Scholarship Program of the German State of North Rhine-Westphalia for students from the Palestinian territories

Call 2011

Scholarships at institutions of higher education in North Rhine-Westphalia

(current version, as of 03 December, 2010)

Please choose the scholarship place(s) you seek to apply for; fill in the corresponding identification number (#) from the following list into the application form which you can download from [http://www.uni-duesseldorf.de/NRW-Nahost-Foerderprogramme](http://www.uni-duesseldorf.de/NRW-Nahost-Foerderprogramme)

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<td>Biology / Pharmacy / Life Sciences / Geography / Environmental Science</td>
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<tr>
<td>Medicine/Health Sciences</td>
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<tr>
<td>Mechanical Engineering / Process Engineering / Civil Engineering</td>
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<td>Discipline</td>
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<td>Electrical Engineering</td>
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</tr>
<tr>
<td>Mathematics</td>
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</tr>
<tr>
<td>Interdisciplinary / open</td>
<td>#MS 5</td>
</tr>
</tbody>
</table>

**Contact and further information**

Heinrich-Heine-University Duesseldorf  
Abteilung Kommunikation  
Universitaetsstrasse 1  
D–40225 Duesseldorf  
Germany  
Dr. Arne Claussen  
Telephone: +49-(0)211/81 10896  
Telefax: +49-(0)211/81 15279  
E-mail: claussen@verwaltung.uni-duesseldorf.de
Fachhochschule Bielefeld (FH BI)

University of Applied Sciences, Bielefeld, Germany (www.fh-bielefeld.de)

Faculties: Design, Civil Engineering and Architecture, Technics (new), Engineering and Applied Mathematics, Social Sciences, Business and Health Sciences

Courses mainly in German as language of instruction

Winter semester 2010/2011: about 7,600 students enrolled, including 230 international students

All faculties offer language classes in German, either at the faculty itself or in cooperation with a private language institute for guest students

http://www.fh-bielefeld.de/

Contact: Dorit Hekel
Head of International Office
Kurt-Schmacher-Str. 6, D–33615 Bielefeld
Phone: +49-(0)521/106-7710
E-mail: dorit.hekel@fh-bielefeld.de

# FH BI 1

<table>
<thead>
<tr>
<th>Institute</th>
<th>Contact at the institute</th>
<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Architecture and Civil Engineering</td>
<td>Prof. Dr.-Ing. Joachim Bahndorf</td>
<td>2 for English speaking students (M), 5 for German speaking students (B and M)</td>
<td>Civil Engineering; Architecture</td>
<td>M Architecture, or Civil Engineering (Classes and projects in English language possible)</td>
</tr>
</tbody>
</table>

Time frame:
3rd of May – 8th of July 2011
19th of September - 22nd of December 2011

Institute’s focal research areas
- Surveying methods and skills.
- Construction of plain light buildings (e.g. sport halls or stadiums).
- Water engineering and water management.
- Micro- and ultra-filtration methods.
<table>
<thead>
<tr>
<th>Institute</th>
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<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Business and Health Sciences, KomPASS (Platform for Competence Development in the Health and Social Area)</td>
<td>Inge Bergmann-Tyacke, MPhil</td>
<td>3-4</td>
<td>Nursing or other health care professions, Ethnology, Sociology, Psychology, Pedagogics, Educational Science (see project descriptions)</td>
<td>M</td>
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<tr>
<td></td>
<td></td>
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<td>Teaching language: German</td>
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<td>Working language: German and English</td>
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<td></td>
<td>Personal consultation by professors and teachers in English</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Papers can be written in English</td>
</tr>
</tbody>
</table>

**Time frame:**
- 3rd May – 8th July 2011
- 19th September – 22nd December 2011

**Institute’s focal research areas**

KomPASS – Platform for Competence Development in the Health and Social Area

KomPASS is committed to competence research in the field of nursing, health and social professions. It aims at providing an infrastructure for research and innovation in an otherwise practice-oriented University.

KomPASS staff support researchers by identifying funding opportunities for research and development and assists with applications for funding, sustains a network with partners from educational and clinical practice and provides support for project teams in all aspects of project management as well as methodological questions. KomPASS also aims to coordinate different researchers’ projects and provides structures and support systems for dissemination of project results. Above all, KomPASS promotes academic discourse among the researchers and in the faculty on competence development in the health and social area.

The competence platform also provides structures and services for students and new graduates to increase their research competence.

Possible placements for the fellowship will be with projects located in the Department of Health and Nursing. Teaching language in this Department is German, working languages in the research area are German and English.

The research area focuses on competence development which is being considered from different perspectives and pursuing different research and development questions within several projects.

**Project 1: Transform – Training Requirements and Nursing Skills for Mobility**

What competences do nurses need in order to work in transcultural teams? This is an international partnership project with universities from 7 European countries. (working language English)

Research questions: what are transcultural competences, how can they be acquired, how can they be taught. It is possible for scholars to follow their own line of inquiry within the subject.

**Project 2: zk2ak – Dual Bachelor Study Course in Nursing**

This study course follows an innovative curriculum which integrates teaching and learning in three different settings: university, nursing school and practice setting. The aim behind this complex approach is to boost competence development by actively combining the learning of evidence-based and
scientifically reflected action with the learning of skills and abilities necessary for nursing routine. (Teaching language German; project working language German, English possible)

**Project 3: Transitionen (Master; April-June)**

This project focuses its research on transitions between the stages of formal education and the labour market for health care professionals. The project aims at the competences necessary for successful transitions between these areas (study skills on the one hand and employability on the other). Applicants should have German and English language skills at intermediate or higher level in writing and speaking (European language level B2 or higher).

For detailed information on KomPass and the projects, please refer to [http://www.kompass.fh-bielefeld.de/images/kompass_docs/scholarships.pdf](http://www.kompass.fh-bielefeld.de/images/kompass_docs/scholarships.pdf)
Ruhr-Universitaet Bochum (BC)

University of Bochum, about 32,000 students, 4,500 foreign students, modern and innovative university with a wide range of study courses and excellent research institutions. German language classes start in October (winter term) and April (summer term) each year and are offered (free of charge) for the (following) term.

Homepage of Ruhr-Universitaet Bochum:  
http://www.ruhr-uni-bochum.de

Homepage of International Office:  
http://www.ruhr-uni-bochum.de/intoff/

Contact:  
Ms Jonna Haensel-Neumann,  
Ruhr-Universität Bochum,  
International Office, FNO 01/186,  
Universitätsstr. 150, D-44780 Bochum,  
phone +49-234-32-25425,  
fax +49-234-3214297,  
e-mail: jonna.haensel@uv.rub.de

# BC 1

<table>
<thead>
<tr>
<th>Institute</th>
<th>Contact at the institute</th>
<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographical Institute</td>
<td>Prof. Dr. Bernd Marschner</td>
<td>2</td>
<td>Geography; Agriculture; Environmental Sciences</td>
<td>M</td>
</tr>
</tbody>
</table>

Time frame: March – July and September – December

Institute’s focal research areas
- Biological activity in soils as indicators for soil functionality.
- Effects of effluent irrigation on soil properties.
- Determination of soil properties with MIR spectroscopy.

