



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

Call 2012

Scholarship places at institutions of higher education in North Rhine- Westphalia

(current version, as of December 16th 2011)

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>

DISCIPLINES (MULTIPLE ENTRIES POSSIBLE)	3
CONTACTS AND FURTHER INFORMATION	6
<u>RWTH AACHEN UNIVERSITY (AC)</u>	<u>7</u>
<u>BIELEFELD UNIVERSITY (BI)</u>	<u>9</u>
<u>BIELEFELD UNIVERSITY OF APPLIED SCIENCES (FH BI)</u>	<u>11</u>
<u>RUHR-UNIVERSITY BOCHUM (BC)</u>	<u>13</u>
<u>UNIVERSITY OF BONN (BN)</u>	<u>19</u>
<u>BONN-RHEIN-SIEG UNIVERSITY OF APPLIED SCIENCES (BRS)</u>	<u>21</u>
<u>TU DORTMUND UNIVERSITY (DO)</u>	<u>24</u>
<u>DORTMUND UNIVERSITY OF APPLIED SCIENCES (FH DO)</u>	<u>26</u>
<u>HEINRICH-HEINE-UNIVERSITY DUESSELDORF (DS)</u>	<u>28</u>
<u>UNIVERSITY OF DUISBURG-ESSEN (DE)</u>	<u>32</u>
<u>RESEARCH CENTER JUELICH (FZJ)</u>	<u>34</u>
<u>UNIVERSITY OF COLOGNE (KL)</u>	<u>39</u>
<u>COLOGNE UNIVERSITY OF APPLIED SCIENCES (FH KL)</u>	<u>41</u>
<u>UNIVERSITY OF MUENSTER (MS)</u>	<u>42</u>
<u>UNIVERSITY OF PADERBORN (PB)</u>	<u>46</u>
<u>RUHR-WEST UNIVERSITY OF APPLIED SCIENCES (HSR)</u>	<u>48</u>
<u>UNIVERSITY OF SIEGEN</u>	<u>50</u>
<u>UNIVERSITY OF WUPPERTAL (WU)</u>	<u>51</u>

Disciplines (multiple entries possible)

Architecture / Art / Design / Spatial Planning	<ul style="list-style-type: none"> • FH BI 1 • FH BI 2 • FH KL 1
Biology / Life Sciences / Geography / Environmental Science / Agriculture	<ul style="list-style-type: none"> • BC 1 • BN 1 • BRS 2 • DS 2 • DS 4 • FZJ 5 • MS 5
Business (Administration) / Economics	<ul style="list-style-type: none"> • BC 4
Chemistry / Chemical Engineering / Biochemistry / Pharmacy	<ul style="list-style-type: none"> • BI 1 • BC 1 • BC 8 • BN 2 • BRS 1 • MS 1 • MS 3 • MS 8
Computer Science / Informatics / Information Sciences	<ul style="list-style-type: none"> • FH DO 1 • DS 4 • FZJ 1 • FZJ 3 • FZJ 4 • MS 5 • PB 1 • HSR 1

Cultural Studies / Literature / Philology / Linguistics	<ul style="list-style-type: none"> • BC 7 • DO 3 • DS 1 • DS 3 • DS 5 • DS 6 • MS 6
Education	<ul style="list-style-type: none"> • DE 1 • DE 2 • WU 1
Electrical Engineering	<ul style="list-style-type: none"> • FZJ 1 • FZJ 3 • MS 4 • PB 1 • PB 2 • HSR 1
History / Archaeology / Anthropology	<ul style="list-style-type: none"> • BI 2 • BC 2 • BC 7 • DS 5 • KL 2 • MS 6 • MS 7
Law	<ul style="list-style-type: none"> • KL 1
Mathematics	<ul style="list-style-type: none"> • BI 3 • FZJ 1 • FZJ 4
Mechanical Engineering / Process Engineering / Civil Engineering / Material Engineering	<ul style="list-style-type: none"> • AC 1 • FH BI 1

	<ul style="list-style-type: none"> • FZJ 3 • FZJ 4 • PB 2
Media Studies / Communication Science / Journalism / Film	<ul style="list-style-type: none"> • DS 1 • DS 6
Medicine / Health Sciences	<ul style="list-style-type: none"> • BC 6 • FZJ 5
Philosophy / Theology / Religious Studies	<ul style="list-style-type: none"> • BI 2 • BC 3 • BC 9 • MS 6 • MS 7
Physics / Geophysics / Nanotechnology / Astronomy	<ul style="list-style-type: none"> • AC 1 • BI 1 • BC 8 • DO 1 • FZJ 1 • FZJ 4 • MS 1 • MS 2 • MS 3 • MS 4 • SI 1
Psychology / Cognitive Science / Neuroscience	<ul style="list-style-type: none"> • BC 5 • BC 6 • DE 2
Social Sciences / Politics	<ul style="list-style-type: none"> • BI 2 • DE 2 • WU 1

Contacts and further information

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RWTH Aachen University (AC)

RWTH Aachen University, established in 1870, is divided into 9 faculties. Approximately 32,943 students are enrolled in 106 courses of study. The proportion of foreign students (16 percent) substantiates the university's international orientation. Every year about 3.000 graduates and doctoral graduates leave the university. Approximately 454 professors as well as 2,000 academic and 2,000 non-academic colleagues work at RWTH Aachen University. The university budget amounts to 658 million Euros of which about 227 million Euros are third-party expenditures. Moreover, special fields of research, 11 graduate colleges, among them 9 founded by the German Research Foundation, 14 affiliated institutes with strong industrial alignment illustrate the university's considerable research potential.

