HEINRICH HEINE
UNIVERSITÄT DÜSSELDORF

The State Government
of North Rhine-Westphalia

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

Call 2013

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

(current version, as of December 14th 2012)

**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)

Architecture / Spatial Planning / Civil Engineering	• FH BI 1
Art / Design	• FH BI 3
Biology / Life Sciences / Geography / Environmental Science / Agriculture	• BC 1 • BC 6 • BRS 2 • DS 4 • DE 4 • FZJ 4 • FZJ 5 • MS 8
Business (Administration) / Economics	• FH BI 2
Chemistry / Chemical Engineering / Biochemistry / Pharmacy	• BI 1 • BC 1 • BC 7 • BRS 1 • DO 4 • DE 3 • FZJ 5 • MS 1 • MS 3 • MS 8
Computer Science / Informatics / Information Sciences	• DS 4 • FZJ 1 • FZJ 3 • FZJ 6 • FZJ 7 • MS 8

	• PB 1 • HSR 1
Cultural Studies / Literature / Philology / Linguistics	• DO 3 • DS 1 • DS 2 • DS 3 • MS 5
Educational Science / Didactics	• DE 1 • DE 2 • WU 1 • WU 2
Electrical Engineering	• FZJ 1 • FZJ 7 • MS 4 • PB 1 • PB 2 • HSR 1
History / Archaeology / Anthropology	• BI 2 • BC 2 • BC 4 • DS 2 • DS 3 • KL 2 • MS 5
Law	• FH BI 2 • DS 5 • KL 1 • KL 3
Mathematics	• FZJ 3

	• FZJ 6 • FZJ 7 • PB 4
Mechanical Engineering / Process Engineering / Material Engineering	• BRS 1 • DE 3 • FZJ 2 • FZJ 3 • FZJ 7 • PB 2
Media Studies / Communication Science / Journalism / Film Studies	• DS 1
Medicine / Health Sciences	• BC 6 • BN 1 • FZJ 4 • MS 7 • MS 8
Philosophy / Theology / Religious Studies	• BI 2 • BC 3 • MS 5 • MS 6 • PB 3
Physics / Geophysics / Nanotechnology / Astronomy	• BI 1 • DO 1 • BC 7 • DS 4 • DE 3 • FZJ 1 • FZJ 2 • FZJ 3

	• FZJ 5 • FZJ 7 • MS 1 • MS 2 • MS 3 • MS 4 • PB 4 • SI 1
Psychology / Cognitive Science / Neuroscience	• FH BI 2 • BC 5 • DE 2 • DE 4 • MS 7 • WU 2
Social Sciences / Sociology / Politics	• BI 2 • BC 4 • DE 1 • DE 2 • WU 1 • WU 2

Contacts and further information

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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	B, M
Time frame:	April – December			
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 = 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			

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 or Architecture	B (classes in German language only), M (Classes and projects in English language possible)
Time frame:	May 2 – July 13; September 17 – December 21			
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. Existing cooperations: Technion Haifa, Israel			

FH BI 2

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program (M = Master; P = PhD)**
Faculty of Business and Health, Department of Business	Prof. Dr. Uwe Roessler	2	Business Administration, Business Information Systems, Business Law, Business Psychology, International Studies in Management	B, M Teaching language: German/English (depends on the course) Working language: German and English Personal consultation by professors and teachers in English Papers can be written in English
Time frame:	September 1st – December 20th			
Institute's focal research areas	There is not a specialization in one Research Field. The Faculty is Business with focus on General Business Administration, Information Systems, Law, Psychology, and International. The stipendiary should participate in our course programme and it is possible that he/she can work at a special subject in cooperation with one of our professors. In the Department of Nursing and Health there would also be the possibility to work in the field of healthcare, nursing (practice); Professional consulting and teaching in the instruction of health care professions; Management of pedagogic institutions in the health care sector.			