# BC 2

<table>
<thead>
<tr>
<th>Institute</th>
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<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute of Archaeological Science</td>
<td>Dr. Patric Kreuz</td>
<td>3</td>
<td>Archaeology of the Graeco-roman eastern Mediterranean / Near East; Phoenician archaeology</td>
<td>M; P</td>
</tr>
</tbody>
</table>

Time frame: May, June, July

Institute’s focal research areas
- The Decapolis in the Graeco-roman period; The Herodian kingdom;
- Archaeology of the Phoenician diaspora.
Institute | Contact at the institute | Number of places | Discipline or subject area | Scholars’ degree program (M = Master, P = PhD)
--- | --- | --- | --- | ---
Faculty for Mechanical Engineering  
Institute for Thermo- and Fluid Dynamics  
Chair for Fluid Process Engineering | Stefan Lier | 1 | Mechanical-, Process-, or Industrial Engineering or Business/ Economics | M; P

**Time frame:**
Open, but for at least 6 weeks

**Institute’s focal research areas**

Modular Chemical Plant

Modular plants consist of modules, which are standardized, autonomously operating parts of the plant. These modules are technically and organizationally limited areas of the plant, which fulfill defined tasks. Starting with these modules, companies can create capacity either by equaling-up modules from general structures or by numbering-up equipment. In the chemical industry, this approach has not been employed extensively hitherto, although this industry faces challenges similar to other industries. These are, in particular, increasing global competition, shorter product life cycles, and more volatile markets that are difficult to forecast. Therefore, more flexible production concepts, like modular plants, may help to meet such challenges.

The economics of a modular chemical plant have to be compared with those of a traditional large-scale plant by investigating investment and operation costs, combined with revenues, using a net present value analysis. This analysis will then reveal if the modular plant displays earlier breakeven points and if it will eventually be overtaken by the large-scale plant because of the latter’s economies of scale. To date, economies of scale have dictated the construction of large-scale plants, but in certain cases, smaller modular plants can be more advantageous economically. These cases, in which the effects of flexibility surpass the effects of scale have to be found and studied. Especially uncertainty, learning and market effects are still to be analyzed.

At the same time not only economical but also ecological investigations have to be carried out by life cycle assessments. Logistics in terms of warehousing, material handling and transportation systems as well as production network, locations and transportation for modular chemical plants have to be developed and assessed in economical and ecological terms.

The student will participate in a research program dealing with „Modular Chemical Plants“. The work contains modeling and computer simulation, as well as literature research and the evaluation of the data obtained with the help of modern software tools such as Microsoft®Excel and simulation software. The student will be instructed and guided through every step of the research project by the German PhD student.
The Bonn-Rhine-Sieg University of Applied Sciences (BRS U) was established in 1995 as a national university funded by the government.

BRS U specializes in business administration, natural sciences, computer science, social security management, technical journalism and engineering. The focus areas for BRS U are applied research and development, technology transfer using international and interdisciplinary approaches. There is an emphasis on internships and practical applications in industry and research and joint research projects with numerous companies and institutions.

As English or another foreign language is a required subject for all students, the university has established a central Language Centre which designs, coordinates and carries out foreign language instruction on all three campuses. These specific-purpose courses are taught predominantly by native speakers, and state-of-the-art IC technologies are often implemented, primarily through the use of new language labs and self-access centres in both Rheinbach and Sankt Augustin. Especially for foreign students, “German as a foreign language” is offered including the TestDaf Exam.

The campuses in Sankt Augustin, Rheinbach and Hennef are well-equipped with modern laboratories, and technical equipment. BRS U has approximately 125 Professors of which many receive research grants and other 280 teaching staff. There are about 130 support staff including technical and administrative employees. BRS U currently has around 5500 students and the Department of Natural Sciences recruits about 200 undergraduate in Bachelor programs and about 30 students in a Master program each year in two study courses: Applied Biology (as an international study course), Chemistry with Material Sciences (as an German study course), and Forensic Sciences (taught in German and English).

www.h-bonn-rhein-sieg.de

Contact: Dr. Vera Schneider
Hochschule Bonn-Rhein-Sieg
(Bonn-Rhine-Sieg University of Applied Sciences)
Akademisches Auslandsamt
Grantham-Allee 20
53757 Sankt Augustin
Germany
Tel +49 (0) 2241/865-628
Fax +49 (0) 2241/865-8628
E-Mail: vera.schneider@h-bonn-rhein-sieg.de

# BRS 1

<table>
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<tr>
<th>Institute</th>
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<th>Discipline or subject area</th>
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<tbody>
<tr>
<td>Department of Natural Sciences</td>
<td>Prof. Dr. Margit Schulze</td>
<td>2</td>
<td>Chemistry, Material Science</td>
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Time frame: March 15th - July 3rd 2011 and/or September 1st to December 20th 2011
Institute’s focal research areas

<table>
<thead>
<tr>
<th>The work deals with:</th>
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</thead>
<tbody>
<tr>
<td>a) development of polymer scaffolds for stem cell differentiation and proliferation</td>
</tr>
<tr>
<td>b) development of polymers used in dental medicine</td>
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</tbody>
</table>

The work encompasses the following topics for potential scholarship holder:

- Synthesis of appropriate polymers (e.g. biopolymers such as microspheres and hydrogels)
- Characterization of polymer structure
- Surface modification / functionalization
- Bioactivation of the scaffolds (e.g. via P2 ligands)
- Biocompatibility testing

# BRS 2

<table>
<thead>
<tr>
<th>Institute</th>
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<tbody>
<tr>
<td>Department of Natural Sciences</td>
<td>Prof. Dr. Edda Tobiasch</td>
<td>1</td>
<td>Biology</td>
<td>M</td>
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Time frame: Open (with a stay of not less than 12 weeks), preferably July - September

Institute’s focal research areas

The work deals with stem cell differentiation, signal transduction.

Overview:
Recent progress in our understanding of stem cell differentiation and cell transplantation has opened new therapeutic avenues in the treatment of human diseases involving chronic or acute tissue-specific cell loss. Consequently, experimental cell replacement strategies have been attempted involving adult stem cells with the aim of developing therapies.

Human mesenchymal stem cells which are isolated from adipose tissue have the advantage of potential autologous transplantation ability. There is evidence that they can be differentiated in chondrogenic, osteogenic, adipogenic and myogenic lineages. Inductions of the cells into multiple mesenchymal lineages already resulted in the expression of several lineage-specific genes, proteins and specific metabolic activity.

We aim at investigating fat-derived MSC, as potential donor cells, for their ability to differentiate in the osteogenic and beta cell direction for future treatment of diabetes and large bone effects and in the adipogenic direction to investigate the influence of the differentiating fat cell in the development of atherosclerosis.