In preparation for your stay in Aachen, you can refresh and broaden your German in the RWTH Euro Course, a 4-week intensive program that takes place in September. To be eligible for the course students must first register with the International Office. After sitting a compulsory placement test, students receive 20 hours a week of instruction. There is an accompanying cultural program and various events and get-togethers. Students must write a final exam and based on their results will be placed in an appropriate semester course starting in October. There is a fee of 100 €.

www.rwth-aachen.de

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AC 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institut for Textile Engineering (ITA)	Dr. Dieter Veit	1	Material Engineering, Physics, Background in cement based materials/ composites, especially textile reinforced concrete	M

Time frame:	August – October
Institute's focal research areas	<p>ITA belongs to the mechanical engineering faculty and is specialized in textile technology. Field of work are manmade fibers, Textile reinforced composites, textile machinery and smart and medical textiles. The focus is equally on product and on process development-</p> <p>Subject of work for a stay at ITA: Within the division of textile reinforced composites the development of the new material textile reinforced concrete and its manufacturing process is currently investigated. The scholar will work in the lab processing of fibre materials to previously defined textile structures as reinforcement for textile reinforced concrete. The textile structures will be analyzed regarding their properties and will be processed to textile reinforced building members with cement matrices.</p> <p>ITA has cooperation on the research subject in question with Ben Gurion University, Israel</p>

Bielefeld University (BI)

Bielefeld - the "university of short ways" and of "interdisciplinary intertwinement"! Whereas elsewhere the departments and institutes are spread all over the city, Bielefeld has its entire university in one building. This way, students may even utilize their lecture breaks and peek into other classes or lectures. In the library, the sections of related departments, e.g., physics and chemistry are found right next to each other. Due to the compactness of the building, it could be equipped with a computer network, even traversing department boundaries, e.g., mathematics and physics, at an early stage. Nowhere else is interdisciplinarity practiced in this way; there's even a special-purpose Center for Interdisciplinary Research, "ZiF". In particular, the use of expensive equipment such as transmission electron microscopes is shared between the biology and physics departments, the math department's visualization lab is open to people of other disciplines, as well. Physicists and chemists closely collaborate in some laboratories. There is a joint study program called "Natural Sciences and Information Technology" in cooperation with the Technical Faculty. Young scientists come to Bielefeld from all parts of the globe to participate in our research activities. There exist close contacts with the research centers DESY at Hamburg and CERN (elementary particle physics) at Geneva as well as with BESSY (molecular and surface physics) at Berlin and ESRF at Grenoble, among others. There are a multitude of cooperations with research institutions and universities, domestic and foreign.

Bielefeld University offers the opportunity of taking a German language course at "PunktUm".

www.uni-bielefeld.de

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BI 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Faculty of Physics	Prof. Dr. Armin Goelzhaeuser	2	Physics, Chemistry	M, B
Time frame:	April – December 2012			
Institute's focal research areas	Supramolecular Physics, Chemical Nanolithography, Carbon Nanomembranes			

BI 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Bursars' degree program (B = Bachelor; M =
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				Master; P= PhD)
Institute for Science and Technology Studies (IWT)	Prof. Dr. Martin Carrier	1	Sociology, Philosophy, History	M
Time frame:	June – December			
Institute's focal research areas	Science and Technology Studies; Philosophy of Science, History of Science, Public Understanding of Science; History, Philosophy and Social Studies of Science			

BI 3

Institute	Contact at the institute	Number of places	Discipline or subject area	Bursars' degree program (B = Bachelor; M = Master; P= PhD)
Faculty of Mathematics	Prof. C. Voll	1	Mathematics	B, P
Time frame:	Open (subject to agreement)			
Institute's focal research areas	For general information regarding the Faculty of Mathematics, see http://www.math.uni-bielefeld.de/de For information regarding C. Voll's research, see http://www.math.uni-bielefeld.de/~voll/			

Bielefeld University of Applied Sciences (FH BI)

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

Courses mainly in German as language of instruction

Winter semester 2011/2012: about 8.300 students enrolled, including 240 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/>

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FH BI 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Faculty of Architecture and Civil Engineering	Prof. Dr.-Ing. Joachim Bahndorf	2 for English speaking students (M), 5 for German speaking students (B or M)	Civil Engineering; Architecture	B (classes only in German language), M (Classes and projects in English language possible)
Time frame:	May 2 – July 13; September 17 – December 21			
Institute's focal research areas	<ul style="list-style-type: none"> • 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. <p>Existing cooperations: Technion Haifa, Israel</p>			

FH BI 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Faculty of Design	Prof. Dr. Martin Roman Deppner	2	Photography and media Design and communications design Fashion	B, M Classes in German language Personal consultation by professors and teachers in English Papers can be written in English
Time frame:	May 2 – July 13; September 17 – December 21			
Institute's focal research areas	<ul style="list-style-type: none"> • Photography and media • Book design • Collections design (fashion) <p>Existing cooperations: Bezalel Academy of Arts and Design, Jerusalem Shenkar College of Engineering & Design, Ramat Gan</p>			

Ruhr-University Bochum (BC)

At Ruhr-Universität Bochum (RUB) currently study 34,000 students; more than 4,000 are international students from abroad. RUB is a modern and innovative university that offers its students degree programmes in almost all academic areas and excellent research facilities. German language courses start each October (winter term) and April (summer term) and are free of charge for all RUB students.

RUB homepage: http://www.rub.de/index_en.htm

International: <http://international.rub.de/index.html.en>

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BC 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Geographical Institute, Department for Soil Science	Prof. Dr. Bernd Marschner	1	Environmental Sciences; Agriculture; Chemistry	M, P
Time frame:	May – July or October – December			
Institute's focal research areas	Research in the Soil Science Dept. focuses on dynamics and turnover of soil organic matter as well as on fate of organic pollutants in soils. Specific projects in which visiting students can participate are: <ul style="list-style-type: none"> • Effects of wastewater irrigation on biological soil properties • Stability and properties of biochars in soils. 			