FH BI 3

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. Roman Bezjak	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:	September 1st – December 20th			
Institute's focal research areas	• Photography and media • Book design • Collections design (fashion) Existing cooperations: Bezalel Academy of Arts and Design, Jerusalem Shenkar College of Engineering & Design, Ramat Gan			

Ruhr-University Bochum (BC)

At Ruhr-Universitaet 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: • 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 eastern Mediterranean / Near East; Phoenician archaeology	M; P
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	Theoretical Philosophy; Ancient Philosophy	M
Time frame:	September – December			
Institute's focal research areas	The institute is specialized in Philosophy of Language, Mind and Science. It is also offering Logic and Epistemology and a program in Ancient Philosophy.			

BC 4

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(B = Bachelor; M= Master; P= PhD)**
Sociology of Development and Internationalization	Eva Gerharz	1-2	Sociology, Social Anthropology, Political Science	
Time frame:	September 15th – December 20th			
Institute's focal research areas	Migration and transnationalization, multi-ethnic cohabitation and conviviality in local and organizational fields, construction of belonging and identity politics, minority rights, statelessness, democratization and participation in (trans-)local fields, development (policy) and human rights, with a strong focus on qualitative research methods and their			

	application outside Europe.

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	Neuropsychology, Cognitive Neuroscience	B, M, P
Time frame:	April – July; October - December			
Institute's focal research areas	We have many research topics. We are interested in the processing of faces and bodies in the human brain. We are also interested in the involvement of the medial temporal lobe in the formation of long term memory and also in perception. As techniques, we are using EEG and fMRI. Please take a look at our homepage to get an impression of our research topics (http://www.ruhr-uni-bochum.de/neuropsy/).			

BC 6

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** (M = Master, P = PhD)
Department of Anatomy and Molecular Embryology	Prof. Brand-Saberi	2	Biology, Medicine	B, M, P
Time frame:	May - December			
Institute's focal research areas	Developmental and Stem Cell Biology Cell Migration			

BC 7

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(B = Bachelor; M= Master; P= PhD)**
Microsystems chemistry and Bio-IT (BioMIP), Dept. of Organic Chemistry I	Prof. John McCaskill	1	BSc in Physics, Chemistry, or Biochemistry. Interest in new applications and working methods in microfluidics, bio-	M

			chemistry and IT.	
Time frame:	May – December 2012			
Institute's focal research areas	**Research of the BioMIP group at Ruhr-Universität Bochum:** 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. 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). **Possible working topic for the grant recipient**: 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. 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. 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. **Existing research cooperation in the target countries:** Research cooperations in this area exist with a) The department of Computer Science & Applied Mathematics of the Weizmann Institute of Science in Rehovot, Israel. The contact person is Prof. Ehud Shapiro (ehud.shapiro@weizmann.ac.il). b) The Institute of Chemistry at the Hebrew University in			

	Jerusalem. The contact person is Prof. Itamar Willner (willnea@vms.huji.ac.il).

University of Bonn (BN)

Rheinische Friedrich-Wilhelms-Universität, which belongs to the top Universities in Germany in terms of student's enrolment with particular high international participation, of high quality scientific projects and publications, multifaceted teaching activities. Currently several interdepartmental and interfaculty curricula are involved in innovative educational programs such as "Application of Biotechnology in Medicine" which are open for further interdisciplinary and international co-operations supported by several national foundations and European Union. Since several years, the University of Bonn actively participate in bilateral exchanging programs with Israel. The accumulated experience for both sides is highly positive. The created scientific and personal contacts are of durable nature.

Students from Israel could be integrated in interdisciplinary and interfaculty projects as well as particular English spoken Bachelor or Master Curricula at the below listed institutes, which have pride of their ample interdisciplinary co-operations, long standing involvements in international co-operations and programs supported by reputed scientific laboratories and institutions in Israel e.g. Weizmann-Institute, several Centres of Excellence, "Technion" (Haifa).

www.uni-bonn.de

German language courses: http://www3.uni-bonn.de/studying/international-students/german/german-courses?set_language=en

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www.international.uni-bonn.de / www.betreuung.uni-bonn.de

 # BN 1

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(B = Bachelor; M = Master; P = PhD)**
Department of Radiology, Medical Faculty, Division of "Molecular/Experimental Radiology"	Prof. Dr. Olga Golubnitschaja	1	Early / Predictive molecular diagnostics, Targeted prevention, Individualised patient profiling, Personalised Medicine	B, M
Time frame:	September – November			