More information on the subjects can be found on the homepage: [http://fb05.fh-bonn-rhein-sieg.de/tobiasch.html](http://fb05.fh-bonn-rhein-sieg.de/tobiasch.html)

The work encompasses the following topics for potential scholarship holder:

- Differentiation and characterisation of adult, human mesenchymal stem cells
- Determination of the role of the differentiating adipocyte in the pathogenesis of diabetes mellitus type 2
- Biocompatibility testing of nano-structured polymers as scaffolds for 3D tissue engineering
The group is composed of the lab leader, a scientist, two PhD students, 2 Master students and 6 Bachelor students working on their thesis.
Universitaet Duisburg-Essen (DE)

With over 30,000 students (including about 4,300 foreign students from more than 120 countries), the University of Duisburg-Essen (UDE) takes its place among the ten largest German universities. In research UDE occupies a respectable high-ranking position as measured by the amount of financial support granted by the German Research Foundation (DFG). Scholarship holders have the opportunity to take part in German language courses at our university which typically start during the second week of each semester. The Winter Term begins in mid-October, the Summer Term starts in mid-April.

German language course information:
http://www.uni-due.de/international/en_germancourses.shtml
www.uni-duisburg-essen.de

Contact: Mrs. Simone Mueller
International Office at UDE
Geibelstr. 41
D–47058 Duisburg
Phone: +49-(0)203/379 1062
E-mail: simone.mueller@uni-due.de

# DE 1

<table>
<thead>
<tr>
<th>Institute</th>
<th>Contact at the institute</th>
<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
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<tbody>
<tr>
<td>Chair of Dynamics and Control</td>
<td>Prof. Dr.-Ing. Dirk Soeffker</td>
<td>1</td>
<td>dynamics and control; cognitive technical systems</td>
<td>M</td>
</tr>
<tr>
<td>Time frame:</td>
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<tr>
<td>Institute’s focal research areas</td>
<td></td>
<td></td>
<td>Please cf. <a href="http://www.uni-due.de/srs/index_en.shtml">http://www.uni-due.de/srs/index_en.shtml</a></td>
<td></td>
</tr>
</tbody>
</table>
The TU Dortmund University was established in 1968 and comprises 16 Faculties, Collaborative Research Centres, Graduate Schools & Graduate Colleges, and a number of affiliated institutes as well as other associated and science institutes like Fraunhofer Institutes-and the Max Planck Institute for Molecular Physiology (MPI). The number of students in the fall term WS 08/09 amounted to 24,000. The staff consists of 338 professors, 1,812 academics and about 1,259 non academic staff.

The TU Dortmund University supports interdisciplinary cooperation between its fields of study. To combine and analyse the strengths and activities a programme of thematic "research bands" has been developed. The “bands” allow cross-referencing beyond the bounds of single departments, faculties and disciplines.

The TU Dortmund University has set itself an ambitious goal: research, teaching and courses of study are to be given an even more consistently international orientation over the coming years. In addition to its integration within the region, with all its structural changes, the university is deliberately focusing on a second aspect: Within the scope of a comprehensive network of international university partnerships and research co-operations, the TU Dortmund University will strengthen its position among the global players in the field of science.

The university already offers extensive support measures for foreign students. With the regular orientation programme “Come2Campus”, the Office for International Relations helps international “freshmen” to cope with the new living and learning conditions. Together with the city of Dortmund, the university strives to improve the services provided for foreign students.

A further way of improving the general conditions for successful completion of courses of study for international students is to increase the number of lectures held in English.

Building the network connecting the TU Dortmund University with partner institutions in Europe and all over the world has been a priority for decades. A huge number of co-operations among students, academics, institutes and departments, as well as world-wide university partnerships, opens up global thinking for the region and makes the university's achievements and competence available to the scientific community worldwide.

In addition to further increasing its international contacts, in the future the university will pay special attention to extending existing networks, like the European Consortium of Innovative Universities (ECIU), and to cooperation with institutions like the National Academy of Education Administration (NAEA) in the People's Republic of China.

www.uni-dortmund.de

Contact: Dr. Barbara Schneider
Akademisches Auslandsamt
Emil-Figge-Str. 72, D–44227 Dortmund,
Phone: +49-(0)231/755-5331
E-mail: barbara.schneider@udo.edu

# DO 1

<table>
<thead>
<tr>
<th>Institute</th>
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<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master; P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of English and American Studies</td>
<td>Prof. Dr. Walter Gruenzweig</td>
<td>1</td>
<td>American Studies; Cultural Studies</td>
<td>M; P</td>
</tr>
<tr>
<td>Program in American Studies, teacher training, Masters in cultural Studies, PhD Program</td>
<td></td>
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</tr>
</tbody>
</table>

Time frame: From September to December, 2011
| **Institute's focal research areas** | European-American relations, images of the United States, Anti-Americanism, Religion & American Culture, reception of American literature abroad, American political cultures, Exile in the United States. |
Fachhochschule Dortmund (FH DO)

Fachhochschule Dortmund - University of Applied Sciences and Arts was officially founded in 1971. Studies contents focus on solving practical problems and performing tasks encountered in daily applications, with experienced professors ensuring a sound relationship between theory and practice. At present more than 8500 students are registered with the University of Applied Sciences and Arts of Dortmund today. In all courses of studies the internationally recognized Bachelor and Master degrees are awarded.

Faculties at the Fachhochschule Dortmund – University of Applied Sciences and Arts:

- Architecture
- Design
- Information technology and electrical engineering
- Computer science
- Mechanical engineering
- Social Sciences
- Business

New Dortmund’s potential is based on the future sectors of IT, micro- and nanotechnologies and logistics. Dortmund has been concentrating on modern key industries since the 1980s when it started to promote them by setting up both the Technology Center Dortmund and the Technology Park Dortmund in the vicinity of the University. The city is one of the leading IT locations in Germany and Europe. More than 770 national and international IT companies are already based here.

www.fh-dortmund.de

Contact: Fachhochschule Dortmund - University of Applied Sciences and Arts
International Office
Frauke Albrecht
Sonnenstraße 100
44139 Dortmund
Telefon: 0231/ 9112-128
Email: Frauke.Albrecht@fh-dortmund.de

# FH DO 1

<table>
<thead>
<tr>
<th>Institute</th>
<th>Contact at the institute</th>
<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Computer Science</td>
<td>Prof. Dr. Eren</td>
<td>2</td>
<td>Computer Science</td>
<td>M</td>
</tr>
<tr>
<td>Time frame</td>
<td>September 19th - December 21st 2011</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Institute's focal research areas

General information about the studies of Computer science & technology at the Fachhochschule Dortmund –University of Applied Sciences and Arts:

Hardly any other discipline has undergone such rapid development in recent years as information technology (IT). Based on many years experience, the University of Applied Sciences and Arts of Dortmund offers well founded and practical education in various courses and fields of study. In addition to sound basic training in the administration and further development of networked systems, the structure and organization of databases and the design and development of information systems represent the core elements of information systems as a course of study, research. In-depth courses of studies are offered in the fields of technical IT and applied IT.

The faculty of computer science offers an internship for master students in IT Security, Security Infrastructures, Mobile Security.