BC 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute of Archaeological Science	Dr. Patric Kreuz	3	Archaeology of the Graeco-roman	M; P

			eastern Mediterranean / Near East; Phoenician archaeology	
Time frame:	May – July			
Institute's focal research areas	The Decapolis in the Graeco-roman period; The Herodian kingdom; Archaeology of the Phoenician diaspora.			

BC 3

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M= Master; P= PhD)
Institute for Philosophy II	Prof. Dr. Albert Newen; Prof. Dr. James Wilberding	2	Philosophy	M
Time frame:	October – December			
Institute's focal research areas	The department offers a large program in philosophy. It is specialized in theoretical philosophy, philosophy of mind, philosophy of language, logic and epistemology			

BC 4

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M= Master; P= PhD)
Chair for Empirical Research	Anna Talmann	2	Economics Special knowledge in: Empirical Research	M, P
Time frame:	May 1 – December 31			
Institute's focal research areas	<p>The chair deals with current economic issues, primarily in the area of labour market, education, population as well as health economics. Economic analysis is carried out employing current data sources and econometric techniques. The aim of the chair is imparting profound knowledge about effective identification strategies that allow making causal interpretations of economic phenomena.</p> <p>Research topics: Economics of Migration, Labor Economics, Population Economics, Health Economics</p> <p>Research cooperation: Prof. Gil Epstein, Department of Economics at Bar-Ilan University, 52900 Ramat-Gan, Israel</p>			

BC 5

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M= Master; P= PhD)
Dept. Of Neuropsychology	Prof. Dr. Boris Suchan	2	(Neuro-)Psychology, Cognitive Neuroscience	B, M, P
Time frame:	open			
Institute's focal research areas	We have many foci in research. We are interested in visual body and face perception, observational learning, working memory, long term memory and medial temporal lobe functions. More information: www.ruhr-uni-bochum.de/neuropsych .			

BC 6

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M= Master; P= PhD)
Experimental Eye Research Institute, University Eye Hospital	Dr. Stephanie Joachim; Prof. Dr. Burkhard Dick	5	Medicine, Biology, Biochemistry, Neurosciences	M, P
Time frame:	May 15 – Nov 30 2012			
Institute's focal research areas	<p>Our research focuses on investigation of the neurodegenerative disease for the retina, like glaucoma. We are using glaucoma models and cell culture to study possible causes of these diseases. The scholars will have the opportunity to work with researchers from different disciplines in one of our projects. The scholars will use immune histology and different protein biochemistry techniques (e.g. Western Blot, ELISA).</p> <p>The following projects will be offered:</p> <ul style="list-style-type: none"> • Evaluation of possible neuroprotectants in retina organ culture • Autoreactive antibodies in a model of experimental autoimmune glaucoma • Analysis of the caspase pathway in glaucoma • Immunoreactivity in animals with s retinal ganglion cell loss • Ganglion cell loss in optic neuritis 			

BC 7

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M= Master; P= PhD)
Centre for Mediterranean Studies	Eleni Markakidou, M.A.	4	Mediterranean studies; Archaeology; History; Social and Cultural Anthropology; Diaspora Studies	B, M, P
Time frame:	May 1 – October 1. 2012			
Institute's focal research areas	<p>The scientific profile of the Centre for Mediterranean Studies :</p> <p>At the heart of our research are the issues of resources, connectivity and translocation in the Mediterranean region from ancient times until the present. The networks and entanglements of the Mediterranean protagonists are examined with an historical focus as are conflicts and the processes of differentiation.</p>			

BC 8

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M= Master; P= PhD)
Dept. of Organic Chemistry I	Prof. John McCaskill	1	BA in Physics, Chemistry, or Biochemistry. Interest in new applications and working methods in microfluidics, bio-chemistry and IT.	M
Time frame:	May – December 2012			
Institute's focal research areas	<p>Research of the BioMIP group at Ruhr-Universitaet Bochum:</p> <p>Our research team at BioMIP (microsystems chemistry and bio IT) carries out multidisciplinary basic research into the nature and limits to self-organization in combinatorially complex chemical systems at the micro- and nanoscales. The research team addresses both theory and experiment in chemical systems which self-organize to produce themselves and evolve like living systems, processing information to solve complex problems, using a synthetic systems approach. Our aim is to develop novel forms of constructive information processing systems based on the core principles of living systems.</p> <p>Electronic micro-and nanosystems provide controlled and programmable environments for studying and optimizing such systems, and so our research is also forging a link between the three rapidly expanding technologies: Information Technology (IT), Biotechnology (BT) and Nanotechnology (NT).</p>			

	<p>Possible working topic for the grant recipient:</p> <p>The research area and working topic would be to investigate an electronic-microfluidic approach to DNA processing, which allows the functionality of complex molecular systems to be programmed, relying on controlled DNA amplification processes e.g. via nicking strand displacement amplification or DNAzyme-induced conformational amplification. The research addresses fundamental basic questions about the use of chemical reactions for information technology and the control of complex chemical systems.</p> <p>The grant holder will contribute to the set up of enzymatic or DNAzyme catalyzed processing steps in microfluidic chips. He/she will also use the electronic feedback methods based on either electrophoretic fields or electrochemical reactions, using local fluorescence signals to optimize these processes, based on appropriate multicolour fluorescent labelling of DNA probes. RUB has a fully integrated electronic microfluidic control facility connected to a confocal fluorescent microscope that provides a unique resource for investigating such systems.</p> <p>The grant recipient should hold a bachelor degree in physics, chemistry, or biochemistry, ideally with some experience with the online monitoring of amplification reactions using fluorescence spectroscopy. We expect an interest in learning new applications and working methods in microfluidics, biochemistry and information technology. Our group will support the grant holder in his or her research contributing to the master thesis.</p> <p>Existing research cooperation in the target countries:</p> <p>a) The department of Computer Science & Applied Mathematics of the Weizmann Institute of Science in Rehovot, Israel. The contact person is Prof. Ehud Shapiro</p> <p>b) The Institute of Chemistry at the Hebrew University in Jerusalem. The contact person is Prof. Itamar Willner</p>
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BC 9

