.

The abstract submission form is available online after registration at the Symposium web site.

ABSTRACTS SUBMISSION DEADLINE: MARCH 15, 2019.

REGISTRATION FEES

Regular* - 600 €, early registration - 550 € (till 30.04.2019)

Student** - 150 €, early registration - 100 € (till 30.04.2019)

Accompanying person - 200 €

* Regular registration fee includes admission to the technical sessions, coffee-breaks, symposium attendee kit, symposium program & book of abstracts, visa invitation service (including mailing), transportation service (including a meeting at the airport and hotel transfer), bus sightseeing tour and welcome reception.

** Student registration fee includes admission to the technical sessions, coffee-breaks, symposium attendee kit, symposium program & book of abstracts, bus sightseeing tour and welcome reception.

CIS citizens***:

Regular - 10000 RUR, early registration – 7000 RUR (till 30.04.2019)

Student - 3000 RUR, early registration - 1500 RUR (till 30.04.2019)

*** Participation of CIS citizens is partly sponsored by the Russian Foundation for Basic Research.

**PLEASE BE AWARE THAT THERE IS NO FINANCIAL SUPPORT
PROVIDED FOR OUR INVITEES.
ALL PARTICIPANTS ARE REQUIRED TO REGISTER FOR THE SYMPOSIUM.**

METHOD OF PAYMENT

- banking wireless (an invoice is sent on request (flamn_org@corp.ifmo.ru));
- by cash during the registration at the Symposium.

REGISTRATION OF PARTICIPANTS

Registration of participants will take place at 9 Lomonosova str., St. Petersburg, Russia.

Registration for participants will be open: June 30, 2019.

If you are going to take part at our Symposium, please fill in the **Registration form at our site **till March 15, 2019.****

VISA SUPPORT

A foreigner traveling to Russia should have a valid passport (expiry date should be no earlier than **6 months after the date of visitor's departure from Russia**) and **an appropriate visa** (for almost all foreign visitors). More detailed information about the visa can be found on the symposium website: https://flamn.ifmo.ru/content/Visa_info

VISA APPLICATION FORM

Please, download [Visa application form](#), fill in all fields and send to flamn_org@corp.ifmo.ru. Please, attach to the e-mail with this application a file with a copy of your passport and the latest Russian visa (if available) (JPG, PNG, PDF formats).

If you need a visa for an accompanying person, send Visa application form for every person coming with you.

VISA SUBMISSION DEADLINE: MARCH 15, 2019.

ARRIVAL AND DEPARTURE ASSISTANCE

Promotional codes for "Aeroflot" airlines

There are special rates available for FLAMN-19 guests for domestic and international "Aeroflot" airlines (<https://www.aeroflot.ru/xx-en>). If your arrival to Saint-Petersburg date (28.06.19-02.07.19) and departure from Saint-Petersburg date (02.07.19-06.07.19) fall within the specified time frames, you can get a promotional code and a discount for the flight by "Aeroflot". The promo code is to be entered in capital letters. One promo code is used to purchase one ticket. There is no discount for subsidized and other promotional rates. To get a promotional code, please, send email to flamn_org@corp.ifmo.ru.

ACCOMMODATION

Special rates and promotional codes for accommodation

We have entered into partnership agreements with three hotels for participants of the symposium. There are special rates and discounts available with the promo code **FLAMN2019** in Rossi Boutique Hotel and SPA (****), Station Hotels, Friends hotels and hostels. The hotels will honor the rates until 15.03.2019 (Rossi Boutique Hotel) and 28.04.2019 (Station Hotels) OR until the blocks are filled, whichever occurs first. Please make your reservation as soon as possible and write to flamn_org@corp.ifmo.ru where you are going to stay. Find the information about the prices and offers at the symposium web site <https://flamn.ifmo.ru/>. **HOTEL RESERVATION DEADLINE: MARCH 15, 2019.**

SYMPOSIUM VENUE

International Symposium FLAMN-19 will be held on June 30 - July 4, 2019 and hosted by ITMO University. For the first time ever, the symposium will take place in the historical building of the ITMO university campus at the heart of Saint Petersburg: 9 Lomonosova str., St. Petersburg, Russia. More detailed information how to get to ITMO University from Pulkovo airport can be found on the symposium website: <https://flamn.ifmo.ru/content/Location>

Saint-Petersburg has earned the reputation of being one of the most beautiful cities in the world thanks not only to its unique palaces and churches but also to its inimitable architectural ensembles of streets, canals, and squares. St. Petersburg is a city of splendid palaces and beautiful buildings, its most common architectural styles being baroque and classical, which reached their peak here on Russian soil.

There are more than 90 museums in the city and its surroundings, including the State Hermitage museum - one of the world's leading treasures stores of art. St. Petersburg is the home of the famous Russian classical ballet school, and numerous ballet and opera theaters will be available during Symposium time.

Symposium time is a time of world known White Nights when many cultural events (musical, theatrical and art show) take place here.



ORGANIZERS

- St. Petersburg National Research University of Information Technologies, Mechanics and Optics (ITMO University), St. Petersburg, Russia
- Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS), Moscow, Russia

IN COOPERATION WITH:

- LLC “Laser Center”
- The State Russian Museum;
 - Laser Association;
- D.S. Rozhdestvensky Russian Optical Society.

GENERAL SPONSOR

- LLC "OES Special Delivery";

EXPECTED SPONSORS

- AEROFLOT Russian Airlines
- Ministry of Science and Education of the Russian Federation;
 - Russian Foundation for Basic Researches;
 - Journal “Photonics Russia”;
 - LLC “Avesta”.

PROCEEDINGS

- Selected papers of the Symposium will be published
- in Springer journal “*Optical and Quantum Electronics*”;
 - Russian bilingual journals “*Quantum Electronics*”, “*Journal of Instrument Engineering*”, “*Journal of Optical Technology*”, “*Scientific and Technical Journal of Information Technologies, Mechanics and Optics*”.

LANGUAGE

The official language of the Symposium is English.

CONTACT INFORMATION FOR FLAMN–19 PROGRAM & ORGANIZING COMMITTEES

St. Petersburg National Research University of Information Technologies, Mechanics and Optics
(ITMO University).

Address: 49 Kronverksky pr., 197101, St. Petersburg, Russia.
Phone/FAX: +7 (812) 233 02 55.

E-mails:

flamn_org@corp.ifmo.ru (Organizing Committee).

flamn_prog@corp.ifmo.ru (Program Committee).

Website: <https://flamn.ifmo.ru>