The students will work in the laboratory for IT-Security Architectures (LISA). LISA offers a modular development and evaluation platform for IT-security architectures. It is used for practical courses, bachelor and master thesis, and also research & development projects. In future, it will be extended to be used as a demo & solution centre for third parties such as companies who are interested in assessing their components in the laboratory.

For further information please open the following internet address: [www.lisa.fh-dortmund.de](http://www.lisa.fh-dortmund.de)
Heinrich-Heine-Universitaet Duesseldorf (DS)

Even though the French emperor Napoleon I planned to found a university in Duesseldorf in 1811, with the Rhine area being thought of as an intellectual buffer zone between France and Prussia, Duesseldorf had to wait one more century. In 1907 the Duesseldorf Academy for Applied Medicine was founded and opened together with the newly-built Municipal Hospital, which was at that time the most modern clinical complex in the German Empire. Since the Academy had no university constitution, it was only allowed to instruct medical trainees, not students. The academy itself and part of the population launched several initiatives to change the status of the institution. In 1923 they finally succeeded when a university constitution including the right to train students was given to the Medical Academy of Duesseldorf. The study of dental medicine was subsequently incorporated, and by 1935 even doctoral degrees could be awarded in Duesseldorf.

After World War II the federal state of North Rhine-Westphalia and the City of Duesseldorf signed a contract which stated that the federal state would take over the Medical Academy, while the hospitals remained municipally owned. The Medical Academy became the University of Duesseldorf in November 1965, and in January 1966 it became a university with a medical faculty and a combined faculty of arts and natural sciences. In December 1988 the university senate decided to change the institution's name to Heinrich-Heine University Duesseldorf, in commemoration of one of the city's most renowned sons whose critical and inquisitive, poetic mind reached out across national borders and fought against small-mindedness.

Today the university forms the backbone of Duesseldorf's academic reputation. Faced with nation-wide cuts in university spending, the University of Duesseldorf has continued to thrive. Despite its recent foundation it has gained the reputation usually associated only with universities rich in age and tradition. The university's continuous development has made it home to a distinguished range of subjects, including medical science, natural sciences, economics, law, and the humanities. The degree requirements allow for numerous combinations of subjects, and study programs can be tailored to fit individual needs. Some subjects, such as Literary Translation, Yiddish Culture, Language and Literature, and Media Science, are unique features of our curriculum. Further specialties in the Faculty of Arts include Modern Japan Studies, and German as a Foreign Language which address the needs of the international business community. The Faculty of Economics focuses particularly on International Management. European and International Law enjoy an elevated position at the Faculty of Law, which is also a renowned center of commercial law. Duesseldorf has also become a hub of Biotechnology. The focal points of research within the Faculty of Mathematics and Natural Sciences are Genetics and Molecular Biology.

The Faculty of Medicine has gained a reputation for its research in Cardiology; Cell and Gene Therapy form the backbone of clinical research. The Center of Biomedical Research (BMFZ) stands out as a center of excellence. Several institutions devoted to special fields are attached to the university, for example the Institute of Diabetic Research, and the Medical Institute for Environmental Hygiene. The Institute for International Communication is also located on campus.

Ample proof of the confidence that sponsors place in the research conducted at HHUD can be seen in the number of collaborative research centers and research training programs. The University of Duesseldorf ranks 18th among the top 45 universities (113 in total), which together receive 90% of all project funds granted in Germany.

The university's international profile is the result of the active exchange programs it maintains with partner universities in regions as diverse as California and Peking, Reading and Naples. In any given year, about 3000 foreign students come from more than 110 nations, and over 120 guest academics conduct their research here. The total number of students amounts to approximately 25000. The number of faculty exceeds 1500.

Last but not least, the university has the advantage of occupying a pleasant site. After long hours of study it is tempting to take a stroll through the Botanical Garden located right on campus....

www.uni-duesseldorf.de

Contact: Dr. Anne Gellert
Head of International Office
Heinrich-Heine-Universitaet Duesseldorf (Building 16.11)
Universitaetsstraβe 1, D–40225 Duesseldorf
Phone: +49-(0)211/811-4107
E-mail: gellert@zuv.uni-duesseldorf.de
## DS 1

<table>
<thead>
<tr>
<th>Institute</th>
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<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute for Media and Cultural Studies</td>
<td>Prof. Dr. Reinhold Goerling</td>
<td>2</td>
<td>Cultural Studies Media Studies</td>
<td>M, P</td>
</tr>
</tbody>
</table>

**Time frame:**
- April – end of July
- 10th September – end of the year

**Institute’s focal research areas**
- Political and social violence and its cultural impact
- Transgenerational transmission of trauma
- Culture and the politics of affect
- Film Studies

## DS 2

<table>
<thead>
<tr>
<th>Institute</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Institute for Jewish Studies</td>
<td>Prof. Dr. Stefan Rohrbacher</td>
<td>3</td>
<td>Yiddish</td>
<td>M, P</td>
</tr>
</tbody>
</table>

**Time frame:**
- open

**Institute’s focal research areas**
- Without Specification
Forschungszentrum Juelich (FZJ)

Research Centre Jülich, member of the Helmholtz Association, is one of the major research institutions in Europe. An interdisciplinary staff of 4300 members, including 1500 scientists from disciplines like physics, chemistry, biology, medicine and the engineering sciences, focus their work on two of the „Grand Challenges“ of society: For Jülich, this is on the one hand the field of Health, where Jülich scientists are trying to decipher the mechanisms of neurodegenerative diseases like Alzheimer and Parkinson and to find therapies for these diseases. On the other hand, Jülich is addressing the field of Energy&Environment. With research on renewable energies like photovoltaics, new technologies and materials like fuel cells and work on nuclear fusion, Jülich delivers a significant contribution for a sustainable and holistic energy supply. Combined with a strong expertise in environmental research, Jülich helps to understand the mechanisms of climate change and to develop directives for climate protection.

Research Centre Jülich is tackling these two Grand Challenges by using existing and developing new key technologies like biotechnology, nanoelectronic materials, and simulation sciences using supercomputers. Jülich’s new supercomputer JUGENE is the fastest computer used for civil purposes worldwide and is second in the TOP 500 list.

The Research Centre is located near the town of Jülich, close to the university cities Aachen, Bonn, Cologne and Düsseldorf. The proximity of Jülich to the Netherlands, Belgium and Luxemburg as well as about 700 international guest scientists per year add to an excellent and inspiring training environment.