Institute's focal research areas	➢ Development of disease specific molecular markers for predictive diagnostics and personalized therapy; ➢ Application of clinical transcriptomics and proteomics; ➢ Expression profiling of human blood; ➢ Clinical evaluation of individual predisposition to breast cancer, leading causes of blindness, and chronic complications secondary to *Diabetes mellitus* type 2. Technological approaches: Clinical proteomics, "Expression Array", "Comet Assay", Zymography, "Real-Time"-PCR • Participation in the EPMA World Congress, September 2013, EU-Parliament, Brussels, www.epmanet.eu Dr. Golubnitschaja, Department of Radiology, Medical Faculty of the University in Bonn, Germany, has studied journalism, biotechnology and medicine and has been awarded fellowships for biomedical research in Paediatrics and Neurosciences (Medical Centres in Austria, Russia, UK, Germany, the Netherlands, and Switzerland). She is well-cited in the research fields of "gene hunting" and "subtractive hybridisation" applied to predictive prenatal & postnatal diagnostics published as *O.Labudova* in years 1990-2000. Dr. Golubnitschaja is an expert in molecular diagnostics actively publishing in the fields of perinatal diagnostics, Down syndrome, Diabetes mellitus, hyperhomocysteinemia, cardiovascular disease, neurodegenerative pathologies, cancer. She is the co-founder of the theory of multi-pathway organ-related blood fingerprinting with specific molecular patterns at epi/genomic, transcriptional and post/translational levels, author of fundamental works in integrative medicine. Dr. Golubnitschaja hold appointments, at the rank of Professor, at several European Universities and in International Programmes for Personalised Medicine and author of more than 300 international publications in the field. Awards: National & International Fellowship of the Alexander von Humboldt-Foundation; Highest Prize in Medicine and Eiselsberg-Prize in Austria. She is Secretary-General of the "European Association for Predictive, Preventive & Personalised Medicine" (EPMA in Brussels, www.epmanet.eu), Editor-in-Chief of "The EPMA-Journal" (BioMed Central, London); Book Editor of "Predictive Diagnostics & Personalised Treatment: Dream or Reality", Nova Science Publishers, New York 2009; Book Co-editor "Personalisierte Medizin", Health Academy, Dresden 2010; Book Series Editor "Advances in Predictive, Preventive & Personalised Medicine", Springer 2012; European Representative in the EDR-Network at the NIH / NCI, http://edrn.nci.nih.gov/; Advisor and Evaluator of projects dedicated to personalised medicine at the EU-Commission in Brussels, NIH/NCI, Washington D.C., USA, Foundations and National Ministries of Health in several countries worldwide. Contact: Universitaetsklinikum Bonn Experimental Radiology Prof. Dr. Olga Golubnitschaja Phone: +49 (0)228 / 287-15982 email: Olga.Golubnitschaja@ukb.uni-bonn.de

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 an 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:	July 1st / August 1st - December 15th			

Institute's focal research areas	**The work deals with:** a) development of polymer scaffolds for stem cell differentiation and proliferation b) development of polymers used in dental medicine c) development of polymeric materials from renewable resources (biomass) **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

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:	July 1st / August 1st – November (any time period within this time frame is possible, but it must be at least 10 weeks)			
Institute's focal research areas	**The work deals with** stem cell differentiation and 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 defects and in the adipogenic direction to investigate the influence of the differentiating fat cell in the development of atheroclerosis. In another project ecto-mensenchymal 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 • Stem cell interaction with natural and artificial scaffolds **The group is composed of** the lab leader, a scientist, two PhD students, and several Master- and Bachelor students working on their theses. One of the PhD students will take care for the guest student.

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 almost 30.000. The staff consists of 350 professors, 1.900 academics and about 1.300 non academic staff.

The TU Dortmund University supports interdisciplinary cooperation between its fields of study. To combine and analyze 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:	May - December			
Institute's focal research areas	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. A more detailed description can be found under: http://e3.physik.uni-dortmund.de/~suter/research/REI_QIP.pdf			

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.			

