



# IN SEARCH OF EXCELLENCE!

The German Federal Ministry of Education and Research (BMBF) is supporting the further development of the six Centres for Innovation Competence (German: Zentren für Innovationskompetenz, ZIK), set up in 2004, by establishing new fast-track research groups. Scientists with excellent references and international expertise are invited to send in their applications by **30 April 2010**. Women are especially invited to apply. Preference will be given to disabled applicants with equal qualifications. For further details on the application requirements, please go to [www.unternehmen-region.de](http://www.unternehmen-region.de).

## OncoRay Dresden University of Technology

The Centre for Innovation Competence (German: Zentrum für Innovationskompetenz, ZIK) OncoRay – Center for Radiation Research in Oncology – is developing innovative methods for biologically individualised, technologically optimised radiation therapy for improving cancer cures. The OncoRay was jointly established in 2004 as an interdisciplinary research centre by Dresden University of Technology, the University Hospital and the Research Center Dresden-Rossendorf. It is attached to the Medical Faculty, and offers first-class research facilities, internationally acknowledged expertise in translational cancer and radiation research and a dedicated postgraduate school offering an MSc and a PhD programme ([www.OncoRay.de](http://www.OncoRay.de)). Dresden offers a prime research environment, and is a culturally attractive, family-friendly city with a high quality of life.

The Carl Gustav Carus Medical Faculty of Dresden University of Technology, together with the German Federal Ministry of Education and Research (BMBF), is seeking for the OncoRay:

### Associate Professor (W2)/Junior Research Group Leader "Biomarkers for Individualised Radiotherapy"

The professor will be appointed for five years. A tenure-track option, dependent on positive evaluation, is possible. The successful candidate will establish an interdisciplinary and international team of excellent scientists that will develop novel biomarkers for the prediction of the response of cancer to radiotherapy and innovative drugs for the development of individualised treatment strategies. Eligible candidates will have a PhD or MD degree, an excellent postdoctoral scientific track record in tumour biology, genetics or molecular pathology, for example, and teaching experience. Experience in radiation biology is not a prerequisite, and can be obtained on site.

### Junior Research Group Leader "In-Vivo Dosimetry for Novel Types of Radiation"

The successful candidate will establish an international team of highly qualified scientists and technologists in technology-based physics research. The team will develop radiation detectors for image-based in-vivo dosimetry for radiation therapy with protons and ions, fast techniques of signal processing, and data acquisition and processing in real time. Eligible candidates will have a PhD degree, alongside several years of research experience in experimental nuclear, radiation or particle physics, particularly in developing and using radiation detectors as well as in technologies and methods for the recording and processing of detection signals. Experience in physics and technologies of medical imaging are not a prerequisite, and can be obtained on site.

Funding for the research groups is available over a period of five years, and includes a budget for personnel, excellent laboratories, sustainables and travel costs.

Please send your application to:

**Biomarkers:**  
Professor H. Reichmann  
Dekan der Medizinischen Fakultät  
Carl Gustav Carus  
Technische Universität Dresden  
Fetscherstrasse 74  
01307 Dresden  
Germany

**In-Vivo Dosimetry:**  
Professor Michael Baumann  
Sprecher ZIK OncoRay  
Fetscherstrasse 74  
01307 Dresden  
Germany

and, for either application, also to:

**Project Management Jülich  
Division Technological and Regional  
Innovations (TRI)  
Forschungszentrum Jülich GmbH  
Zimmerstrasse 26-27  
10969 Berlin  
Germany  
Email: k.-d.husemann@fz-juelich.de**

## ICCAS – Innovation Center Computer Assisted Surgery University of Leipzig

ICCAS was founded in 2005 as one of six Centres for Innovation Competence (German: Zentren für Innovationskompetenz, ZIK) at the second-oldest university in Germany. Since then, the centre has successfully established itself as an international interdisciplinary research institution.