German language courses are organised in the context of our in-house training programme and are free of charge..

www.fz-juelich.de

Contact: Claudia Wolfgram
Corporate Strategy and Internal Relations; US-I
Forschungszentrum Jülich GmbH
D-52425 Jülich, Germany
Phone:+49 – (0)2461 – 61.3386 Fax:+49 – (0)2461 – 61.3635
e-mail: c.wolfgram@fz-juelich.de

# FZJ 1

<table>
<thead>
<tr>
<th>Institute</th>
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<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute for Nuclear Physics (IKP)</td>
<td>J. Ritman, F.Goldenbaum</td>
<td>2</td>
<td>Nuclear and Particle Physics</td>
<td>M, P</td>
</tr>
<tr>
<td>Time frame:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Time frame: open
### Institute’s focal research areas

The Wide Angle Shower Apparatus, WASA, is a large-acceptance detector for charged and neutral particles operated at the COSY proton and deuteron accelerator. The experiments aim at a complete measurement of the final state particles from proton-proton and proton-deuteron collisions. The physics goals are located in the field of hadron physics, contributing to answering fundamental questions concerning the strong interaction. Here, the approach is the study of symmetries and their violation, spectroscopy, form factors, and hadron-hadron interactions. WASA-at-COSY is an international collaboration and offers the experience of team work including the strong student body and participation in the experiment beam times.

Topics for summer research projects are:

- test of detector and trigger prototypes for an experiment upgrade (Strawtube-, DIRC cherenkov detectors)
- calibration and monitoring of detector components using C++/ROOT based analysis programs
- Monte Carlo simulations modeling physics reactions for the interpretation of the acquired data

More information is available at [www.fz-juelich.de/ikp/wasa](http://www.fz-juelich.de/ikp/wasa) or directly at j.ritman@fz-juelich.de

The working language is English, and German language courses are available.

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### # FZJ 2

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Central Institute for Electronics (ZEL)</td>
<td>Dr.-Ing. Gudrun Wagenknecht</td>
<td>2</td>
<td>Informatics; Electrical/Biomedical Engineering; Mathematics; Physics</td>
<td>M</td>
</tr>
</tbody>
</table>

**Time frame:**

April – November 2011

### Institute’s focal research areas

The research group Multimodal Image Processing at ZEL focuses on the development of algorithms for segmenting and analyzing 3D brain structures of humans and small animals based on multimodal images (MR-BrainPET, MRI, CT, PET, SPECT). Applications of these methods are in the field of neuroscience, diagnosis and therapy of brain diseases as well as molecular diagnosis. We are partners in national and international research projects (e.g., BMBF).

Small projects regarding the following topics can be offered for students with background in medical image processing and outstanding programming skills in C, C++:

1. The implementation of methods in the field of head and brain segmentation as well as the comparison and evaluation of those approaches and toolkits for different applications.
2. The implementation and test of algorithms to extend our evaluation toolkits.
### FZJ 3

<table>
<thead>
<tr>
<th>Institute</th>
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<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Technology Division (ZAT)</td>
<td>Dr. Ghaleb Natour</td>
<td>1 - 2</td>
<td>Engineering Science and Technology</td>
<td>M</td>
</tr>
</tbody>
</table>

**Time frame:** open

**Institute’s focal research areas**

Technology for cutting-edge research around the world.

ZAT is developing and manufacturing unique apparatus, systems and processes for the scientific institutes in and outside the Juelich Research center to achieve their R&D objectives.

**Engineering & Technology:**

Development, computation, mechanical design, manufacturing technologies, joining technologies, test and measurements, technology feasibility studies, magnetic bearings and drives

E-Mail: g.natour@fz-juelich.de
Internet: http://www.fz-juelich.de

### FZJ 4

<table>
<thead>
<tr>
<th>Institute</th>
<th>Contact at the institute</th>
<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute of Neurosciences and Medicine (INM)</td>
<td>A. Bauer S. Beer</td>
<td>2</td>
<td>Physics, Mathematics, Biomedical Engineering, Computer Science</td>
<td>M, P</td>
</tr>
</tbody>
</table>

**Time frame:** Open.

**Institute’s focal research areas**

Positron Emission Tomography (PET) is a non-invasive technique for studying in vivo tracer pharmacokinetics and metabolism. High resolution animal PET is used e.g. for receptor studies in brain research, where the best possible image quality and quantitative accuracy is required. PET is multi-disciplinary, so that the projects offer the opportunity to experience collaborative research and teamwork among various disciplines from chemistry, physics, engineering and mathematics to biology and preclinical research.

Topics for summer research projects are:

Influence of activity from outside the field-of-view on image quality in high-resolution PET

Impact of different reconstruction and correction methods on quantitative accuracy in high-resolution PET

More information is available at [http://www.fz-juelich.de/inm/inm-2/](http://www.fz-juelich.de/inm/inm-2/) and [http://www.fz-juelich.de/zel/zel_bildgebung_beschreibung](http://www.fz-juelich.de/zel/zel_bildgebung_beschreibung) or directly at si.beer@fz-juelich.de.
The university of Münster is one of the largest universities in Germany with about 35,000 students, 15 faculties and 250 study disciplines. 40 study fields are international.

The university has its focus of excellence on religion and politics, life sciences including molecular biology, nanosciences including soft matter and photonics, energy research, law and economics.

In all these fields, education and career of young researchers is important. This is reflected by numerous graduate schools, among them many international ones as well as 8 research clusters.

Internationalization is a strategic goal of the university, leading to over 400 cooperation agreements with foreign universities and research institutions, and strong links to China, Brasil, India, and Japan.

Student exchanges are based mainly on Erasmus, with the university of Münster being among the German universities with the largest number of exchange students every year.

Students that participate at the present program will be supported by the International.German language courses are available in the frame of the language center course program. Administrative tasks will be tackled together with a staff headed by Barbara Koob (see also „Ansprechpartnerin der Koordinierungsstelle”), a strong social program is offered by the centre “Die Brücke”. Students can use all student facilities as cantine, cafeteria, public local transportation, and can also apply for students housing / apartments.

www.uni-muenster.de

Contacts:  
Mrs. Inge Thomas  
International Office  
Leonardo-Campus 11, D–48149 Muenster  
Phone: +49-(0)251/83-22254  
E-mail: inge.thomas@uni-muenster.de  

Barbara Koob,  
International Office der Westfälischen Wilhelms-Universität Münster,  
Leonardo Campus 11, 48149 Münster,  
Tel.: 0251/ 83- 21520,  
e-mail: barbara.koob@uni-muenster.de

| # MS 1 |
|---|---|---|---|
| Institute | Contact at the institute | Number of places | Discipline or subject area |
| Institute for Theoretical Physics | Prof. Dr. Rudolf Friedrich | 2 | Theoretical Physics |
| Time frame: | From April 26 to July 23, 2010 |
| | From October 4 to December 17, 2010 |
| Institute’s focal research areas | Complex Systems: turbulence, structure formation, granular systems, chaos |
| Scholars’ degree program (M = Master, P = PhD) | M |
### MS 2

<table>
<thead>
<tr>
<th>Institute</th>
<th>Contact at the institute</th>
<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute for Theoretical Physics</td>
<td>Prof. Dr. Gernot Muenster</td>
<td>1</td>
<td>Theoretical Physics</td>
<td>M</td>
</tr>
</tbody>
</table>

**Time frame:**
- From April 26 to July 23, 2011
- From November 4 to December 17, 2011

**Institute’s focal research areas**
- Theory of elementary particles: lattice gauge theory; chiral perturbation theory

### MS 3

<table>
<thead>
<tr>
<th>Institute</th>
<th>Contact at the institute</th>
<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute of Physics</td>
<td>Prof. Dr. Helmut Zacharias</td>
<td>1</td>
<td>Chemistry; Physics</td>
<td>M</td>
</tr>
</tbody>
</table>

**Time frame:**
- open

**Institute’s focal research areas**
- Generation of femtosecond laser pulses; control of the spatial and temporal pulse shape by phase modulation; generation of femtosecond hard x-rays; time-resolved x-ray diffraction.