 # DO 4

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(B = Bachelor; M = Master; P = PhD)**
Faculty of Biochemical and Chemical Engineering Technical Biochemistry	Prof. Dr. Oliver Kayser; Dr. Arnim Quentmeier	2	Biochemistry Pharmacy Bioengineering	M. P
Time frame:	Preferredly October – December (3 months)			
Institute's focal research areas	Metabolic Engineering of microorganisms and plant for production of secondary natural products Protein Engineering for biocatalyst optimisation for technical application Optimization of enzyme expression an in silico calculation for metabolic pathway design			

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 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

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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:	May - December			
Institute's focal research areas	• Trauma studies, media and violence, torture in 21st century • Theory of media, materiality and media, media philosophy • Affect, and perception			

DS 2

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(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 – mid-July; mid-August - December			
Institute's focal research areas	Yiddish: Yiddish Language, Yiddish Literature and Culture, Yiddish Historical Linguistics			

DS 3

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 - 2	Jewish Studies; History (English language)	B, M, P
Time frame:	Summer term 2013 (May – July)			
Institute's focal research areas	Jewish history of the early modern period, 19th century German-Jewish History, History of Antisemitism			

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	Dr. Gelius-Dietrich	2	Informatics, Biology, Physics	M
Time frame:	May - December			
Institute's focal research areas	Bioinformatics, especially evolutionary genomics and simulations of metabolic network function.			

DS 5

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(B = Bachelor; M = Master; P = PhD)**
Chair of Civil Law, German and International Corporate, Business and Antitrust Law	Prof. Dr. Christian Kersting, LL.M. (Yale)	1	Law (experience in civil, corporate, and/or antitrust law would be appreciated)	B, M, P
Time frame:	May – July			
Institute's focal research areas	The Chair of Civil Law, German and International Corporate, Business and Antitrust Law focuses on questions of civil and corporate law as well as antitrust law, cf. http://www.jura.hhu.de/en/dozenten/kersting.html Scholarship holders could work on a research project that aims at a comparison of Israeli and German law. More specifically, the research project focuses on the issue of "responsibility and liability under Israeli and German private law". Other topics could be arranged.			

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: Nano sciences, 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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E-mail: simone.mueller@uni-due.de

 # 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	2	Educational Technology, Instructional Design	M, P
Time frame:	May - December			
Institute's focal research areas	Potentials of web 2.0 & social media for informal learning and in formal learning contexts Social learning platforms as new environments for learning Sustainable implementation of learning innovations Managing learning innovations in secondary and higher education Instructional design for case based learning scenarios in online-learning enviornments Systematic use of game based learning applications in vocational training.			

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 reproduction of social and educational inequalities	M, P
Time frame:	September – December			
Institute's focal research areas	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. Fields of research are: **1. The reproduction of educational poor**. *Continuity of reproduction of educational inequalities in different school systems; preperation and/or conducting of a Meta-Analysis of different prospective and retrospective studies evaluating the impact of different social structures, educational policies and school programns in different welfare-state-arrangements on the unequal distribution of educational capabilities.* **2. Compositional and Contextual Factors for Upward Mobility in Case of Educational Alienation** *A research literature-based meta-analysis focussing on:* *a) Habitus, strategies and reproduction of Inequalities in schools (Comparison Israel-Germany) or* *b) The impact of affirmative action on the promotion of educational opportunities in disadvantaged groups or the educationa poor (Comparison Israel-Germany)* *Original Research on:* *a) Trajectories of successfully performed upward mobility from pupils from disadvantaged groups (recruitment at the beginning of professional life)* *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)

DE 3

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(B = Bachelor; M = Master; P = PhD)**
Chair of Technical Chemistry I	Prof. Dr.-Ing. Stephan Barcikowski	2	Chemistry, Physics, Engineering	M, P
Time frame:	May - Dec			
Institute's focal research areas	Nanomaterials and Laser Technology See: http://www.uni-due.de/barcikowski/indexen.htm and: http://www.youtube.com/user/nanofunction/videos			