In 2010 two new research groups will be established within the centre, supported by the German Federal Ministry of Education and Research (BMBF). ICCAS, in collaboration with the BMBF, is now seeking applications from highly motivated and outstanding junior scientists for two

### Junior Research Group Leader positions

The key initiative of ICCAS is to carry out research and development work on applying methods and tools for system software for the modern surgical workplace (Therapy Imaging and Model Management System – TIMMS). Specific applications of computer-assisted surgery include, but are not limited to, neurosurgery, ENT surgery and cardiovascular surgery. This work assumes the realisation of an integrated digital operating room (OR), a surgical planning unit and other aspects of the treatment path. In order to achieve these strategic aims, two research groups with specific areas of interest will be established:

#### Junior Research Group: Digital Patient and Process Model

- Mathematical modelling and informatics-based structuring of patient data sets
- Specification and modelling of surgical workflows including standard operating procedures
- Software-engineering-based prototyping of patient and process modelling systems as well as semantic-aware tools and services in the context of surgical assist systems

#### Junior Research Group: System Tools for Surgical Cockpit

- Integration of the patient and process models in a near-real set-up
- Knowledge and decision management
- Projects with strong relation to existing commercial products and prototypes
- Cooperation with projects focusing on OR architecture, medical technology, medical devices and human-machine interaction

Candidates for both positions should be familiar with the broad areas of software and systems engineering, health informatics, computer-assisted radiology and surgery, or related fields. A strong background in computer science is desirable with evidence of the ability to pursue and lead a research programme. Most important, however, is the ability to build up and manage a large cross-disciplinary collaborative team.

The two junior research group leaders have the opportunity to form their own research group with four scientists each. The groups are provided with secured funding for five years, and are endowed with an above-average budget and excellent infrastructure of state-of-the-art demonstration OR and computer facilities. They will be supported by a centre manager and the administrative and scientific staff of ICCAS, and will be immersed in an active academic and student environment.

The Medical Faculty offers the possibility of a "Junior Professor" (W1) position in the above-mentioned scientific field. The successful group leader may be offered a tenured position after positive evaluation.

Please send your application to:

**Universität Leipzig  
Medizinische Fakultät  
ICCAS  
Professor J. Meixensberger  
Semmelweisstrasse 14  
04103 Leipzig  
Germany**

and  
**Project Management Jülich  
Division Technological and Regional  
Innovations (TRI)  
Forschungszentrum Jülich GmbH  
Zimmerstrasse 26-27  
10969 Berlin  
Germany  
Email: k.-d.husemann@fz-juelich.de**

For further information, please contact:  
Professor Jürgen Meixensberger ([meix@medizin.uni-leipzig.de](mailto:meix@medizin.uni-leipzig.de)); [www.iccas.de](http://www.iccas.de)

For further information, please contact:  
Professor Michael Baumann ([michael.baumann@oncoray.de](mailto:michael.baumann@oncoray.de)); [www.oncoray.de](http://www.oncoray.de); and the website of the Medical Faculty (Stellenanzeigen)

## CELISCA – Center for Life Science Automation University of Rostock

The international Centre for Innovation Competence (German: Zentrum für Innovationskompetenz, ZIK) CELISCA offers an ideal environment for effective interdisciplinary research and development projects. Under our roof, engineers and natural scientists cooperate closely to find innovative solutions for current and future problems and tasks. The main research areas include automation and engineering, chemistry and biotechnology, screening and analytics, process information technologies and automation assessment.

CELISCA, together with the German Federal Ministry of Education and Research (BMBF), is now inviting applications for the position of a

### Junior Research Group Leader

#### “Life Science Automation – Systems and Process Technologies”

The technological focus of the group is a comprehensive workflow in a multi-robot/multi-operator environment, coupled with the application focus in the field of catalysis for drug development and drug testing (synthesis and process analytics).

The research activities of the group will include systems and method developments for high-throughput screening and process analytics of catalyst systems for the development of bioactive compound libraries and their integration into hierarchically organised workflow management for multi-robot environments with a flexible consideration of the system operators.

