



## SFB-Seminar

### ZEIT:

1.6.2010, 16:00 Uhr - 19:00 Uhr

### ORT:

Konrad-Zuse-Zentrum für Informationstechnik Berlin  
Takustrasse 7  
14195 Berlin-Dahlem

### PROGRAMM:

16:00 - 16:45 **Hirosi Ooguri**

#### **Vorstellung des IPMU (Institute for the Physics and Mathematics of the Universe) in Tokio**

The Institute for the Physics and Mathematics of the Universe (IPMU) was established in October, 2007 as one of the five World Premier International Research Centers by the Ministry of Science and Education of Japan. IPMU's mission is to discover fundamental laws of nature and to solve mysteries of the universe from the synergistic perspectives of physics, cosmology and mathematics. I have been involved in this institute from the proposal stage. In the first half of this talk, I will review the progress of IPMU in the past three years. In the second half, I will discuss research opportunities at the interface of mathematics and physics and IPMU's roles in this area.

16:45 - 17:30 COFFEE BREAK

17:30 - 18:30 **Hirosi Ooguri**

#### **Topological String Theory**

Topological string theory was initially introduced as a toy model of string theory, but it has turned out to have applications in superstring theory and gauge theories. After reviewing mathematical aspects of topological string theory, I will discuss how the theory is used to address important questions in theoretical physics such as the black

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hole information paradox and strongly coupled effects in four-dimensional gauge theories.

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