

The school is conducted by the Faculty of Fundamental Sciences, Bauman Moscow State Technical University

Dates: July 1, 2019 - July 14, 2019.

Venue: Bauman Moscow State Technical University, Russia.

July 1

9.30-10.00: Summer School Opening Ceremony

STR & GTR

10.00-11.35 : Peter Rowlands - Gravity: Local or Nonlocal

11.35-12.00 : *Coffee break*

12.00-13.35: Aroonkumar Beesham - Introduction to black Holes

July 2 Gravitational waves and cosmology

10.00-11.35 : Innocenzo M. Pinto - Loosely Modeled Gravitational Waves and non-Ideal Noise Features. Threads in a Tapestry and Personal Views

11.35-12.00 : *Coffee break*

12.00-13.35 : Sergey Siparov - Geometric ideas in gravity and cosmology and the possibility of their verification

July 3 Cosmology

10.00-11.35 : Alexey Starobinsky -Fundamental problems of modern cosmology

11.35-12.00: *Coffee break*

12.00-13.35 : Sergey Chervon -Chiral cosmological models: background solutions, inhomogeneities evolution and spectral parameters

July 4 Exact solutions in GR and its modifications

10.00-12.00: Visiting the BMSTU Museum

12.00-13.35 : Bivudutta Mishra - Derivation of Einstein's field equations and its exact solutions

13.35-14.25 – *Lunch*

14.25-15.00: Sunil Kumar Tripathy - Exact solutions in extended gravity

July 5 Astronomy, astrophysics

10.00-11.35: Sergey Levin - Metrology and the theory of measurement problems: the scale of cosmological distances

11.35-12.00: *Coffee break*

12.00-13.35: Vladimir Lipunov - Gravitational-wave astrophysics: sources of gravitational waves and their localization

July 6 Cultural programme

July 8 Sources and gravitational wave detectors

10.00-11.35: Vladimir Gladyshev (Creation of artificial sources of GW and their detectors)

11.35-12.00: *Coffee break*

12.00-13.35: Vladimir Kauts (Astrophysical sources of GW and their detection)

13.35-14.25 – Lunch

14.25-16.00: Igor Fomin (Early Universe as a source of GW and their detection)

16.00-16.30: Formation of three groups of students to work in three given areas

July 9 Visiting the laboratories of Bauman Moscow State Technical University

July 10 Discussion with the head of each direction of the detector models proposed by students (Seminars)

10.00-11.20 : Vladimir Gladyshev

11.20-11.40 : *Coffee break*

11.40-13.00: Vladimir Kauts

13.00-13.40 – Lunch

13.40-15.00 : Igor Fomin

15.00 – Preparation of presentation materials

July 11 Dark Matter

10.00-11.35: Nicola R. Napolitano Dark Matter in Early-type galaxies

11.35-12.00: *Coffee break*

12.00 – Preparation of presentation materials

July 12 Student presentations. Source model and model of gravitational wave detector

10.00-11.00 : Artificial sources of GW

11.00-11.20 : Discussion

11.20-11.40 : *Coffee break*

11.40-12.40: Astrophysical GW

11.00-13.00 : Discussion

13.00-13.40 – Lunch

13.40-14.40 : Cosmic GW

14.40-15.00 : Discussion

15.00: Summing up the results