DE 4

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(B = Bachelor; M = Master; P = PhD)**
Department of Neurology; Motor Control Group	Prof. Dr. Dagmar Timmann	2	Neuroscience, Neuropsychology, Biomechanics	B, M
Time frame:	May - Dec			
Institute's focal research areas	Clinical Neuroscience; Physiology and pathophysiology of the human cerebellum; Behavioural studies in patients with cerebellar disorders; Structural and functional MRI in patients and controls. Projects will be on reach adaptation in cerebellar disease and studying the effects of transcranial direct-current stimulation (tDCS) on cerebellar deficits; Projects will be done in collaboration with Prof. Opher Donchin, Department of Biomedical Engineering and Zlotowski Center for Neuroscience Ben-Gurion University of the Negev. http://www.uni-due.de/neurologie http://www.dagmar-timmann.de			

Research Center Juelich (FZJ)

Research Centre Jülich, member of the Helmholtz Association, is one of the major research institutions in Europe.

Key technologies in the areas of health, energy and environment, and information characterize the profile of Forschungszentrum Jülich.

Our potential for meeting the objective of "key technologies for tomorrow" lies in 4,600 employees who work together in an interdisciplinary manner, over 200 cooperation partners in Germany and abroad, a unique infrastructure, and our special expertise in physics, materials science, nanotechnology, and information technology. We harness this potential to generate new solutions for the areas of health, energy and environment, and information.

Forschungszentrum Jülich is proud of the tools it provides for its researchers to do their work: simulation with supercomputers, research with neutrons, imaging techniques for medicine, nanotechnology tools–these modern instruments allow science to break through to new horizons of knowledge. This infrastructure, valued and used by researchers throughout the globe, characterizes Jülich the home of key technologies.

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

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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. Schiek	2	Electrical Engineering, Physics, Information Technology; Special experience in embedded system engineering (hard- and software)	M, P

			and/or communication protocols are required.	
Time frame:	May – June; mid-August – December			
Institute's focal research areas	Field "Actuator and Sensor Network": The Jülich iNODE system, based on Texas Instrument MSP430 microcontroller with wireless communication ability and 8GB local data storage capacity shall be adapted for smart surface actuating. For this a communication protocol using the wired µC interface shall be developed and implemented. The specific work would depend on student's skill and experience. Field "Wireless communication": A microcontroller based system, e.g. the Jülich iNODE system or different shall be used as the platform for the intended application, i.e. environmental research. In environmental research underground sensor networks are of special interest. This application is extremely challenging in respect to antenna design and failure tolerance of routing protocol. The specific work would depend on student's skill and experience. More information under http://www.fz-juelich.de/zel/DE/Home/home_node.html.			

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 of Engineering, Electronics and Analytics (ZEA) ZEA-1- Engineering and Technology	Dr. Ghaleb Natour	1 - 2	Mechanical engineering; Material Science; Physics	M, P
Time frame:	End of August - end of November			
Institute's focal research areas	ZEA-1 is the engineering and technology institute of the Forschungszentrum Jülich. We design, develop and fabricate scientific and technical equipment, facilities and processes that are not commercially available, both for the other institutes and for their external collaboration partners. The successful candidate can work within our ZEA-1 together with our engineers and scientists in the following research and technology development areas: a.) Numerical simulations using finite element codes like ANSYS, LS-Dyna etc. on new designed components and facilities to investigate the behaviour on stress or strain, thermal properties, electromagnetic fields, oscillations, hydro- and aerodynamic features. b.) Analysis of material properties of new materials (hardness, stiffness, thermal properties etc.) and of welding and brazing joints between different materials (metal-metal, metal-ceramics). The investigations will			

	be performed using REM, CT, and other techniques. c.) Performing physical experiments and feasibility studies for new projects. The projects are directly connected to the actual research areas like rational transformation and storage of energy of Forschungszentrum. More information under: http://www.fz-juelich.de/zat/DE/Home/home_node.html.

FZJ 3

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:	May - December.			
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. The combination of PET with Computer Tomography (CT) gives additional and complementary information about the anatomy. 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. 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. The hosting group "Molecular Neuroimaging" comprises physicians, biologists, physicists and several 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. More information is available at si.beer@fz-juelich.de and http://www.fz-juelich.de/inm/inm-2/EN/Home/home_node.html.			

