

## SCIENTIFIC PROGRAM

FRIDAY, 10.10.

09:00	<b>E. SCHEER (KONSTANZ, GERMANY): ELECTRONIC TRANSPORT THROUGH FERROMAGNETIC SINGLE-ATOM CONTACTS</b>
09:50	<b>F. ANDERS (BREMEN, GERMANY): QUANTUM TRANSPORT THROUGH NANO- DEVICES: A SCATTERING-STATES NUMERICAL RENORMALIZATION GROUP APPROACH TO OPEN QUANTUM SYSTEMS</b>
10:40	<b>COFFEE BREAK</b>
11:10	<b>G. E. W. BAUER (DELFT, NETHERLANDS): SPIN-CALORITRONIC EFFECTS IN MAGNETIC NANOSTRUCTURES</b>
12:00	<b>CLOSING REMARKS</b>
12:15	<b>LUNCH</b>
14:00	<b>END OF THE WORKSHOP</b>

## INFORMATION

### REGISTRATION AND CONGRESS FEE

	PAYMENT RECEIVED BY SEP. 28	PAYMENT RECEIVED AFTER SEP. 28
REGULAR PARTICIPANT	150.00 €	180.00 €
STUDENT	100.00 €	130.00 €
DINNER	70.00 €	70.00 €

### WORKSHOP DEADLINES

SUBMISSION OF ABSTRACTS	AUG. 16, 2008
NOTIFICATION OF ACCEPTANCE	AUG. 31, 2008
PRE-REGISTRATION	SEP. 28, 2008
WORKSHOP	OCT. 8-10, 2008

### VENUE

WOLFGANG-PAULI LECTURE HALL,  
UNIVERSITY OF HAMBURG,  
JUNGIUSSTRASSE 11,  
D-20355 HAMBURG,  
GERMANY.

### LOCATION

THE WORKSHOP WILL TAKE PLACE IN HAMBURG,  
WHICH IS THE SCIENCE, CULTURE, BUSINESS AND  
TRADE CENTER IN THE NORTHERN PART OF  
GERMANY.

### WORKSHOP LANGUAGE

THE WORKSHOP WILL BE HELD IN ENGLISH.

