

# Berlin-Potsdam-Kolloquium

Freitag, 18.01.2013



We are happy to announce the first Berlin-Potsdam-Kolloquium in 2013 which will take place at Potsdam University, Komplex II Campus Golm, House 14, Room 0.45 (see attached map) on

**Friday, 18.01.2013, 10.15h – 15.45h**

Program:

10.15h – 12.00h Session 1

10.15h – 11.00h Philipp Richter (Uni Potsdam):

*“Exploring the gaseous Universe with absorption-line spectroscopy”*

11.15h – 12.00h Noam Libeskind (Leibniz-Institut):

*“The orientation of satellite galaxies: problems, solutions, and open questions”*

12.00h – 14.00h lunch break (at the local canteen)

14.00h – 15.45h Session 2

14.00h – 14.45h Stefan Harst (ZAA, TU-Berlin):

*“Modelling star clusters in extreme interstellar environments”*

15.00h – 15.45h Alexander Warmuth (Leibniz-Institut):

*“Constraining energy release and particle acceleration in solar flares with hard X-ray observations”*

Everyone is invited to join what hopefully will be just the beginning of an auspicious exchange of ideas.

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**Philipp Richter** (Uni Potsdam):

*"Exploring the gaseous Universe with absorption-line spectroscopy"*

Detailed studies of the properties of gas inside and outside of galaxies are of prime importance to improve our understanding of the large-scale structure in the Universe and the formation and evolution of galaxies. A particular powerful method to study the distribution and physical properties of interstellar and intergalactic gas in the nearby and distant Universe is the analysis of high-resolution absorption spectra of stars and extragalactic point sources (such as quasars). In this talk I will provide an overview on the various research activities on interstellar and intergalactic absorption spectroscopy at Potsdam University and will highlight recent results.

**Noam Libeskind** (Leibniz-Institut):

*"The Orientation of Satellite Galaxies: Problems, solutions, and open questions"*

The small dwarf galaxies that orbit our Milky Way suggest a number of controversies and challenges to the accepted paradigm of galaxy formation, wherein galaxies form in cold dark matter (CDM) haloes. Of the many problems, one particularly existential one relates to the orientation in the sky of the two dozen Milky Way and Andromeda satellites. These appear to be highly confined into a thin plane. In the Milky Way's case this plane is roughly perpendicular to the plane of the disc. At first sight, this highly anisotropic distribution appears to be directly at odds with CDM, which predicts a more uniform distribution of satellites about central galaxies. I will review how these seemingly contradictory facts may be resolved within the CDM paradigm. I will emphasize which problems stubbornly refuse to fit into the theory and what we can expect from the next generation of satellite galaxy observations.

**Stefan Harst** (ZAA, TU-Berlin):

*"Modelling star clusters in extreme interstellar environments"*

After a brief overview on the computational and theoretical research activities at the ZAA I will focus on the dynamical evolution of young massive star clusters in the Galactic center. These clusters are formed in an extreme interstellar environment and provide excellent probes for the star formation process under such conditions. Here a key question is whether the initial mass function is different from the standard. I will show how observations of young star clusters can be better understood with the help of numerical models.

**Alexander Warmuth** (Leibniz-Institut):

*"Constraining energy release and particle acceleration in solar flares with hard X-ray observations"*

In solar flares, stored magnetic energy is impulsively converted to kinetic energy of nonthermal particles and bulk mass motions, and to thermal energy of hot plasmas. Both nonthermal particles and thermal plasmas generate signatures in the hard X-ray (and gamma-ray) range. NASA's RHESSI mission allows us for the first time to quantitatively characterize both thermal and nonthermal particle populations, and thus to put strong constraints on energy release and particle acceleration processes. I will review some of the most important results of the RHESSI mission and discuss some recent work on energy partition in solar flares. Finally, the upcoming Solar Orbiter mission will be introduced.

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Universität Potsdam

House 14, Room 0.45

5 min walk from Golm Railway Station

3 min from Bus station "Potsdam, Bhf Golm/Universität" (Line 606,605)

Karl-Liebknecht-Str. 24/25

14476 Potsdam

For further information or questions, contact

Martin Wendt, [mwendt@astro.physik.uni-potsdam.de](mailto:mwendt@astro.physik.uni-potsdam.de)

Phone : +49 331 977 5918



"golden"  
Institute of  
Physics and  
Astronomy

Library  
("black monolith")