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B= Bachelor; M= Master; P= PhD)
Faculty of Catholic Theology; Chair of Old Testament	Prof. Dr. Christian Frevel	1	Jewish or Old Testament Studies	M, P
Time frame:	May-1 – June-30			
Institute's focal research areas	The research fields of the chair encompass the exegesis and the theology of the Old Testament as well as the (religious) history of ancient Israel. Therein they focus especially on the interpretation (in diachronic and synchronic respect) of the Book of Numbers, the anthropology of the Old Testament, concepts of purity within the Old Testament, the Iconography of the ancient Near East and the highly disputed topic of mixed marriages in postexilic Judah. The potential			

working themes of the scholar should be guided by those unfolded research fields of the chair. Possible working titles involve for example the following:

- The selection of the Levites in the Book of Numbers
- Hierocratic concepts in the Book of Numbers
- Did Moses marry a Cushite woman? An exegesis of Numbers 12
- The relationship between men and beast in wisdom literature

University of Bonn (BN)

Rheinische Friedrich-Wilhelms-Universitaet, which is amongst the top German universities in terms of student enrolments (comparatively especially high international percentage), publications, research funds and Postgraduates attracted. Several interdepartmental and interfaculty curricula (e.g. in Biotechnology and Medicine), research nets and departments/laboratories. A new and unique English spoken Bonn Department of International Medical Education and Development takes care of foreign students closely co-operating in a special program of the Academic Exchange Office of the University.

Students from Israel could be integrated in interfaculty projects and even some English spoken Bachelor or Master Curricula in any of the below listed institutes, which have pride of their ample interdisciplinary co-operations, long standing involvements in bilateral co-operation programs (including GIF projects), plus contacts with reputed scientific laboratories and institutions in Israel (including several universities and the Weizmann Institute).

www.uni-bonn.de

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BN 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute of Animal Science, Physiology & Hygiene	Dr. Susanne Haeussler	1	Agricultural Sciences, Biology (Lab work)	B, M, P
Time frame:	June – September			
Institute's focal research areas	Focus: on adipose tissue in dairy cattle <ul style="list-style-type: none"> • Investigation of anabolic and catabolic parameters in adipose tissue • Protein analyses via immunohistochemistry 			

Contact: Universitaetsklinikum Bonn
Experimental Radiology
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BN 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute of Inorganic Chemistry	Prof. Filippou Dr. Schnakenburg	2	Organometallic Chemistry	M. P
Time frame:	open			
Institute's focal research areas	We are working in the field of organometallic chemistry, low valent main group compounds, and unusual multiple bonding between main group and transition elements. The students will have the opportunity to learn and to practise modern aspects of metal organic synthesis, e.g. inert gas Schlenk- and glovebox techniques, as well as the usage of a wide range of analytical methods to characterise the products, like NMR-, EPR, UVvis, and IR-Spectroscopy, single crystal X-ray structure determination, and cyclovoltammetric measurements.			

Bonn-Rhein-Sieg University of Applied Sciences (BRS)

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 a German study course), and Forensic Sciences (taught in German and English).

www.h-bonn-rhein-sieg.de

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BRS 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Department of Natural Sciences / Organic and Polymer Chemistry	Prof. Dr. Margit Schulze	2	Chemistry, Material Science	B, M, P
Time frame:	August 1 - December 15			

Institute's focal research areas	<p>The work deals with:</p> <p>a) development of polymer scaffolds for stem cell differentiation and proliferation</p> <p>b) development of polymers used in dental medicine</p> <p>c) development of polymeric materials from renewable resources (biomass)</p> <p>The work encompasses the following topics for potential scholarship holder:</p> <ul style="list-style-type: none"> • 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
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BRS 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Department of Natural Sciences	Prof. Dr. Edda Tobiasch	2	Biology	M, P
Time frame:	August – November (any time period within this time frame is possible, but it must be at least 10 weeks)			
Institute's focal research areas	<p>The work deals with stem cell differentiation and signal transduction.</p> <p>Overview:</p> <p>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.</p> <p>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.</p> <p>We aim at investigating fat-derived MSC, as potential donor cells, for</p>			

their ability to differentiate in the osteogenic and beta cell direction for future treatment of diabetes and large bone defects and in the adipogenic direction to investigate the influence of the differentiating fat cell in the development of atherosclerosis.

In another project ecto-mesenchymal stem cells derived from dental follicles of wisdom teeth are used to improve dental implant stability.

The last study involves Hox genes for the characterization of stem cells derived from various human body parts during differentiation. More information on the subjects can be found on the homepage: <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
- P2 and Hox signalling in human stem cells
- 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.

TU Dortmund University (DO)

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.

www.tu-dortmund.de

TU Dortmund University offers a 4-week intensive German class prior to each semester, i.e. in the months of March and September. During the semester students can take part in German as a foreign language classes offered by our Language Center. More information: http://www.aaa.uni-dortmund.de/cms/en/International_Students/Exchange_Students_ERASMUS_/German_Language_Course/index.html

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DO 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M =

				Master; P = PhD)
Faculty of Physics	Prof. Dr. Dieter Suter	1	Experimental Physics	M, P
Time frame:	October – December			
Institute's focal research areas	<p>The properties of rare-earth ions in dielectric crystals have made them indispensable in modern optical technologies. Recently, they have also been discovered as very interesting candidates for a number of applications in quantum information processing and quantum communication: the long lifetimes of nuclear spin sublevels allow storage of quantum information for several seconds, while the optical transitions allow fast and flexible manipulation and direct interfacing to remote units. Realization of this potential requires the selection of a suitable material and the development of the appropriate control techniques. In this project, we characterize possible candidate materials and determine their optical and spin Hamiltonian parameters and store optical quantum states in the material.</p> <p>A more detailed description can be found under: http://e3.physik.uni-dortmund.de/~suter/research/REI_QIP.pdf</p>			

DO 3

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Department for English and American Studies	Prof. Dr. Walter Gruenzweig	1	American Studies; Cultural Studies and related fields	B; M. P
Time frame:	October – December			
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, Jewish-American Literature.			