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 D. Elmenhorst	1	Medicine / Health Sciences; Biology	B; M, P
Time frame:	May - December.			
Institute's focal research areas	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 • 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. 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. 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. 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. 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. More information is available at d.elmenhorst@fz-juelich.de and under http://www.fz-juelich.de/inm/inm-2/EN/Home/home_node.html.			

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 Complex Systems	Dr. Thorsten Auth	1	Physics, Chemistry, Biology	M, P
Time frame:	1 May to 31 July			
Institute's focal research areas	The student will perform numerical calculations to study interface-mediated interactions between particles: this can either be interactions of particles at liquid-gas interfaces or interactions of particles that are attached to lipid-bilayer membranes. Our main interest are membrane-mediated interactions that are particularly important from a biological point of view. Examples are viral budding, the entry of parasites into a cell, and the interaction of nanoparticles bound to cell membranes. From a technical point of view, both systems are closely related and can be investigated using triangulated surfaces. We will employ the program package „Surface Evolver", therefore knowledge of a programming language is not required, but can be helpful. However, basic knowledge of Linux, bash scripting, as well as of a plotting program such as gnuplot are necessary prerequisites. The details of the project and the work plan for the student will be adjusted according to the area of study of the applicant. More information under http://www.fz-juelich.de/ics/ics-2/DE/Home/home_node.html			

FZJ 6

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(B = Bachelor; M = Master; P = PhD)**
Juelich Supercomputing Centre	Prof. Dr. Johannes Grotendorst	1	Computer Science, Applied Mathematics	M
Time frame:	August 1st – October 4th			
Institute's focal research areas	Parallel Computing, Computational Science, Numerical Mathematics, Visualisation, Cluster Operating Systems, Grid Computing, Performance Analysis, cf. More information under: http://www.fz-juelich.de/ias/jsc/EN/Home/home_node.html			

FZJ 7

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	B, M, P
Time frame:	May – December			
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. 2. The comparison and evaluation of new approaches and toolkits for different applications.			

University of Cologne (KL)

The University of Cologne was founded in 1388 and is one of the oldest and largest universities in Germany. The six faculties offer students a wide range of subjects as well as a great variety in choice and combination of courses and disciplines. The University of Cologne is popular not only due to the diversity of academic opportunities but also to the unique atmosphere of Cologne itself. Also by tradition, the university is internationally oriented and cooperates closely with people and institutions worldwide. The internationalization of teaching and research can be seen through joint programs with universities and colleges from abroad, double degree programmes, graduate schools, summer schools, short-time programmes, the binding of the (German and international) alumni. An important aspect of the strong international position of our university is the recruitment of qualified international students. Students who expect and fulfil high standards at the university, will find best studying conditions here.

In 2012, the University of Cologne was distinguished by the German Excellence Initiative, and now belongs to the small group of elite universities in Germany.

The University of Cologne offers German language courses for international students. They are taught by our Language as a Foreign Language Department. For the target group of this programme we would recommend the participation in the pre-semester intensive language courses which take place in March respectively September. These courses are offered also for beginners' level, their duration is of 3 to 4 weeks; in case of successful completion participants can obtain credit points.The registration for the course takes place through the International Office of the University.

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	Prof. Dr. Heinz-Peter Mansel	1	Law	B, M
Time frame:	May – July; September – December			
Institute's focal research areas	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. The main research areas are: • International Private and Procedural Law • European Private and Conflict of Laws Provisions • Comparative Law • the German Civil Law and the Law of Civil Procedure 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 law.

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	Classics; Ancient History; Classical Archaeology	B, M, P
Time frame:	August – October			
Institute's focal research areas	Ancient History, especially the history of Israel in the Hellenistic-Roman period Collaboration with the Corpus Inscriptionum Iudaeae/Palaestinae			

KL 3

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** **(B = Bachelor; M = Master; P = PhD)**
Department of Criminal Law and Criminal Procedure Law	Prof. Dr. Martin Wassmer	1	Criminal Law; Criminal Procedure Law	B, M, P
Time frame:	May - December			
Institute's focal research areas	The research unit deals with the entire criminal law and criminal procedure law, with a focus on white collar crime, criminal tax law, administrative criminal law, European criminal law and medical criminal law. This can be the areas of work of the scholars.			