Conditions of employment include a PhD (Information Technology, Chemistry, Electrical Engineering, Physics, etc.) and experience in the fields of the interdisciplinary research profile of the research group, in project-financed research and in international cooperation.

Additionally, we expect experience in leading a research group, goal-oriented and application-oriented working, flexibility and resilience, social skills and a high degree of interdisciplinarity.

The research group is provided with secured funding for five years, and is endowed with an above-average budget and an excellent infrastructure.

Please send your application to:

CELISCA  
Professor Kerstin Thurow  
Friedrich-Barnewitz-Strasse 8  
18119 Rostock  
Germany  
Email: kerstin.thurow@celisca.de

and Project Management Jülich  
Division Technological and Regional  
Innovations (TRI)  
Forschungszentrum Jülich GmbH  
Zimmerstrasse 26–27  
10969 Berlin  
Germany  
Email: k.-d.husemann@fz-juelich.de

For further information, please contact:

Professor Kerstin Thurow (kerstin.thurow@celisca.de); www.celisca.de

## FunGene – Functional Genomics Ernst Moritz Arndt University of Greifswald

With around 12,000 students, Ernst Moritz Arndt University is a small university on the coast of the Baltic Sea. Life science research constitutes one of its major research areas. The Faculty of Natural Sciences and the Medical School of the University recently joined forces and resources in a Centre for Innovation Competence (German: Zentrum für Innovationskompetenz, ZIK) for Functional Genomics (FunGene), which is supported by the German Federal Ministry of Education and Research (BMBF). Over the last five years, functional genomics has developed into one of the major research fields of the university, with state-of-the-art facilities for transcriptomics and high-throughput proteomics. Research is focused on the following areas: systems biology of model organisms, pathogenomics and infection biology (Gram-positive bacteria), and functional genomics in molecular medicine and its biotechnological application. The research groups are involved in a number of national and international research consortia.

Within the framework of FunGene, the centre is now being expanded by establishing two BMBF-supported junior research groups in the fields of pathogenomics and applied proteomics. Funding of the groups includes laboratory set-up, consumables and additional personnel (postdoctoral and technical positions) for five years. FunGene, in collaboration with the BMBF, is looking for a

### Junior Research Group Leader “Pathoproteomics”

We are seeking to recruit an outstanding young scientist with a strong publication record in functional genomics and infection biology (imaging techniques). The successful candidate will have access to the outstanding proteomics technology facilities in Greifswald. High priority will be given to candidates who are able to stimulate research networks on proteomics of bacterial pathogens in Germany and Europe. Candidates should have a strong publication record either in pathogenomics (imaging techniques) or in infection biology. A successful group leader may be considered for a **tenure-track option** by the university.

### Junior Research Group Leader “Applied Proteomics”

We are seeking to recruit an outstanding scientist with a strong background in proteomics and bioinformatics of microbial pathogens. High priority will be given to candidates who are able to develop gel-based and gel-free proteomics into high-throughput workflows for the analysis of infection-related questions in an epidemiological context. Expertise in the field of proteomics should be documented by a related PhD and a strong publication record. Based on the research network that is established in Greifswald, the proposed research plan should develop approaches that allow a temporal and integrated analysis of the infecting bacterial pathogen and the host side, aiming for improvements in diagnosis and an adjustment of therapeutic regimens. The group should develop the existing network with the biotechnological and pharmaceutical industry. A successful group leader may be considered for a **tenure-track option** by the university.

