Gravitation, Cosmology and Astrophysics (ISGCA-2025): curriculum of the 6th International Youth Scientific Summer School

July 7st-12th, 2025, Bauman Moscow State Technical University, Russia

Education and Laboratory Building, room 316

July 7th

Chair: Prof. Kauts Vladimir

9.30-10.00: **Opening ceremony of the PIRT-2025 Conference (3 floor, conference-hall)**

10.00-11.30: Gupta Patrick Das (Professor, University of Delhi, India) **Formation of Supermassive Black Holes at High Redshifts**

11.30-11.50: Coffee break

11.50-13.20: Sushkov Sergey Vladimirovich (D.Sc. (Phys. Math.), Professor, Kazan Federal University, Russia) **To be announced**

13.20-13.50: Coffee break

**Chair: Prof. Mishra Bivudutta**

13.50-15.20: Fomin Igor Vladimirovich (D.Sc. (Phys. Math.), Professor, Bauman Moscow State Technical University, Russia) **Cosmological models based on parametric and functional relationships with Einstein gravity**

15.20-15.40: Coffee break

15.40-17.10: Mitra Sanjit (Professor, Inter-University Centre for Astronomy and Astrophysic, Pune, India) **Future of Gravitational Wave Astronomy and LIGO-India**

July 8th

Chair: Prof. Postnov Konstantin

10.00-11.30: Sazhina Olga Sergeevna (Professor, Sternberg Astronomical Institute, Lomonosov Moscow State University, Russia) **Exotic Astrophysical Objects and Where to Find Them**

11.30-11.50: Coffee break

11.50-13.20: Chervon Sergey Viktorovich (Professor, Ulyanovsk State Pedagogical University, Bauman Moscow State Technical University, Russia) **Cosmology based on modified teleparallel gravity with higher derivative torsion terms**

13.20-13.50: Coffee break

**Chair: Prof. Tripathy Sunil**

13.50-15.20: Lipunov Vladimir Mikhailovich (D.Sc. (Phys. Math.), Professor, Sternberg Astronomical Institute, Lomonosov Moscow State University, Russia) **Extreme Universe and the Global MASTER Network**

*15.20-15.40: Coffee break*

15.40-17.10: Frajuca Carlos (Professor, Instituto Federal de São Paulo, Brazil) **Resonant-Mass gravitational wave detectors**

July 9th

Chair: Prof. Sushkov Sergey

10.00-11.30: Khlopov Maxim Yurievich (D.Sc. (Phys. Math.), Professor, France) **Imprints of BSM Physics in BSM Cosmology**

11.30-11.50: Coffee break

11.50-13.20: Berezin Viktor Aleksandrovich (D.Sc. (Phys. Math.), Professor, Institute for Nuclear Research, Russian Academy of Sciences, Russia) **Singular Hypersurfaces in the Gravitational Theories**

**Chair: Prof. Berezin Victor**

13.20-13.50: Coffee break

13.50-15.20: Mishra Bivudutta (Professor, BITS Pilani, Hyderabad Campus, India) **Field equations in nonmetricity based gravitational theory and the cosmological models**

15.20-15.40: Coffee break

15.40-17.10: Tripathy Sunil Kumar (Professor, Indira Gandhi Institute of Technology, India) **Cosmological Models in Torsion Based Gravitational Theories**

July 10th

Chair: Prof. Pinto Innocenzo

10.00-11.30: Vyatchanin Sergey Petrovich (D.Sc. (Phys. Math.), Professor, Lomonosov Moscow State University, Russia) Quantum Measurements in Gravitational Wave Detectors

*11.30-11.50: Coffee break*

12.00-13.35: Mitrofanov Valeriy Pavlovich (D.Sc. (Phys. Math.), Professor, Lomonosov Moscow State University, Russia) **Gravitational waves and their detection**

*13.20-13.50: Coffee break*

**Chair: Prof.** **Mitrofanov Valeriy**

13.50-15.20: Pinto Innocenzo (retired professor, University of Naples "Federico II", Optica (OSA) Fellow, Italy) **To be announced**

*15.20-15.40: Coffee break*

15.40-17.10: Ruffini Remo (Director, International Center for Relativistic Astrophysics Network, Italy) **To be announced**

July 11th

Chair: Prof. Fomin Igor

10.00-11.30: Levin Sergey Fedorovich (D.Sc. (Eng.), Professor, Moscow Institute of Expertise and Testing, Russia) **Theory of measurement problems and the problem of calibration of the cosmological distance scale**

*11.30-11.50: Coffee break*

11.50-13.20: Gladyshev Vladimir Olegovich (D.Sc. (Phys. Math.), Professor, Head of the Scientific Educational Complex of Fundamental Sciences, Bauman Moscow State Technical University, Russia) **To be announced**

13.20-13.50: Coffee break

**Chair: Prof. Kauts Vladimir**

13.50-15.20: Ummarino Giovanni (Professor, Polytechnic University of Turin, Italy) **Interaction between macroscopic quantum systems and gravitational field**

15.25-15.40: Coffee break

15.40-17.15 Kauffman Louis (Professor, University of Illinois at Chicago, USA) **Einstein’s Equations, Non-Commutative Worlds and the Bianchi Identity**

July 12th

Chair: Prof. Gupta Patrick

10.00-11.30: Cella Giancarlo (Senior Researcher, Istituto Nazionale di Fisica Nucleare, Italy) **Gravitational waves across the spectrum: from low to ultra high frequencies**

11.30-11.50: Coffee break

11.50-13.20: Rovelli Carlo (Professor, Rotman Institute of Philosophy, Italy) **Quantum Gravity. The problem, the Loop theory, the possible experiments and tests**

13.35-13.50: Coffee break

**Chair: Prof. Chervon Sergey**

13.50-15.25: Sahoo Pradumn Kumar (Professor, Birla Institute of Technology & Science, Pilani, Hyderabad Campus, India) **Traversable wormhole: Geometry, stability & future prospective**

*15.25-15.40: Coffee break*

15.40-17.15: Vladimirov Yury (D.Sc. (Phys. Math.), Professor, Lomonosov Moscow State University, Russia) **To be announced**

**17.15-18.00: Conclusion**