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, but they require a participation fee. Intensive courses will take place in February / March (August / September for the second term) 2013. Regular courses are expected to take place between the beginning of April 2013 until mid July 2013 and beginning of September 2013 for the second term. (http://spz.uni-muenster.de/v).

German as a foreign language („Deutsch als Fremdsprache" – DAF) is offered every semester from grades A1-C1 in our language centre („Sprachenzentrum"). For grant holders via this program, intensive courses with 4 h/day on 2 weeks are offered before the start of the semester. Subsequently, courses during the semester are continuously offered with different intensities (2/2/4/8h / week).

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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:	May - December			
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:	May - December			
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** **(M = Master; P = PhD)**
Institute of Physics	Prof. Dr. Harald Fuchs	1	Physics, Physical Chemistry, Nanoscience, Nanotechnology	M
Time frame:	May - December			
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)	3	Physics, Optics; Electrical Engineering	M (2 places), P (1 place)
Time frame:	May – December			
Institute's focal research areas	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". 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.			

	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. 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. In this field, we are offering places for PhD students or Master students in the following fields: • Optimization of organic solar cells by surface structuring (Master) • Polarized tailored light fields for holographic tweezers (Master) • Assembly of photonic functional nanocontainers by light (Master) • Light-induced dielectrophoresis for lab-on-a chip systems (Master) • Nonlinear light localization in photonic crystals (PhD) • Spiral light waves in photonic lattices (PhD) • Femtosecond-laser-lithography for integrated optics (Master) • Grating-assisted nonlinear frequency conversion (PhD) • More information can be found at: http://www.nonlinear-photonics.de or http://www.uni-muenster.de/physik.ap/denz

MS 5

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	Dr. Nikola Moustakis	3	Religious Studies, Jewish Studies, Coptic Studies, Ancient History; Archaeology; Oriental Studies	B, M, P
Time frame:	May - December			
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 6

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program (M = Master, P = PhD)**
Institute for Liturgical Studies	Martin Luestraeten	1	Christian Theology, Jewish Theology, Oriental Studies, Ritual Studies	B, M, P
Time frame:	May – December			
Institute's focal research areas	Oriental Liturgies, Jewish Rituals, Muslim Rituals, Interdependences of Christian, Jewish and Muslim Prayer.			

MS 7

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program (B = Bachelor; M = Master; P = PhD)**
Institute for Biomagnetism and Biosignalanalysis, Medical Faculty	PD Dr. Christian Dobel	1	Neuroscience; (institute language: English)	M, P
Time frame:	May – October			
Institute's focal research areas	Various areas of human information processing: language, vision, emotion, music; basic experience with neuroscientific methods (EEG, MEG, fMRI) is required.			

#MS 8

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program (M = Master, P = PhD)**
Medical Faculty / Anatomy and Vascular Biology *in cooperation with* Institute of Informatics	Prof. Dr. Hans Schnittler Prof. Dr. Xiaoyi Jiang	1	Image analysis	P
Time frame:	May – December			
Institute's focal research areas	Recent advances in the development of fluorescence tagged protein-technologies and -expression together with fast-speed microscopic techniques such as spinning disc microscopy allow visualizing the dynamic remodeling directly with high spatial and temporal resolution over long time periods. Biochemical, morphological, and functional data have uncovered a large number of mechanistic aspects of cell junction regulation, but dynamics of endothelial cell junctions, in particular			

	quantitatively, are still poorly understood, mainly due to missing computerized tools for automated analysis. The proposed project intends to analyze quantitatively the impact of junctional protein activity on the pattern of protein distribution. Therefore, time-lapse movies of endothelial cells expressing fluorescence tagged proteins (cell junction, focal contacts, ER Golgi) proteins with two different fluorescence tags have to be acquired and analyzed.

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 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 17,500 students studying at the university, among them about 1,500 international students.

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

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.

