A SMART MOVE TO GERMANY:

Research and Career Opportunities in Jülich

May, 2010 / Tbilisi, Georgia Elena Abrosimova, Corporate Strategy - International Relations

Jülich at a glance

Budget: 415 Mio. € Third party funding: 110 Mio. € (16 Mio.€ industry) License fees: 3 Mio. €

staff: 4.428 scientist: 1.500 + 900 guest scientist from more that 70 countries

8.500 patents, 192 licenses
100 new patents per year
2-3 spin off per year
> 1.700 papers per year
> 1.200 ISI-listed

cooperation contracts with >120 international companies 50 internal technology transfer projects/ spin off-funding









HELMHOLTZ ASSOCIATION



German-wide Network of 16 National Research Centres

 Program-oriented funding in 6 research areas





Europe around every corner





INTERNATIONAL COOPERATION

> >700 active cooperation

> 900 visiting scientists annually from 70 countries



Jülich Mission Statement



... With our national and international partners, we work towards interdisciplinary, comprehensive solutions for the grand challenges facing society in the future in the three fields of

> Health Energy and Environment Information Technology

thus laying the foundation for future

Key Technologies.





Health

Key technologies for diagnosis and therapy of neurodegenerate diseases





Interdisciplinary Neurosciences: From Basic research to diagnosis and treatment...

Systems biology





May 17, 2010



Energy & Environment

Next Generation of power generation technologies

Chemistry and Dynamics of the Geosphere





Fuel Cells

Green coal Technologies

Nuclear fusion & nuclear safety

Stratosphere, Tropospere, Phytosphere & Agrosphere,

Biotechnoloy & Bioeconomy

Focus on Energy: r<u>enewable energies,...</u>



Photovoltaics: Silicon thin film





...nuclear fusion,...





Nuclear fusion



 CO_2 -sequestration and CO_2 -reduction

...nuclear safety research,...

...and energy efficient conversion.10



observing and analysis





May 17, 2010

KEY TECHNOLOGIES – best practice –



the Giant Magneto Resistance reffectensors



Peter Grünberg

Nobel Prize in Physics 2007 together with A. Fert



results 170 million magnetic sensors sales worth 100 billion EURO





Large Scale Facilities

Design and operation of national and international large scale (user) facilities and platforms



Hadron physics @ FAIR

Neutron science @ JCNS

Supercomputing @ GAUSS

Microscopy @ ER-C



tre for Neutron Science



Supercomputing & Simulation Science



Focus on "Green-Computing" (Energy efficiency and optimization of "running costs") May 17, 2010







CAREER OPPORTUNITIES IN JÜLICH "Young People – Our Future"





International Helmholtz Research School on Biophysics and Soft Matter (IHRS)



Highly interdisciplinary PHD Program

We offer:

- Excellent research conditions
- Financial security
- Clearly defined 3 year program
- Interdisciplinary curriculum in biology, physics and chemistry
- The teaching language is English!

www.ihrs-biosoft.de

Research is possible in many areas of Biology and Soft Matter:

- Complex Fluids
- Colloid and Polymer Physics
- Dynamics of Macromolecules
- Supramolecular and Amphiphilic Self-Assembly
- Flow Dynamics and Microfluidics
- Single-Molecule Detection and Manipulation
- Optical Spectroscopy and Imaging
- Cell Biophysics
- Structural Biology
- Cellular Signaling Pathways
- Receptor-Ligand Interactions
- Artificial and Biological Membranes





German Research School for GRS Simulation Sciences

Joint foundation of Forschungszentrums Jülich & RWTH Aachen (JARA-SIM)



- New and tight cooperation in the promotion of young scientists
- Master classes & PhD program
- Education in **Computational Science and Engineering** on the highest level Contact:
- www.grs-sim.de

Dr. Boris Orth Managing Director

b.orth@fz-juelich.de



PhD Students – some numbers ...

Number of PhD students: 400

Duration of PhD: 3 years (± 2 months)

International PhD students: 38 %



Proportion of females: 30 %



BEST PRACTICE

PhD Education – and more...

- supervision by scientist in the Institute
- reliable financial security; duration 3 years
- Training in transferable skills
- Visits of conferences and summer schools
- administrative support by the centre's Foreign Advisory Office
- Günther Leibfried Prize for comprehensible science presentation
- Self-organisation: Studium Universale





Jülich seen through the eyes of International PhD Students



- modern laboratory is available at all times
- ■Reasonable fellowship is given (1,400 €)
- English speaking professors and students
- materials and devices can be procured at short notice (workshop support)
- German language courses are free of charge
- seminars are held on a routine basis
- administrative support by the centre's Foreign Advisory Office
- ■you can start your PhD-project any time of the year





FINDING TOMORROW TODAY