



LUDWIG-
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MÜNCHEN

ARNOLD SOMMERFELD
CENTER FOR THEORETICAL PHYSICS



Arnold Sommerfeld Lecture Series

Professor Antoine Georges

Collège de France
and
Ecole Polytechnique, France

Public Lecture:

**From Atoms to Novel Materials -
- A Quantum Engineer's Dream**

Which property of a material is more familiar to us than its color? And yet, the strange laws of quantum mechanics, which rule atoms, electrons and photons, are key to the understanding of this most beautiful feature! The invention and engineering of novel materials has shaped human civilization, from the Bronze age to the Silicon age. This lecture is an invitation to explore materials down to the scale of their intimate constituents – atoms and electrons. We'll address questions such as: do we master quantum mechanics well enough today to explain how materials behave from the only knowledge of the atoms which build them? Have we reached the stage where the principles of quantum mechanics allow for the design of a novel material with specific functionalities?

Wednesday, 26th January 2011, 17:15 h, Room B 052, Theresienstr. 39, LMU