Dortmund University of Applied Sciences (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

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FH DO 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Faculty of Computer Science	Prof. Dr. Eren	3	Computer Science	M
Time frame	September 24 - December 21			

Institute's focal research areas	<p>General information about the studies of Computer science & technology at the Fachhochschule Dortmund –University of Applied Sciences and Arts:</p> <p>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.</p> <p>The faculty of computer science offers an internship for master students in IT Security, Security Infrastructures, and Mobile Security.</p> <p>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.</p> <p>For further information please open the following internet address:</p> <p>http://www.lisa.fh-dortmund.de</p>
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Heinrich-Heine-University 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 nationwide 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

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DS 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute for Media and Cultural Studies	Prof. Dr. Reinhold Goerling	2	Cultural Studies Media Studies	M, P
Time frame:	April – end of July September 10 – end of the year			
Institute's focal research areas	<ul style="list-style-type: none"> • Political and social violence and its cultural impact • Transgenerational transmission of trauma • Culture and the politics of affect • Film Studies 			

DS 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute for Molecular Evolution	Dr. Tal Dagan	2	Phylogenomics PERL or MatLab knowledge is required.	M; P
Time frame:	April – December 2012			
Institute's focal research areas	<ul style="list-style-type: none"> • Keywords: computational biology, Genomics, Prokaryote evolution. For more information: www.molevol.de 			

DS 3

Institute	Contact at the	Number of	Discipline or	Scholars' degree program
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	institute	places	subject area	(B = Bachelor; M = Master; P = PhD)
	Department for Yiddish Culture, Language, and Literature Prof. Dr. Marion Aptroot	3	Yiddish (including interdisciplinary studies)	B; M, P
Time frame:	May – July 2012; September - December 2012			
Institute's focal research areas	Yiddish: Yiddish Language, Yiddish Literature and Culture, Yiddish Historical Linguistics			

DS 4

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Department for Computer Science / Bioinformatics	Prof. Lercher	2	Informatics, Biology	M, P
Time frame:	open			
Institute's focal research areas	Comparative Genomics; simulation of metabolic networks.			

DS 5

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute for Jewish Studies	Prof. Dr. Stefan Rohrbacher	1	Jewish Studies; History	B, M, P
Time frame:	September – December			
Institute's focal research areas	Jewish History and Culture, Middle Ages, Modern Research in Anti-Semitism			

DS 6

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute for Media and Cultural Studies	Prof. Dr. Dirk Matejovski	2	Culture and Media Studies	B, M

Time frame:	May - July; October - December
Institute's focal research areas	<ul style="list-style-type: none">• Culture and Media Studies• Popular Culture Studies• Film Studies• Acoustic Turn

University of Duisburg-Essen (DE)

Creative inspiration between the Rhine and Ruhr: the University of Duisburg-Essen (UDE) is located in the European region with the highest density of institutions of higher learning. Created in 2003 by the merger of the universities of Duisburg and Essen, the UDE is the youngest university in North Rhine-Westphalia and one of the ten largest universities in Germany. Both campuses are easy to reach and offer some 31,000 students a broad academic spectrum with an international orientation – ranging from the humanities and social sciences to economics and the engineering and natural sciences, including medicine. Students from 130 countries are currently enrolled at the UDE.

In many disciplines the UDE ranks amongst the TOP 10 of German research universities. Over the past three years, research income has risen by 150 percent, a development which is also thanks to the five main research areas: Nanosciences, Biomedical Sciences, Urban Systems, Empirical Research in Education, and Change of Contemporary Societies.

Free German classes in preparation for one's studies see:

http://www.uni-due.de/international/en_germancourses.shtml

www.uni-duisburg-essen.de

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DE 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Faculty of Educational Sciences/ Department of Vocational and Further Education/ Learning Lab	Prof. Dr. Michael Kerres	3	Educational Technology	M, P
Time frame:	open			
Institute's focal research areas	Instructional Design of Social Learning Platforms Microblogs and Portfolio – Tools for Learning PC-based Testing and Examination Tools http://mediendidaktik.de			

DE 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Faculty of Educational Science/ Institute of Education/ Department of Socialisation Research	Prof. Dr. Ullrich Bauer	1	Education or Training in Educational Science ; studies in Sociology, Psychology or Education , intimate knowledge in the re-production of social and educational inequalities	M, P
Time frame:	September – December			
Institute's focal research areas	<p>Research Activities are requested in the Department of Socialisation Research. The research is located in different areas of research addressing the overriding principle of educational inequalities.</p> <p>Topic of research are:</p> <p>1. The reproduction of educational poor.</p> <p>Mechanisms of continuity of the reproduction of educational inequalities in different school systems (Meta-Study to the impact of different school structures in different welfare-State-Arrangements comparison in different).</p> <p>2. Compositional and Contextual Factors for Upward Mobility in Case of Educational Alienation</p> <p><i>A research literature-based meta-analysis focussing on:</i></p> <p>a) <i>Habitus, strategies and reproduction of Inequalities in schools (Comparison Israel-Germany) or</i></p> <p>b) <i>The Impact of compensatory programs for the promotion of disadvantaged groups (Comparison Israel-Germany)</i></p> <p><i>Original Research on:</i></p> <p>a) <i>Trajectories of successful school careers from pupils from disadvantaged groups (recruitment in the university staff)</i></p> <p>b) <i>Teachers' knowledge about mechanisms of school based reproduction of social inequalities and the impact of teachers' judgments (for a previous or better subsequent comparing to teachers' knowledge in Israel school system)</i></p>			

Research Center Juelich (FZJ)

Research Centre Juelich, 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 Juelich, this is on the one hand the field of **Health**, where Juelich 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, Juelich 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, Juelich delivers a significant contribution for a sustainable and holistic energy supply. Combined with a strong expertise in environmental research, Juelich helps to understand the mechanisms of climate change and to develop directives for climate protection.