### INFORMATION & ACCOMMODATION

CONGRESS OFFICE

HEIKO FUCHS

TEL.: +49 - 40 - 42838 - 6959

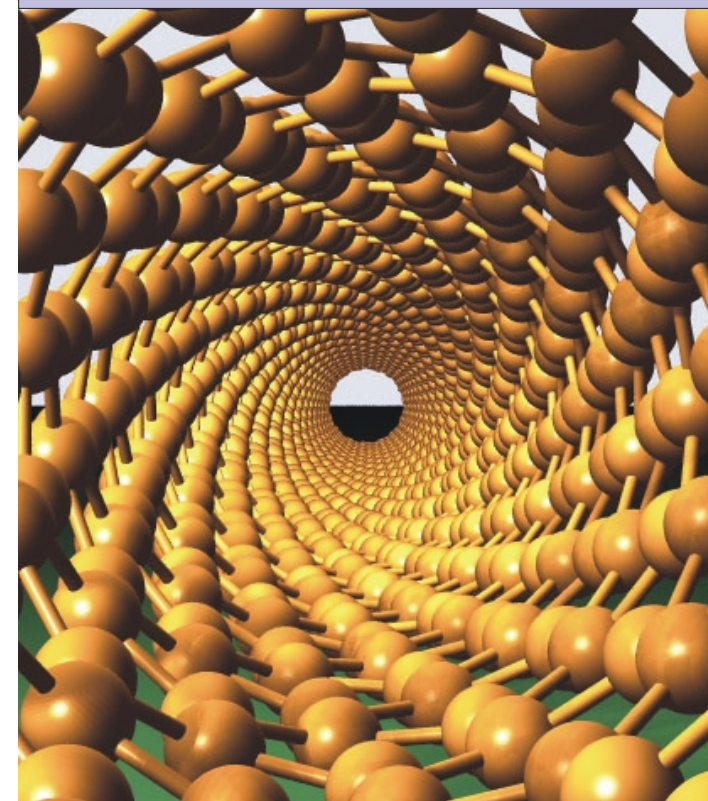
HFUCHS@PHYSNET.UNI-HAMBURG.DE

WWW.SFB668.DE/WORKSHOP2008

## INTERNATIONAL

## WORKSHOP

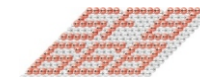
# QUANTUM TRANSPORT IN NANOSTRUCTURES



HAMBURG, OCT. 8-10, 2008



Universität Hamburg



## SCOPE

FOR MORE THAN 80 YEARS IN HAMBURG RENOWN PHYSICISTS, LIKE OTTO STERN, WOLFGANG PAULI AND ERNST ISING HAVE CONTRIBUTED TO THE UNDERSTANDING OF MAGNETIC SYSTEMS. NOWADAYS THE FOCUS LIES ON THE CONTROL OF TRANSPORT PROPERTIES OF ARTIFICIAL NANOSYSTEMS WHICH REQUIRES THE UNDERSTANDING OF LOCAL SPIN, CHARGE AND ORBITAL QUANTUM FLUCTUATIONS IN COMPLICATED IMPURITY SYSTEMS AND MOLECULAR CONTACTS. THESE EFFECTS ARE NOW ACCESSIBLE WITH SPIN POLARIZED SCANNING TUNNELING MICROSCOPY AT THE ATOMIC SCALE, AS WELL AS BY NEW LASER SPECTROSCOPY TECHNIQUES WITH TIME RESOLUTION ON THE ATTOSECOND SCALE. THE AIM OF THIS WORKSHOP IS TO BRING TOGETHER EXPERTS ON THE THEORY OF NON-LOCAL QUANTUM CORRELATIONS AND TRANSPORT THROUGH NANOSYSTEMS WITH EXPERTS ON THESE NEW EXPERIMENTAL ADVANCES, IN ORDER TO UNDERSTAND FUTURE CHALLENGES IN THE FIELD OF QUANTUM SPINTRONICS.

## ORGANIZERS

- STEFAN HEINZE
- DANIELA PFANNKUCHE
- ALEXANDER LICHTENSTEIN

AND **SFB 668** - COLLABORATIVE RESEARCH CENTER ON "MAGNETISM: FROM A SINGLE ATOM TO NANOSTRUCTURES" OF THE **UNIVERSITY OF HAMBURG**

## SCIENTIFIC PROGRAM

### WEDNESDAY, 8.10.

- 08:00** REGISTRATION
- 08:50** WELCOME ADDRESS
- 09:00** M. AONO (TSUKUBA, JAPAN):  
**ELECTRICAL CONDUCTIVITY OF ORGANIC AND INORGANIC NANOWIRES**
- 09:50** G. CUNIBERTI (DRESDEN, GERMANY):  
**MODELING MOLECULAR JUNCTIONS: PITFALLS AND CAVEATS IN UNDERSTANDING QUANTUM TRANSPORT AT THE MOLECULAR SCALE**
- 10:40** COFFEE BREAK
- 11:10** H. WEBER (ERLANGEN, GERMANY):  
**TRANSPORT THROUGH SINGLE MOLECULES: POLARIZATION, DYNAMICS AND KONDO**
- 12:00** LUNCH BREAK
- 13:30** M. WEGEWIJS (RWTH AACHEN, GERMANY):  
**TRANSPORT THROUGH SINGLE MOLECULE TRANSISTORS: BREAKDOWN OF THE BORN-OPPENHEIMER AND SEQUENTIAL TUNNELING PICTURE**
- 14:20** E. TSYMBAL (UNIVERSITY OF NEBRASKA, USA):  
**ELECTRON TUNNELING: FROM MAGNETIC TO FERROELECTRIC TUNNEL JUNCTIONS**
- 15:10** COFFEE BREAK
- 15:40** PH. MAVROPOULOS (FORSCHUNGS-ZENTRUM JÜLICH, GERMANY):  
**SPIN INJECTION, MANIPULATION, AND DETECTION IN SILICON**
- 17:00** POSTER SESSION

## SCIENTIFIC PROGRAM

### THURSDAY, 9.10.

- 09:00** A. CALZOLARI (MODENA, ITALY):  
**AB INITIO TRANSPORT PROPERTIES OF CARBON-BASED NANOSTRUCTURES**
- 09:50** H. C. MANOHARAN (STANFORD, USA):  
**SPINS ON GRAPHENE**
- 10:40** COFFEE BREAK
- 11:10** J. J. PALACIOS (ALICANTE, SPAIN):  
**GRAPHENE SPINTRONICS**
- 12:00** LUNCH BREAK
- 13:30** S. SANVITO (DUBLIN, IRELAND):  
**THE CHALLENGES OF COMPUTATIONAL MOLECULAR SPINTRONICS**
- 14:20** K. S. THYGESEN (LYNGBY, DENMARK):  
**ELECTRONIC CORRELATIONS AND INELASTIC SCATTERING IN TRANSPORT THROUGH MOLECULES**
- 15:10** COFFEE BREAK
- 15:40** L. GLAZMAN (YALE, USA):  
**UNIVERSAL SPECTRAL FUNCTION OF 1D INTERACTING FERMIONS**
- 19:00** CONFERENCE DINNER