### MS 4

<table>
<thead>
<tr>
<th>Institute</th>
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<tbody>
<tr>
<td>Institute of Physics</td>
<td>Prof. Dr. Helmut Zacharias</td>
<td>1</td>
<td>Chemistry; Physics</td>
<td>M</td>
</tr>
</tbody>
</table>

**Time frame:**
- open

**Institute’s focal research areas**
- Electron emission from chiral organic thin films; electron spin analysis; surface science

### MS 5

<table>
<thead>
<tr>
<th>Institute</th>
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<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation Office / Arbeitsstelle Forschungstransfer (AFO)</td>
<td>Dr. Wilhelm Bauhus, Simone Mäteling</td>
<td>1-2</td>
<td>As a liaison office, the AFO team is a very interdisciplinary and diverse unit and therefore welcomes all disciplines. The current team inherits geologists, political scientists, psychologists, biologists, economists</td>
<td>M</td>
</tr>
</tbody>
</table>
and communication scientists. However, first experiences in project management would be helpful for the scholarship holder, a basic knowledge of a university’s technical transfer structures an asset.

**Time frame:**

No fixed period. However, in order to benefit from this traineeship, the minimum length of stay is 12 weeks. Applications which demand a shorter duration of stay cannot be accepted. We strongly advise applicants to avoid scheduling the main time of stay during the summer months and would appreciate a stay from September/October to December.

**Institute’s focal research areas**

The Innovation Office - Arbeitsstelle Forschungstransfer (AFO) serves as an entry point to the university’s research and as an interface within the University of Muenster. Our mission is to promote and enhance the transfer of research, knowledge and technology. Our partners are industry and economy, the public sector, governmental and non-governmental organisations as well as individuals. We are focusing our activities to establish cultures of entrepreneurship and intellectual property rights. We see creativity and curiosity as the keys to research, knowledge, social innovation and prosperity.

Depending on the respective period of time and individual (research) interest, the scholarship holder will be included in the ongoing projects, e.g. Muenster School of Innovation (Teaching Transfer), Idea-Mining Thematic Think Tanks, Patenting, Muenster University Model United Nations, (international) Networking, Community outreach projects, Science Communication a.m.m.

It has also our core interest to learn from the fellow and therefore, he / she has the opportunity to create their own projects. AFO is therefore looking for open-minded spirits- and self-starting personalities.

[www.uni-muenster.de/AFO/](http://www.uni-muenster.de/AFO/)

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**# MS 6**

<table>
<thead>
<tr>
<th>Institute</th>
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<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute of Applied Physics, group „Nonlinear Photonics“</td>
<td>Prof. Dr. Cornelia Denz, director</td>
<td>4 (2 MSc, 2 PhD)</td>
<td>Physics, electrical engineering, biophysics</td>
<td>M, P</td>
</tr>
</tbody>
</table>

**Time frame:**

May - November 2011
Masters: one place May - July + one place September - November; PhDs: open

**Institute’s focal research areas**

In our Institute of Applied Physics, with its focus on photonics, biophotonics, lasers and magnetism, students will be supervised personally by the group leaders, and will have access to all facilities of the institute, including lab places, computer rooms including online access, an office desk, and libraries. The students can also profit from the Center for Nonlinear Science located in our institute.

The present offer focuses on activities of the Nonlinear Photonics group headed by Prof. Dr. Cornelia Denz. Beneath her, Dr. Jörg Imbrock is a central contact person supporting the students in all topics in the institute. This group is also collaborating and connected to several other research groups in universities in the field of photonics in NRW as Bonn, Köln, and Paderborn, and offers visits of these groups in the frame of the stay.
Depending on the exact time and development of the research stay, the group also offers conference participation for the guest students.

Address: Nonlinear Photonics group, Institute for Applied Physics, WWU Münster, Corrensstr. 2-4, 48149 Münster, Germany; Tel. 0251/8333517/-18; FAX: 0251/8339811; e-mail: denz@uni-muenster.de; web: http://www.uni-muenster.de/physik.ap/denz

Contacts / collaborations exist with the following groups, that can be explicitly addressed:

**Israel (collaborations / close contacts):**
- Prof. Dr. M. Segev, Technion, Haifa (msegev@tx.technion.ac.il);
- Prof. Dr. B. Malomed, Tel Aviv University (malomed@eng.tau.ac.il)

**Jordanien (suggestion)**
- Prof. Ibrahim Mohammed Mansour, University of Jordan, Amman (imansour@ju.edu.jo)

**Palästina (suggestion)**
- Prof. C. V. Sofyan A Taya, Islamic University of Gaza, (staya@iugaza.edu.ps, tayasofyan@yahoo.com)

The group is working in the field of **Nonlinear Photonics and Biophotonics**. We have three main directions:

**optical information processing** includes creation of photonic crystals by direct femtosecond laser writing, holographic techniques as well as photonic lattices

**biophotonics** includes holographic optical tweezers, lab-on-a-chip investigations as optofluidics, and nonlinear microscopy

**novel functional materials** includes organic electro-optic materials for solar cell and data storage applications, light-induced domain engineering, and nonlinear optics by ultra-short laser pulses.

**Topics for master students are:**

- Controlling light in 3D photonic lattices (numerics and / or experiment), including random lattices and localization in lattices
- Slow and fast light in resonant photonic systems (numerics and / or experiment)
- Light-induced domain engineering for tunable harmonic generation (experiment)
- Frequency conversion with ultrashort laser pulses in nonlinear crystals with a short range of order of domains (experiment)
- Creation of complex non-diffracting beams for applications in the organization of matter (bottom-up techniques using nanoparticles) (numerics and / or experiment)
- Holographic optical tweezers to control nanocontainers and molecular motors (experiment)
- Controlling fluid flows in lab-on-a-chips by light (experiment)
- Polymer-based organic electro-optic materials (numerics and / or experiment)

**PhD students** may focus either on light propagation complex optically induced photonic lattices, especially nonlinear or quantum effects as Anderson localization or nonlinear self-action effects, or on holographic optical tweezing of nanocontainers.
<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Institute of Liturgical Studies</td>
<td>Dipl.-Theol. Martin Luestraeten</td>
<td>1</td>
<td>Theology, Religious Studies, Arabic Palaeography</td>
<td>M/P</td>
</tr>
</tbody>
</table>

**Time frame:** September – December 2011

**Institute’s focal research areas**

The contact person at the Institute of Liturgical Studies works on a thesis on the Arabization and Byzantinization of the Rum-Orthodox Rite, embedded in the whole history of the Byzantine Rite. Applicants should focus on palaeography and codicology of Arabic codices (some of them with Greek and Qarşűni parts) of the 12th-15th century, the history of Islam and Christendom in the Levant or the peculiarities of Christian Palestinian Arabic.