Research Centre Juelich is tackling these two *Grand Challenges* by using existing and developing new key technologies like **biotechnology, nanoelectronic materials, and simulation sciences** using supercomputers. Juelich'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 Juelich, **close to the university cities** Aachen, Bonn, Cologne and Duesseldorf. The proximity of Juelich 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

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FZJ 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Central Institute for Electronics (ZEL)	Dr.-Ing. Gudrun Wagenknecht	2	Informatics; Electrical / Biomedical Engineering; Mathematics; Physics	M
Time frame:	May – December			

Institute's focal research areas	<p>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).</p> <p>Small projects regarding the following topics can be offered for students with background in medical image processing and outstanding programming skills in C, C++:</p> <ol style="list-style-type: none"> 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.
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FZJ 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Central Institute for Electronics (ZEL)	Dr. Schiek	2	Electrical Engineering, Physics, Applied Informatics Special skills are required in the field of software development for embedded systems.	M, P
Time frame:	August – December			
Institute's focal research areas	<p>The background of the project is hard- and software development for distributed sensor networks.</p> <p>The task of the projects will be the implementation of TinyOS on recently developed intelligent sensor nodes based on microcontroller MSP 430 by Texas Instruments. The work will include the integration of existing DAQ-routines and network communication routines in TinyOS.</p> <p>Email: m.schiek@fz-juelich.de</p>			

FZJ 3

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)

Central Technology Division (ZAT)	Dr. Ghaleb Natour	1 - 2	Engineering Science and Technology	B, M
Time frame:	open			
Institute's focal research areas	<p>Technology for cutting-edge research around the world.</p> <p>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.</p> <p>Engineering & Technology:</p> <p>Development, computation, mechanical design, manufacturing technologies, joining technologies, test and measurements, technology feasibility studies, magnetic bearings and drives</p> <p>E-Mail: g.natour@fz-juelich.de Internet: http://www.fz-juelich.de</p>			

FZJ 4

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute of Neurosciences and Medicine (INM-2)	Prof. Andreas Bauer Dr. Simone Beer	1	Physics, Mathematics, Biomedical Engineering, Computer Science	B; M, P
Time frame:	Open.			
Institute's focal research areas	<p>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. The combination of PET with Computer Tomography (CT) gives additional and complementary information about the anatomy.</p> <p>The focus for the scholarship project is to take part in the development of methodology to provide the best possible image quality and quantitative accuracy for high-resolution PET and combined PET/CT. The work may involve computer modeling and simulation, the development of dedicated imaging strategies, image reconstruction algorithms or statistical analysis.</p> <p>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 (pre)clinical research.</p> <p>The hosting group "Molecular Neuroimaging" comprises a physicist, a biologist, four physicians and two technicians. Currently, the working group operates a combined PET, CT and SPECT scanner for small animal imaging as well as laboratory facilities for in vitro techniques</p>			

	(e.g. autoradiography) and extensive analytical processes as parts of PET imaging studies. More information is available at si.beer@fz-juelich.de .
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FZJ 5

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute of Neurosciences and Medicine (INM-2)	Prof. Andreas Bauer T. Kroll	1	Medicine / Health Sciences; Biology	B; M, P
Time frame:	Open.			
Institute's focal research areas	<p>Why do we need to sleep and what are the regulating mechanisms behind the sleep-wakefulness cycle? These questions describe the main research interests of the hosting institute. The putative scholar will participate in a project about the circadian rhythm of dopaminergic receptor expression in the rat brain. The expected fluctuations in receptor expression within the 24 hrs day-night cycle are of particular importance with regard to</p> <ul style="list-style-type: none"> • an increased diagnostic validity of clinical PET imaging (influence of scan time), • an optimization of drug intake times, • additional insights into the regulation of sleep and wakefulness including circadian components. <p>In technical terms we use radioactive labeled tracers and positron emission tomography (PET) to visualize distinct molecules and molecular mechanisms in a living organism. Modeling of pharmacokinetic processes and quantitative analysis of data ascertain an optimal usage of PET in preclinical and clinical research.</p> <p>PET is multi-disciplinary, so that the scholar has the opportunity to experience collaborative research and teamwork among various disciplines from chemistry, physics, engineering and mathematics to biology and (pre)clinical research.</p> <p>The hosting group "Molecular Neuroimaging" comprises a physicist, a biologist, four physicians and two technicians. Currently, the working group operates a combined PET, CT and SPECT scanner for small animal imaging as well as laboratory facilities for in vitro techniques (e.g. autoradiography) and extensive analytical processes as parts of PET imaging studies. Clinical PET and MRT scanners are available as well.</p> <p>Dopaminergic receptor expression in the rat brain will be studied with longitudinal PET imaging and in vitro autoradiography at different time points of the day. Depending on the duration of the scholarship, the student will be involved in PET imaging procedures and/or autoradiographic experiments as well as data analysis.</p>			

	More information is available at t.kroll@fz-juelich.de .
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University of Cologne (KL)

