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15.-17. 5. 2019

Professor Kip S. Thorne

May, Prague



American physicist Kip S. Thorne, the Nobel laureate for the detection of gravitational waves will be visiting Prague in May 2019. He will be the guest of the Learned Society of the Czech Republic and the Faculty of Mathematics and Physics, Charles University. Prof. Thorne will give three lectures during his Prague stay.

15. 5. 16:00 Creating Gravitational-Wave Astronomy

The Blue Hall of the Rectorate of the Charles University, Celetná 20, Prague 1

/The Bolzano lecture organized by the Learned Society. Supported by K. Janeček Foundation./

Please register at the website bit.ly/Kip-Thorne. The number of sites available without reservation will be limited.

**16. 5. 14:00 Geometrodynamics:
The Nonlinear Dynamics of Curved
Spacetime**

The Lecture hall M1 of the Faculty of Mathematics and Physics, Ke Karlovu 3, Prague 2

/A more technical talk, followed by a discussion/

**17. 5. 17:00 The Warped Side
of the Universe: from the big bang
to black holes and gravitational waves**

The main lecture hall of the Faculty of Law, Charles University, nám. Curieových 901/7, Prague 1

/Talk for the general public, followed by discussion/

Kip S. Thorne

Feynman professor emeritus at the California Institute of Technology, the world's leading expert on Einstein's general theory of relativity and its astrophysical implications, the Nobel laureate - with R. Weiss and B. Barish - in 2017 for "decisive contributions to the LIGO detector and the observation of gravitational waves" and the executive producer for the film *Interstellar*.

All lectures will be delivered in English.



Abstracts

15. 5. 16:00

Creating Gravitational-Wave Astronomy

Four hundred years ago Galileo initiated modern electromagnetic astronomy by discovering the moons of Jupiter with a small optical telescope. Three years ago the LIGO collaboration initiated gravitational-wave astronomy by discovering gravitational waves from colliding black holes. Thorne will recount a brief history of the fifty-year effort that led to LIGO's success, including technological challenges, source-simulation challenges, and organizational challenges, and how they were surmounted. Then he will describe a vision for the future of gravitational wave astronomy and some new challenges that must be surmounted in order to convert that vision into reality.

17. 5. 17:00

The Warped Side of the Universe: from the big bang to black holes and gravitational waves

There is a Warped Side to our Universe: objects and phenomena that are made from warped space and warped time. Three examples are black holes, the big bang in which our Universe was born, and ripples in the fabric of space-time called gravitational waves. Thorne will describe this Warped Side of our Universe and recent breakthroughs in the quest to probe it theoretically using computer simulations and observationally using gravitational waves.