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</tr>
</thead>
<tbody>
<tr>
<td>Institute for Geoinformatics</td>
<td>Dr. Christoph Brox</td>
<td>2</td>
<td>Geoinformatics or related area</td>
<td>P or M</td>
</tr>
</tbody>
</table>

**Time frame:** May 3rd – July 31st 2011

**Institute’s focal research areas**

The Institute for Geoinformatics ([http://ifgi.uni-muenster.de](http://ifgi.uni-muenster.de)) is one of the world-wide leading research institutes in this field. The Muenster Semantic Interoperability Lab (MUSIL) is a competence center at the Institute for Geoinformatics of the University of Muenster. Its mission is to improve the usability of geospatial information by enabling semantic interoperability ([http://musil.uni-muenster.de](http://musil.uni-muenster.de)). Specific topics for grant-holders (PhD or MSc students) are:

- linked open geodata
- ontologies for geoinformation
- semantics of sensor data.
Fachhochschule Muenster (FH MS)

The University of Applied Sciences (MUAS) was founded in 1971 out of public and private schools and has developed to a modern, achievement-oriented and service-oriented university. MUAS is with around 9,750 students and 15 faculties/central research institutions one of the biggest institutions of its kind in Germany. The departments and institutions are located at different places in Münster and Steinfurt.

Students receive an academic training in various fields and the language centres offer German language courses. Language courses are offered during the regular semester period.

A Welcome Service for foreign students is offered to make new students’ life easier and to integrate them successfully into everyday life at the university.

Internet: www.fh-muenster.de

Contact: International Office
Samia Jalal-Tiede,
Stegerwaldstr. 39, 48565 Steinfurt, Germany
Phone +49 2551 9 62396
Fax +49 2551 9 62496
Email: jalal@fh-muenster.de

# FH MS 1

<table>
<thead>
<tr>
<th>Institute</th>
<th>Contact at the institute</th>
<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Security lab</td>
<td>Prof. Dr.-Ing. U. Greveler</td>
<td>2</td>
<td>Computer Science, IT-Security</td>
<td>M, P</td>
</tr>
</tbody>
</table>

Time frame: From May 2011 on: 10-12 weeks

Institute’s focal research areas

The objective of the two positions is research in the field of privacy enhancing technologies, fault-tolerant computer systems and trusted computing. The project seeks to establish a sound scientific foundation and technological basis for managing sensitive information in a hardware-based system. By applying key concepts of trusted computing technology a sealed storage of data is established which provides a foundation for enforcing machine readable access rights to the sealed data.

# FH MS 2

<table>
<thead>
<tr>
<th>Institute</th>
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<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Engineering work group ‘Theoretical Many-body Physics’</td>
<td>Prof. Klaus Morawetz</td>
<td>2</td>
<td>Theoretical Physics</td>
<td>M, P</td>
</tr>
</tbody>
</table>

Time frame: April - June, 2011
| Institute's focal research areas | 1 PhD: Calculation of superconducting surface properties under field bias with the help of Ginzburg-Landau approach  
|                                 | 1 M: Simulation of pseudo-thermal light by laser on rotating ground glass, statistics and modification of light properties |
Universitaet Paderborn (PB)

The University of Paderborn is a fully accredited state university offering all types of academic degrees including PhD and postdoctoral lecture qualification.

The university is “The University for the Information Society”. Corporate image, mission statement and the university’s action are led by this guiding principle. So Paderborn concentrates on computer science and its application, and especially on IT-related aspects of interdisciplinary collaboration involving all the academic departments of the university. Together they all contribute to developing and critically exploring the information society, with the arts and humanities taking on a major, independent role.

The university has an academic staff of about 1,000 and offers a wide range of subjects in five faculties: Faculty of Arts and Humanities, Faculty of Business Administration and Economics, Faculty of Science, Faculty of Mechanical Engineering, Faculty of Computer Science, Electrical Engineering and Mathematics.

There are about 14,000 students studying at the university, among them about 1,500 international students.

German Language courses: A four week course of 20 hours per week starts before the semester begins in March and in September. Another course of 10 hours per week runs during the semester.

The city of Paderborn can look back on 1,200 years of history. It is also home to some of the world’s leading industrial corporations, such as Siemens, Wincor Nixdorf, Benteler, Hella und Stute. Located in the heart of Germany, Paderborn is an ideal base for getting to know the country and its people.

With a population of around 140,000 people, Paderborn is a lively cultural centre– among others the world’s largest computer museum –and a generous range of sports and recreational activities, and of course, Paderborn has loads of city fetes and festivals.

www.uni-paderborn.de

Contact: Angelika Brebeck
Universitaet Paderborn / International Office
Warburger Str. 100
D–33098 Paderborn
Phone: +49-(0)5251/60 32 08
Email: brebeck@zv.upb.de

# PB 1

<table>
<thead>
<tr>
<th>Institute</th>
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<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GET Lab – Cognitive Systems Engineering</td>
<td>Prof. Dr. Baerbel Mertsching</td>
<td>3</td>
<td>Computer Science, Electrical Engineering and related fields</td>
<td>M, P</td>
</tr>
</tbody>
</table>

Time frame: open, preferably October - March

Institute’s focal research areas
- autonomous and teleoperated mobile robot systems,
- computer vision
- virtual and augmented reality/simulation
- (low power) microelectronics
<table>
<thead>
<tr>
<th>Institute</th>
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<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechatronics and Dynamics</td>
<td>Dr. Hensel</td>
<td>2 - 4</td>
<td>Mechatronics, Mechanical or Electrical Engineering</td>
<td>M, P</td>
</tr>
</tbody>
</table>

**Time frame:**
open (with a stay of 12 weeks)

**Institute’s focal research areas**
Dynamic mechatronic systems
Hochschule Ruhr West – University of Applied Sciences (HSR)

Hochschule Ruhr West – University of Applied Sciences is a young public university with high academic standards and a focus on mathematics, computer sciences, natural sciences and engineering. It was founded in May 2009 and is located in Mülheim an der Ruhr and Bottrop in the heart of the Ruhr region. HRW offers a personal learning atmosphere and interdisciplinary institutes with modern labs and computer pools. It has strong ties with the local industry. Participation in a German course is possible (in cooperation with the local authority).

www.hs-ruhrwest.de

Contact: Hochschule Ruhr West – University of Applied Sciences
Larissa Dickhaut
International Office
Mellinghofer Straße 55, Gebäude 35
45473 Mülheim an der Ruhr
Germany
Email: larissa.dickhaut@hs-ruhrwest.de
phone: +49 0208 88254 210

#HSR 1

<table>
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<th>Discipline or subject area</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Institute for Informatics</td>
<td>Prof. Handmann</td>
<td>3</td>
<td>Informatics, Electrical Engineering, Experience in Programming</td>
<td>B, M, P</td>
</tr>
</tbody>
</table>