The University of Cologne was founded in 1388 and is one of the oldest universities in Germany. It is also one of the most famous and - with the largest student population in Germany of about 49.000 students - also one of the most popular universities due not only to the diversity of academic opportunities but also to the unique atmosphere of Cologne itself. The University of Cologne with its six faculties offers students an enormous variety in choice and combination of courses and subjects. Students, who expect and fulfil high standards at the university, will find best studying conditions here.

www.uni-koeln.de

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KL 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute for international and foreign Private Law	Professor Dr. Heinz-Peter Mansel	1	Law	B, M
Time frame:	May – July; September – December			
Institute's focal research areas	<p>The Faculty of Law has 5.742 registered students. With its numerous institutes, it prepares the students for the first state examination in German law, which is a prerequisite to a legal career in Germany. From industrial and social law to commercial and tax law, the faculty has an outstanding reputation in all fields of legal research, teaching and practice. The faculty offers facilities for studying, including a large number of specialized institutes with libraries, one of the largest university law libraries in Germany, and very good IT facilities.</p> <p>The main research areas are:</p> <ul style="list-style-type: none"> - International Private and Procedural Law - European Private and Conflict of Laws Provisions - Comparative Law - the German Civil Law and the Law of Civil Procedure <p>within the foreign law in particular the law of the anglo-american and the romanique legal systems, above all the italian law, the legal systems of the near- and middle-east States, particularly the turkish and the islamic</p>			

	law.
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KL 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
History Seminar	Prof. Dr. Werner Eck	1	Ancient History	B, M, P
Time frame:	August – October			
Institute's focal research areas	The Institute's research work centres on Ancient History in the Time of the Empire, on Jewish-Roman relations and epigraphy in Israel.			

Cologne University of Applied Sciences (FH KL)

Some 17.500 students in 10 faculties, counselled and taught by 450 professors, make the Fachhochschule Koeln (Cologne University of Applied Sciences) Germany's largest »University of Applied Sciences«. A diversified mix of disciplines, divided almost equally between engineering and arts subjects, offer outstanding opportunities for interdisciplinary projects and cooperation schemes. In view of its multi-faceted, high-quality teaching range and research spectrum, the Cologne University of Applied Sciences is a much sought after contact internationally and has forged links of many different institutions of higher education both inside and outside Germany. Hallmarks of the Cologne University of Applied Sciences include application-gearred and faculty-crossing education, research and development, dynamic advances in various fields of study, integrated internships and short duration of studies. Thanks to the close links between scholarship and industry, current developments can be input directly into the work of the Cologne University of Applied Sciences.

<http://www.fh-koeln.de/>

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FH KL 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Koeln International School of Design (KISD)	Lisa Janssen	1-2	Design (BA / MA Integrated Design)	B; M
Time frame:	March 1 – August 31 September 1 – end of December			
Institute's focal research areas	Audiovisual Media, Identity and Design, Design for Manufacturing, Design Concepts, Design and Economy, Theory and History, Gender and Design, Interface Design, Ecology and Design, Production Technologies, Service Design, Typography and Layout.			

University of Muenster (MS)

The University of Muenster (WWU Muenster) has developed a strong research profile in natural sciences, the humanities, medicine, law and business administration. The WWU Muenster is one of the biggest universities in Germany and has 15 Departments in 7 Faculties. Founded in 1780, the WWU is also a university with a long tradition in teaching and research

<http://www.uni-muenster.de/en/>

The WWU offers intensive German language courses at the language center of the university. These courses are open to exchange students and scholars, (fee covered by program) (<http://spzwww.uni-muenster.de/index.php>).

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MS 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute of Physics	Prof. Dr. Helmut Zacharias	1	Physical chemistry, nanoscience	M
Time frame:	open			
Institute's focal research areas	Self-organization, functional organic films.			

MS 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute of Physics	Prof. Dr. Helmut Zacharias	1	Laser science	B, M
Time frame:	open			
Institute's focal research areas	Femtosecond coherent soft x-ray radiation; two-photon photoemission spectroscopy.			

MS 3

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute of Physics	Prof. Dr. Harald Fuchs	1	Physics, Physical Chemistry, Nanoscience, Nanotechnology	M
Time frame:	open			
Institute's focal research areas	Nanoscience, Scanning Probe Techniques, Self Organization			

MS 4

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute for Applied Physics, Nonlinear Photonics group	Prof. Dr. Cornelia Denz (director)	2	Physics, optics; electrical engineering	1 M, 1 P
Time frame:	June – October			
Institute's focal research areas	<p>Photonics – applications of optics in information processing, biology and medicine – has recently achieved a highly developed state that allows to consider the actual century as the "century of the photon" that displaces the last century - the "century of the electron".</p> <p>Photonics is therefore one of the most promising technologies of the future, and driving motor for many industry applications of optical technologies which are nowadays already used e.g. in optical data storage as for CDs and DVDs, in optical illumination with LEDs or OLEDs, or in optical communication using optical fibres.</p> <p>Nonlinear optical effects allow to amplify, control and steer light in order to realize complex information processing tasks. They require the understanding and control of nonlinear effects as well as tailoring light for the purpose of application. Using nonlinear optical processing features, we can use light as the carrier of information of the future.</p> <p>Our actual research activities are centered around this vision, based on two major focus lines - nonlinear optical applications in information, biology and medicine, and photonic circuits by light is guiding light.</p> <p>In this field, we are offering places for PhD students or Master students in the following fields:</p> <ul style="list-style-type: none"> • Optimization of organic solar cells by surface structuring 			

	<ul style="list-style-type: none"> • Investigations of cell elasticity by optical tweezers • Development of tailored light fields for holographic optical trapping • Nonlinear optical binding in complex optical tweezes • Realization of polymer structures by dielectrophoresis • Nonlinear light localization in photonic crystal structures • Nondiffracting beams as tools for photonic lattices • Creating 3D nonlinear photonic spiral lattices • Sensing light in and with nanocontainer particles • Realization of integrated components to buffer light (slow light) • Grating-assisted nonlinear frequency conversion
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MS 5

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute for Geoinformatics	Dr. Christoph Brox	2	Geoinformatics or related area	M, P
Time frame:	May 3 - July 31			
Institute's focal research areas	<p>The Institute for Geoinformatics (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). Specific topics for grant-holders (PhD or MSc students) are:</p> <ul style="list-style-type: none"> - linked open geodata - ontologies for geoinformation - semantics of sensor data. 			