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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:	May - December, preferably from October - December			

Institute's focal research areas	- autonomous and teleoperated mobile robot systems, - computer vision - virtual and augmented reality/ simulation - (low power) microelectronics

PB 2

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** (B= Bachelor; M= Master; P= PhD)
Department of Mechanical Engineering; Chair of Mechatronics and Dynamics	Dr. Tobias Hemsel	2	Mechanical Engineering or Electrical Engineering	B, M
Time frame:	May – December (12 weeks)			
Institute's focal research areas	• Dynamics and dependability of mechatronic systems • Actuators and sensors, piezo- and ultrasound systems • Non-linear dynamic systems and contact mechanics			

PB 3

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** (B= Bachelor; M= Master; P= PhD)
Institute for Humanities: Philosophy / Teaching and Research Area „History of Women Philosophers"	Prof. Dr. Ruth Hagengruber	2	Philosophy	M, P
Time frame:	May – July			
Institute's focal research areas	The history of women philosophers lasts as long as the history of philosophy. Already in antiquity there was a large number of women in different philosophical schools; ancient academies were partly even led by women. Other periods such as Renaissance and Enlightenment produced a variety of major women philosophers. Some learnt far-reaching recognition, even fame, during their lifetime but in most cases their works stopped being handed down more or less shortly after their death. The teaching and research area "History of Women Philosophers and Scientists" has the objective to explore the contributions of women			

	philosophers to the history of philosophy with the objective of establishing their works in the philosophical Canon and to disseminate knowledge about their works in lectures and seminars. See: www.upb.de/history-women-philosophers. See also on https://www.facebook.com/history.women.philosophers

PB 4

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** (B= Bachelor; M= Master; P= PhD)
Department of Physics	Prof. Dr. Arno Schindlmayr	1	Theoretical Physics, Applied Mathematics	M, P
Time frame:	May – December (12 weeks)			
Institute's focal research areas	Quantum mechanics of many-electron systems. The focus of our research is the development and application of quantum-mechanical many-body techniques to investigate the electronic excitation spectra of solids from first principles. The electronic, optical or magnetic properties of a material, as measured in experimental spectroscopies, can thus be calculated quantitatively from the underlying microscopic electron dynamics. Our principal methods are density-functional theory and many-body perturbation theory, which is based on Green functions. We are particularly interested in the effects of correlation on the electronic band structure and in the accurate description of collective excitations like plasmons, excitons and magnons. Another important research activity is the formal theory development with the aims to analyse the influence of common approximations and to improve the internal consistency of practical implementations as well as the conformance with known exact relations. For this purpose the methods are applied to model systems that can be studied either analytically or with the support of standard numerical computer software. This offers a variety of possible short-term projects for candidates with a background of theoretical solid-state or molecular physics, many-particle quantum theory or applied mathematics.			

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:** • 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

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 electrodynamically 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

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

- Intensive German Course: Levels: A1(beginners) to C1b (advanced). Weekdays, daily
- Lecture course „German Grammar“ (Level: B2 upward), 2 hours per week
- German for Business and Economics (Level: advanced), 2 hours per week
- German for Humanities and Social Sciences (Level: advanced), 2 hours per week
- German for Science and Technology (Level: advanced), 2 hours per week

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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			
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.			

WU 2

Institute	**Contact at the institute**	**Number of places**	**Discipline or subject area**	**Scholars' degree program** (B= Bachelor; M= Master; P= PhD)
School of Education	Prof. Dr. Petra Buchwald	4	Pedagogical Psychology; Educational Sciences in Teacher Training	B, M
Time frame:	April to July / October to December			
Institute's focal research areas	The Institute for Educational Research (*Institut für Bildungsforschung IfB*) comprises three educational fields and their interaction: school, lesson and the educational system. According to this background the IfB put emphasis on specific research fields. Those are on the one hand the field of teachers' professionalism and on the other hand the social inequalities with regard to educational aspiration. Several research projects connected to these main research fields are promoted by the DFG (*Deutsche Forschungsgemeinschaft* – German Research Society), the BMBF (*Bundesministerium für Bildung und Forschung* – Federal Ministry for Education and Research) and through public and donated funds. The different working areas of the institute deal with these and similar questions in close collaboration and complement one another by their interdisciplinary perspectives. The working areas of the institute get further support by the methodical expertise of two assistant professors for quantitative and qualitative research methods. Additionally, two new founded working areas extend the multi-perspective orientation of the institute by engaging in the language acquisition of students with migration backgrounds as well as the needs of children who require support through special education.			