

**3rd Summer International School on Gravity, Cosmology and
Astrophysics (ISGCA-2022), dedicated to the memory of
Academician of the Russian Academy of Sciences
V.I. Pustovoyt**

Programme

July 4

8.30-9.00 *Registration*

9.00-10.00 Opening of the School

9.00-9.15 Mikhail Gordin (Candidate of Technical Sciences, Rector, Bauman Technical University, Russia) - *welcoming speech*

9.15-9.30 Alexey Starobinsky (Academician of the Russian Academy of Sciences, Doctor of Physical and Mathematical Sciences, Chief Research Fellow, Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia) - *welcoming speech*

9.30-9.40 Vladimir Gladyshev (Doctor of Physical and Mathematical Sciences, Professor, Head of Scientific Educational Complex of Fundamental Sciences, Bauman Moscow State Technical University, Russia) - *welcoming speech*

9.40-10.00 Andrey Morozov (Corresponding Member of the Russian Academy of Sciences, Doctor of Physical and Mathematical Sciences, Head of the Department of Physics, Bauman Moscow State Technical University, Russia) – *welcoming speech and report about Academician V.I. Pustovoyt*

10.00-11.35 Alexey Starobinsky (Academician of the Russian Academy of Sciences, Doctor of Physical and Mathematical Sciences, Chief Research Fellow, Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia) - *Simplest viable inflationary cosmological models and expected discoveries*

11.35-12.00 *Coffee break*

12.00-13.35 Alexey Starobinsky (Academician of the Russian Academy of Sciences, Doctor of Physical and Mathematical Sciences, Chief Research Fellow, Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia) - *Simplest viable inflationary cosmological models and expected discoveries*

13.35-13.50 *Coffee break*

13.50-15.25 Stanislav Alekseev (Doctor of Physical and Mathematical Sciences, Professor, Sternberg Astronomical Institute, Russia) - *Methods of General Relativity Theory Development*

July 5

10.00-11.35 Sergey Chervon (Doctor of Physical and Mathematical Sciences, Professor, Ulyanovsk State University of Education, Bauman Moscow State Technical University, Russia) - *Chiral Selfgravitating Models: Exact Solutions and Calculation of Cosmological Parameters*

11.35-12.00 *Coffee break*

12.00-13.35 Igor Fomin (Doctor of Physical and Mathematical Sciences, Professor, Bauman Moscow State Technical University, Russia) - *Methods for constructing and verifying inflationary models of the early Universe*

13.35-13.50 *Coffee break*

13.50-15.25 Sunil Kumar Tripathy (PhD, Professor, Indira Gandhi Institute of Technology, India) – *Exact Solutions in Modified Gravity Theories*

July 6

10.00-11.35 Vladimir Gladyshev (Doctor of Physical and Mathematical Sciences, Professor, Head of Scientific Educational Complex of Fundamental Sciences, Bauman Moscow State Technical University, Russia) - *Methods for Recording Gravitational Waves*

11.35-12.00 *Coffee break*

12.00-13.35 Innocenzo Pinto (Professor, Dean of the Italian Electromagnetics Society (SIEm), University of Naples Federico II, Italy) - *Understanding and Taming Thermal Fluctuations in Interferometric Detectors of Gravitational Waves*

13.35-13.50 *Coffee break*

13.50-15.25 Sergey Vyatchanin (Doctor of Physical and Mathematical Sciences, Professor, Lomonosov Moscow State University, Russia) - *Laser Gravity Detectors and Quantum Measurements*

15.25-15.40 *Coffee break*

15.40-17.15 Sergey Levin (Doctor of Engineering Sciences, Professor, Moscow Institute of Expertise and Testing, Russia) - *Measurement Problem of Calibrating the Scale of Cosmological Distances: Problems and Paradoxes*

July 7

10.00-11.35 Viktor Berezin (Doctor of Physical and Mathematical Sciences, Senior Research Fellow, Institute for Nuclear Research of the Russian Academy of Sciences, Russia) - *Phenomenological Description of the Birth of Particles. Riemannian Geometry and Weyl Geometry*

11.35-12.00 *Coffee break*

12.00-13.35 Valentin Rudenko (Doctor of Physical and Mathematical Sciences, Professor, Sternberg Astronomical Institute, Russia) – *Black Holes*

13.35-13.50 *Coffee break*

13.50-15.25 Sergey Sushkov (Doctor of Physical and Mathematical Sciences, Head of the Department of Theory of Relativity and Gravity, Kazan Federal University, Russia) - *Introduction to Wormhole Theory*

15.25-15.40 *Coffee break*

15.40-17.15 Louis Kauffman (PhD, Professor, University of Illinois at Chicago, USA) - *Algebraic Constructions and the Dirac Equation — Braiding and Majorana Fermions*

July 8

10.00-11.35 Bivudutta Mishra (PhD, Professor, BITS-Pilani, Hyderabad Campus, India) - *Bouncing Cosmology in Modified Theories of Gravity*

11.35-12.00 *Coffee break*

12.00-13.35 Vladimir Lukin (Doctor of Physical and Mathematical Sciences, Professor, Bauman Moscow State Technical University, Russia) - *Accretion Disks in Binary Star Systems and Magnetically Powered Jets - from Observations to Models and back*

13.35-13.50 *Coffee break*

13.50-15.25 Antonio C. Gutierrez-Pineros (PhD, Professor, Universidad Industrial de Santander, Colombia) - *Exact solutions for wormholes and rotating fluids using new perspectives of the Newman-Janis Ansatz*

15.25-15.40 *Coffee break*

Reports of School students about gravity, cosmology and astrophysics

15.40-15.55 Evgeny Denzel (Bauman Moscow State Technical University, Russia) - *Exact solutions in cosmological models based on teleparallel gravity*

15.55-16.10 Gevorg Manucharyan (Bauman Moscow State Technical University, Russia) - *Corrections to standard inflation models induced by the Gauss-Bonnet scalar*

16.10-16.25 Gleb Kiselev (Kazan Federal University, Russia) - *Spontaneous polarization of colored dynamic ether and the problem of axion chromodynamics*

16.25-16.40 Ilya Fateev (Altai State University, Russia) - *Energy spectrum of protons from metagalactic sources*

16.40-17.00 Round table for school participants, discussion of topical issues and prospects for the development of modern theory of gravity, cosmology and astrophysics

17.00 – 17.30 Closing of the School