MS 6

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)

Center for Eastern Mediterranean Studies	Prof. Dr. Reinhard Achenbach	3	Religious Studies, Jewish Studies, Coptic Studies, Ancient History; Archaeology; Oriental Studies	B, M, P
Time frame:	whole academic year			
Institute's focal research areas	The focus of research is on religious, historical, cultural, social and economic themes concerning the ancient Eastern Mediterranean region.			

MS 7

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Dept. for Old Testament / Hebrew Bible; Protestant Theology	Prof. Dr. Reinhard Achenbach	2	Hebrew Bible, Ancient History	M, P
Time frame:	January – July; September – December			
Institute's focal research areas	Biblical and Ancient Near Eastern Law, History of Ancient Oriental Religions and Cultures, ANE languages (in cooperation with the Ancient Oriental Institute, Prof. Neumann), Hebrew Bible			

MS 8

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B = Bachelor; M = Master; P = PhD)
Institute for Inorganic and Analytic Chemistry	Dr. M. Jahnke	2	Inorganic Chemistry, Organometallic Chemistry	M, P
Time frame:	May – December			
Institute's focal research areas	Coordination Chemistry of N-heterocyclic Carbenes, Supramolecular Chemistry based of Polycarbene Ligands, Self-assembly reactions towards helical architectures.			

University of 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 1500 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

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PB 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars’ degree program (B= Bachelor; M= Master; P= PhD)
GET Lab – Cognitive Systems Engineering	Prof. Dr. Baerbel Mertsching	3	Computer Science, Electrical Engineering and related fields	M, P
Time frame:	open, preferably from October on			

Institute's focal research areas	<ul style="list-style-type: none"> - autonomous and teleoperated mobile robot systems, - computer vision - virtual and augmented reality/ simulation - (low power) microelectronics
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PB 2

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B= Bachelor; M= Master; P= PhD)
Chair of Mechatronics and Dynamics	Dr. Tobias Hemsel	2	Mechanical or Electrical Engineering; Mechatronics	M. P
Time frame:	open (12 weeks)			
Institute's focal research areas	<ul style="list-style-type: none"> • Dynamics and dependability of mechatronic systems • Actuators and sensors, piezo- and ultrasound systems • Non-linear dynamic systems and contact mechanics 			

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 Muelheim 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

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#HSR 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B= Bachelor; M= Master; P= PhD)
Institute for Informatics	Prof. Handmann	2 - 3	Informatics, Electrical Engineering, Experience in Programming	B, M, P
Time frame:	May – December			
Institute's focal research areas	Possible research topics are: Programming: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Implementation of a person tracking module based on the hausdorff distance. • Literature study regarding person detection in video streams. 			

	<ul style="list-style-type: none">• Implementation of a person detection algorithm based on gradient features <p>Technical Computer Science:</p> <ul style="list-style-type: none">• Programming and Evaluation of a CAN-bus based client-server system to transfer images and navigation data <p>Human Machine Interface:</p> <ul style="list-style-type: none">• Implementation of a multi-touch environment for gesture recognition <p>Neurocomputing:</p> <ul style="list-style-type: none">• Implementation of a biological inspired dynamical approach for behavior planning on mobile platforms
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University of Siegen

The University at Siegen with about 14,000 students and 1,000 scientists is an innovative and interdisciplinary institution. The university provides in a broad range of disciplines an outstanding environment for teaching and research.

www.uni-siegen.de

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SI 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B= Bachelor; M= Master; P= PhD)
Physics Department/ Chair for Quantum optics	Prof. Dr. Ch. Wunderlich	2	Physics	M, P
Time frame:	May to July October to December			
Institute's focal research areas	The quantum optics group at Siegen does research into fundamental aspects of quantum physics, for instance concerning entanglement, and into the development of novel elements for quantum computing and quantum simulations (see, e.g., Timoney et al., Nature 476, 185 (2011). www.quantenoptik.uni-siegen.de). Students will have the opportunity to work on a well-defined project concerning, for instance, laser or microwave sources, software, or electronics and thus to contribute to experiments in the field of quantum information science with electrostatically trapped ions.			

University of Wuppertal (WU)

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 Duesseldorf 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 city's best-known landmark, the Wuppertal suspension monorail ("Schwebebahn") is one of the world's safest and most comfortable means of transport.

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 16.000 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.

www.uni-wuppertal.de

German Courses

The BUW- Language Center (SLI – www.sli.uni-wuppertal.de) offers the following courses of German as a foreign language:

- Language courses to prepare for studying (all levels)
- Specialised language courses for professionals
- German Cultural Studies

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WU 1

Institute	Contact at the institute	Number of places	Discipline or subject area	Scholars' degree program (B= Bachelor; M= Master; P= PhD)
Center for International Studies in Social Policy and Social Services	Prof. Dr. Heinz Suenker	3	Social Sciences, Education, Social Policy, Social Work	M, P
Time frame:	Preferably October to December 2012			
Institute's focal research areas	The center deals with theory, politics and practices in political and welfare institutions, in education and social services. We offer a broad range of topics with respect to comparative questions.			