

## VIII International Youth Scientific School-Conference "Modern Problems of Physics and Technology" (MPPT2019): preface

**Krokhin O.N.<sup>1,2</sup>, Zavestovskaya I.N.<sup>1,2</sup>, Yashin I.I.<sup>1</sup>, Fronya A.A.<sup>1,2</sup>**

1 National Research Nuclear University "MEPhI", Moscow, Russia

2 P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia

VIII International Youth Scientific School-Conference "Modern Problems of Physics and Technology" (MPPT2019) was held in Moscow, Russia on the base of National Research Nuclear University MEPhI (<https://eng.mephi.ru/>). MPPT2019 is a regular conference organized since 2011. The organizers of the School are the N.G. Basov Higher School of Physicists MEPhI and P.N. Lebedev Physical Institute of RAS.

The MPPT2019 topics cover a broad range of fundamental and applied problems:

- Nuclear physics and technologies, particle physics, astrophysics and cosmophysics
- Laser physics, solid state physics, optics and plasma physics
- IT technologies, intelligent systems, cybersecurity
- Engineering physics technologies for biomedicine
- Electronics, automatics, spintronics, nanotechnologies
- Nuclear, electrical engineering, mechanical engineering

School-Conference is the multidisciplinary platform for participants. It provides the opportunity for students and young researchers to discuss their works with experienced scientists, to find collaborators, and to attract a specialist from another scientific field for creating interdisciplinary team.

The scientific program of the School-Conference included 24 plenary lectures, 54 youth oral talks, 172 youth poster talks. Number of full-time participants is 323 scientists from 21 countries (Germany, France, Czech Republic, Italy, Egypt, Jordan, Algeria, Nigeria, Vietnam, Indonesia, Mongolia, Turkey, Syria, Bangladesh, Bulgaria, Kazakhstan, Moldova, Armenia, Slovakia, Azerbaijan, Ukraine, Russia).

The students and young scientists at MPPT2019 demonstrated their research findings in poster section while some of them were selected for oral presentations. The program of the School-Conference included the traditional competitions:

- International competition of scientific bachelor's works;
- International competition of scientific youth works (young scientists, graduate students, undergraduates);
- Competition of school project works for pupils of 10-11 classes.

Such approach provides to receive qualified review for scientific youth works and to reveal the talented youth. We are very grateful to all lecturers and invited experts for their time and high professional reviewers and comments.

This issue of the IOP Conference Series has collected the brief information about MPPT2019 as well as conference talks of invited lecturers, talks and poster presentations of young scientists.

The full program and details about the School-conference can be found on the web-site <http://magistr.mephi.ru/schooleng/index.html>.



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We express our deep gratitude Program and Organizing Committees, and everyone who contributed to the organization of this event and Sponsors supporting the School-conference.

Co-Chairman of the International Program Committee: Dr. Oleg N. Krokhin, Academician of RAS, LPI, MEPhI

Co-Chairman of the International Organizing Committee, Editor-in-Chief of Conference Proceedings: Dr. Irina N. Zavestovskaya, Head of N.G. Basov Higher School of Physics, MEPhI, LPI

Co-Chairman of the International Organizing Committee: Igor I. Yashin, Professor of Scientific & Educational Centre NEVOD, MEPhI

Executive Secretary of International Organizing Committee: Dr. Fronya A.A., MEPhI, LPI