



PHYSIKALISCHES KOLLOQUIUM

Referent: **Prof. Dr. Jürgen Schaffner-Bielich**
Goethe-Universität Frankfurt am Main



Thema: **Exploring dense matter with neutron stars**

Zeit und Ort: Dienstag, 16.01.2018, 16:40 Uhr
Recknagel-Bau, Hörsaal REC/C213, Haeckelstr. 3

Leiter: Prof. Dr. Kai Zuber

Kurzfassung: Neutron stars are born as the endpoint of stellar evolution in core-collapse supernovae. The densities in a neutron star are extremely high, so high that nuclei are squeezed into their constituents, neutrons and protons. Exotic matter can appear in the core, either in the form of hyperons or as a new phase in the form of strange quark matter. The properties of neutron stars are determined by the nuclear equation of state of dense matter, so that the observation of neutron stars and neutron star merger can give a telltale signature of the properties of dense matter under extreme conditions. The present astrophysical data on neutron stars and pulsars, rotation-powered neutron stars, is reviewed. The equation of state of dense matter will be discussed and possible implications for future observations of core-collapse supernovae and neutron star mergers will be outlined.

Biographie:

1994	PhD at the Goethe Universität, Frankfurt am Main
1994-1996	Research Fellow at the Niels Bohr Institute, Copenhagen, Denmark
1996-1998	Visiting Research Scholar at LBNL, Berkeley, USA
1998-2001	Research Scientist at RIKEN BNL Research Center, Upton, USA
2001-2002	Research Associate at Columbia University, New York, USA
2003-	University Lecturer at the Goethe Universität, Frankfurt am Main
2008-2012	Professor at the Ruprecht-Karls-Universität, Heidelberg
2016-	Professor at the Goethe Universität, Frankfurt am Main

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