Time frame: Flexible between May 1rst – December 31rst 2011
duration: 6-12 weeks

Institute’s focal research areas
Possible research topics are:

Programming:
- Implementation of examples in OpenGL for computer vision applications
- Implementation of examples in Matlab for computer vision applications
- Implementation of examples using the OpenCV-library for computer vision applications

Computer Vision:
- Implementation of a person tracking module based on the hausdorff distance.
- Literature study regarding person detection in video streams.
- Implementation of a person detection algorithm based on gradient features

Technical Computer Science:
- Programming and Evaluation of a CAN-bus based client-server system to transfer images and navigation data

**Human Machine Interface:**
- Implementation of a multi-touch environment for gesture recognition

**Neurocomputing:**
- Implementation of a biological inspired dynamical approach for behavior planning on mobile platforms

# HSR 2

<table>
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<tbody>
<tr>
<td>Institute for Measurement and Sensor Technology</td>
<td>Prof. Himmel</td>
<td>3</td>
<td>Electrical Engineering</td>
<td>M, P</td>
</tr>
</tbody>
</table>

**Time frame:**
Flexible between May 1rst – December 31rst 2011
duration: 6-12 weeks

**Institute’s focal research areas**
1) Non Destructive Testing
2) Biomedical Engineering
3) Diversification of the Eddy Current technology
Bergische Universitaet Wuppertal (BUW) / University of Wuppertal

The University of Wuppertal, founded in 1972, is situated in the state of North Rhine-Westphalia (NRW) one of the 16 federal states of Germany. It borders on the Netherlands and Belgium in the West. NRW is economically the most significant German state with an outstanding educational and cultural landscape.

In NRW Wuppertal is situated close to Düsseldorf and Cologne in a particularly delightful region with wooded hills, meadows, orchards and fields called the “Bergisches Land”.

The city of Wuppertal with its 375,000 inhabitants is an interesting mixture of outgoing metropolis and cosy village with a lot of leisure facilities. From any part of the city it is only a 10 minute walk to the nearest park or shady woodland path.

The university, with its three campuses covering more than 35 hectares (over 85 acres), offers a diverse range of programmes in science, engineering economics and the humanities, as well as educational science, design and architecture. Emphasis is placed on an intensive interaction between all disciplines. The interdisciplinary focus in research and teaching is a direct response to the demands placed on future young professionals.

Some 14,000 students from more than 100 countries benefit from high-level academic approaches in teaching, and from the university’s commitment to research and international collaboration.

The University is organized into seven faculties.

A-Faculty of Humanities; B-Faculty of Economics/Schumpeter School of Business and Economics; C-Faculty of Mathematics and Natural Sciences; D-Faculty of Architecture, Civil Engineering, Mechanical Engineering and Safety Engineering; E-Faculty of Electrical, Information and Media Engineering; F-Faculty of Art and Design; G-Faculty of Educational and Social Sciences and the School of Education.

German Courses

BUW Language Center/“Sprachlehrinstitut“ (SLI) offers:
- Language courses to prepare for studying (all levels)
- German for special purposes
- Cultural Studies German

www.sli.uni-wuppertal.de

www.internationales.uni-wuppertal.de
www.uni-wuppertal.de

Contact:
Andrea Bieck
Head of International Office Bergische Universitaet Wuppertal
Gauss-Str. 20, D – 42097 Wuppertal
Phone: +49 (0) 202 439 2181/ Fax: +49 (0)202 4393856
Email: bieck@uni-wuppertal.de
## WU 1

<table>
<thead>
<tr>
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<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (M = Master, P = PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Mathematics and Natural Sciences, Department of Physics (Astroparticle Physics)</td>
<td>Prof. Dr. K.-H. Kampert</td>
<td>1</td>
<td>Astroparticle Physics, High-Energy Nuclear Physics</td>
<td>M, P</td>
</tr>
</tbody>
</table>

**Time frame:**
- May to July 2011
- September to October 2011

### Institute’s focal research areas

- **Ultra-High Energy Cosmic Rays, Neutrino Astronomy, RICH Detector Development**
  
  **http://astro.uni-wuppertal.de**

  **Ultra-High Energy Cosmic Rays**
  
  The question about the origin of the highest energy cosmic rays with energies in excess of $10^{20}$ eV is the most pressing problem of astro-particle physics. Our present knowledge does not provide a standard explanation of the production and acceleration of any particle in the Universe up to such macroscopic energies. The Auger Observatory in Argentina is designed to detect such particles with an unprecedented quality and precision and it is therefore the only one able to solve that puzzle. The group is involved in that experiment since its beginning and has provided major contributions. Present activities involve new technical developments, data analyses and phenomenological interpretations. Possible subjects to work on would be detector tests and smaller projects of data analysis.

  **Neutrino Astronomy**
  
  Almost all we know about the universe is based on observations of photons. Radio waves, infrared-, visible-, and ultra-violet light, X-rays, and the powerful gamma rays, are all electromagnetic waves composed of photons. Neutrinos, weakly interacting particles, offer the possibility to open a new window of astronomy of the extreme Universe. Similarly to photons, they propagate on straight lines and point back to their sources. Their detection, however, requires very large underground detectors. The group is involved in the IceCube Project aiming to detect high-energy neutrinos of extraterrestrial origin. The experiment is located at the geographic south pole 2000 m deep in ice. Present activities involve data analyses, phenomenological interpretations and development of new detection techniques (radio & acoustic). Possible subjects to work on would be detector tests and smaller projects of data analysis.

  **RICH Detector**
  
  The group is also member of the CBM Collaboration at FAIR-Darmstadt and is a major partner in the development of a RICH Detector for detection of electron pairs from vector meson decays which are emitted from hot dense hadronic matter. Our prime involvement here is the development of a highly pixelated camera to be constructed from Multi-Anode PMTs.
### WU 2

<table>
<thead>
<tr>
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<th>Number of places</th>
<th>Discipline or subject area</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Center for International Studies in Social Policy and Social Services</td>
<td>Prof. Dr. Heinz Suenker</td>
<td>2</td>
<td>Social Sciences, Social Policy, social Work</td>
<td>M, P</td>
</tr>
</tbody>
</table>

**Time frame:**
- May to July 2011
- October to December 2011

**Institute’s focal research areas**
- a) Social analysis and social policy / social services;
- b) Social work and the state;
- c) Childhood studies, politics of childhood, children’s rights

### WU 3

<table>
<thead>
<tr>
<th>Institute</th>
<th>Contact at the institute</th>
<th>Number of places</th>
<th>Discipline or subject area</th>
<th>Scholars’ degree program (B = Bachelor; M = Master)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Education</td>
<td>Prof. Dr. Petra Buchwald</td>
<td>2</td>
<td>Teachers education</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>Prof. Dr. Kerstin Goebel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Time frame:**
- May - July 2011
- October - December 2011

**Institute’s focal research areas**
- Teachers education, international competence, migration, stress, motivation, teaching research.