Location

This year's autumn workshop will be held at ZARM, University of Bremen.

The address of the workshop is:
Center of Applied Space technology and Microgravity (ZARM), University of Bremen, Am Fallturm, 28359 Bremen.
https://www.zarm.uni-bremen.de/de/

Directions

By public transport

By train:
The central station is located right in the heart of the city center and ZARM can be easily reached by taxi and tram. If you take the exit "City" you will find a tram station right in front of the of the central railway station. Please take line 6 direction "Universität" and after 10 minutes you will reach ZARM. Please get off the tram at Klagenfurterstraße", and you will spot the drop tower 50 m ahead of you. By taxi, you will reach ZARM in 10 - 15 minutes, and the fare is about 14.00 EUR. The German word for drop tower is "Fallturm", a building and address most taxi drivers will be familiar with

By car

By car you reach ZARM via Autobahn A 27 (direction Bremerhaven, Cuxhaven). Take the exit: Horn-Lehe, Universität and you can´t miss.

By plane

Flights to and from Bremen ariport (BRE) can be found at http://airport-bremen.de/

Participating Universities

Universität Bremen
CARL VON OSSIETZKY universität OLDENBURG
Leibniz Universität Hannover
Universität Bielefeld
JACOBS UNIVERSITY

Participating Institutes

ZARM
DLR
QUEST
Hanse-Wissenschaftskolleg Institute for Advanced Study

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Autumn Workshop 2018

Research Training Group
Graduiertenkolleg
Models of Gravity

10. – 12.09.2018
ZARM
University of Bremen

Monday, 10.09.2018

13:00 – 20:30 **Session One**

13:00 - 13:30 Coffee and Welcome

13:30 - 14:00 **Gleb Zhilin** (University of Hannover)
A new construction of rational electromagnetic knots

14:00 - 15:00 **Christian Pfeifer** (University of Tartu)
The Universe as a medium - Observables from modified dispersion relations as traces of quantum gravity

15:00 - 15:30 *Coffee*

15:30 - 16:30 **Friedrich W. Hehl** (University of Cologne)
Premetric teleparallel theory of gravity and its local and linear constitutive law

16:30 - 17:00 *Coffee*

17:00 - 18:00 **Eugen Radu** (University of Aveira)
Spontaneous scalarisation of charged black holes

18:30 – 19:30 *Dinner*

19:30 - 20:30 **Petra Rudolf** (University of Groningen)
How to keep women (and men) in science

Tuesday, 11.09.2018

09:00 – 12:00 **Session Two**

09:00 - 09:30 **Kris Schroven** (ZARM, Uni Bremen)
The role of electric charge in the accretion process

09:30 - 10:30 **Sven Zschocke** (TU Dresden)
Light propagation in the Solar System for high-precision astrometry on the sub-micro-arcsecond level

10:30 - 11:00 *Coffee*

11:00 - 12:00 **Rainer Verch** (University of Leipzig)
Unruh effect and Tolman temperature

12:15 - 13:30 *Lunch*

13:30 – 17:30 **Session Three [Experiments]**

13:30 - 14:30 **Meike List** (ZARM, Uni Bremen)
Fundamental physics in space - The MICROSCOPE mission

14:30 - 15:00 *Coffee*

15:00 - 16:00 **Martina Gebbe** (ZARM, Uni Bremen)
Atom interferometry on ground and in space

16:00 - 16:30 *Coffee*

16:30 - 17:30 **Sven Herrmann** (ZARM, Bremen)
A test of the gravitational redshift with Galileo satellites in an eccentric orbit

18:00 – 20:00 *Dinner at Restaurant Matisse*

20:00 – 22:00 *Visit of Telescopium Lilienthal*

22:00 *End of visit. With tram back to hotel etc.*

Wednesday, 12.09.2018

09:00 – 12:15 **Session Four**

09:00 - 09:45 **Vojtech Witzany** (ZARM, Uni Bremen)
A critical overview of the theory of accretion onto black holes

09:45 - 10:45 **Harald Pfeiffer** (Albert Einstein Institute, Hannover)
Simulations of binary black holes and applications to gravitational wave astronomy

10:45 - 11:15 *Coffee*

11:15 - 12:15 **Tra-Mi Ho** (DLR Bremen)
How to explore an asteroid with 10 kg: the MASCOT concept

12:30 - 13:45 Lunch and RTG Board Meeting

13:45 – 17:15 **Session Five**

13:45 – 14:45 **Steffen Schön** (University of Hannover)
Strengthening GNSS Navigation with Clocks

14:45 - 15:15 *Coffee*

15:15 - 16:00 RTG General Assembly

16:00 Defense of **Zelimir Marojewic**
Gravitationally bound Bose-Einstein condensates