



# International Ising Centre for Computational Nanosciences



## International Visibility of Theoretical Nanoscience



### Scientific Staff

- Director Board (5 UH, 5 KIAE)
- Visiting Professors (10)
- Secretary

### International Scientific Board:

- Prof. Arthur Freeman (Chicago)
- Prof. Leonid Keldysh (Moscow)
- Prof. David Landau (Athens)
- Prof. Andy Millis (New York)
- Prof. Allan MacDonald (Austin)
- Prof. Antoine Georges (Paris)

## Joint effort in theoretical Nanoscience



New building: 1100 m2

- I. Institute of Theoretical Physics, UH
- Institute of Inorganic and Applied Chemistry, UH
- Mathematical Centre for Modeling and Simulation, UH
- Institute for Applied Physics, UH
- DESY
- KIAE

## Scientific Program - Nanoscience

### Guest Program

- 10-15 Guest-scientists per year
- 2-3 month visiting-scientists
- Ising Fellow nomination

### Workshops

- 2 Programs (3month) per year
- Summer-school for students
- Nanoscience Conferences

### Experience:

**KITP-Santa Barbara program:**  
29.07 – 20.12 (2002)  
Quantum theory of complex materials  
O.K. Andersen, A. Georges,  
G. Kotliar and A. Lichtenstein



## Supercomputer Center for Multiscale Modeling



- 512-nodes parallel opteron cluster
- Physnet Center – full support
- Student scientific work on Parallel supercomputing
- Lecture series: Art of Scientific Computing
- Unified Program Database for Nanoscience



## Ernst Ising: great history of physics in Hamburg

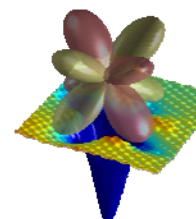


Ising Model: 20 000 citations

- Wolfgang Pauli (Nobel Prize-1945)
- Otto Stern (Nobel Prize-1943)
- Johannes Jensen (Nobel Prize-1963)
- Wilhelm Lenz
- Walter Gordon
- Pasquale Jordan
- Harry Lehmann
- Ernst Ising



## Nanosystem Design and Material Databank



Nanostucture design

- Universal WEB data nano-bank
- Internet access for multiscale modeling
- Nanoscience WEB-consulting