Please send your application to:

FunGene  
Professor Michael Hecker  
Ernst-Moritz-Arndt-Universität Greifswald  
Institut für Mikrobiologie  
Friedrich-Ludwig-Jahn-Strasse 15  
17487 Greifswald, Germany  
Email: hecker@uni-greifswald.de

and Project Management Jülich  
Division Technological and Regional  
Innovations (TRI)  
Forschungszentrum Jülich GmbH  
Zimmerstrasse 26–27  
10969 Berlin, Germany  
Email: k.-d.husemann@fz-juelich.de

For further information, please contact: Professor Michael Hecker (ecker@uni-greifswald.de); www.functional-genomics.uni-greifswald.de/

## MacroNano Ilmenau University of Technology

IMN MacroNano® is an interdisciplinary institute at Ilmenau University of Technology. Its focus is on intensifying interdisciplinary research in the area of micro- and nanotechnologies, spanning the field from basic science to applications. A distinctive goal is to foster the transfer of knowledge among scientists and between scientists and commercial research partners in joint R&D projects. This leads to a continuous advancement of R&D expertise within the IMN MacroNano® and for its scientific partners. Currently, IMN MacroNano® comprises 39 research and junior research groups from the schools of Mechanical Engineering, Electrical Engineering and Information Technology, Mathematics and Natural Science, and Computer Science and Automation, inter alia, at the Centre for Innovation Competence (German: Zentrum für Innovationskompetenz, ZIK) IMN MacroNano.

Ilmenau University of Technology, with support from the German Federal Ministry of Education and Research (BMBF), will accommodate a junior research group “Three-Dimensional Nanostructuring” at ZIK IMN MacroNano, and is looking for a

### Junior Research Group Leader “Three-Dimensional Nanostructuring” Associate Professor (W2, tenure track)

The successful candidate will simultaneously fill a tenure-track faculty position of an associated professorship (“W2” professorship, tenure track) at the school that fits his or her scientific profile best. The junior research group will be equipped with start-up funding for five years, including positions for four scientific staff as well as the means for investments and running expenses.

The focus will be on candidates with an exceptional research background in the field of novel methods of three-dimensional nanostructuring. Foci of research may be: the scalable, fast and parallel construction of functional nanostructures in three dimensions or nanostructuring on three-dimensionally shaped surfaces, especially in micro-systems. The results of the field of research shall enable scalable micro-nano integration.

The successful candidate will have teaching obligations including basic courses on a BSc level and advanced classes in the master programmes “Micro- and Nanotechnology” and “Miniaturised Biotechnology”. Proof of teaching ability needs to be enclosed in the application. Applicants need to fulfil the requirements of §77 of the “Thüringer Hochschulgesetz”. Specifically, they must have an outstanding PhD degree, additional scientific qualifications and international work experience. An active contribution to the academic self-administration is expected, and experience in securing research grants is requested.

Please send your application to:

Technische Universität Ilmenau  
Dezernat für  
Personalangelegenheiten  
Kennziffer ZIK/2010  
Postfach 10 05 65  
98684 Ilmenau  
Germany

and Project Management Jülich  
Division Technological and Regional  
Innovations (TRI)  
Forschungszentrum Jülich GmbH  
Zimmerstrasse 26–27  
10969 Berlin, Germany  
Email: k.-d.husemann@fz-juelich.de

For further information, please contact:

Professor Martin Hoffmann; phone: +49 (0)3677 69-3402; email: macronano@tu-ilmenau.de; www.macronano.de

## ultra optics Friedrich Schiller University of Jena

“ultra optics”, the interdisciplinary Centre for Innovation Competence (German: Zentrum für Innovationskompetenz, ZIK) at Friedrich Schiller University (FSU), is developing novel concepts for controlling light even under extreme conditions with respect to wavelength, power and time. The centre is dedicated not only to fundamental research, but also to the development of the physical and technical prerequisites for next-generation active and passive optical systems and their application. The work is carried out through cooperation with partners from science and industry.

In 2010 two new research groups will be established within the centre, supported by the German Federal Ministry of Education and Research (BMBF). Their research group leaders will each set up their own team of four scientific staff, and realise their own research concept in the field of modern optics and photonics. The groups will initially be funded for five years, and are endowed with an above-average budget and excellent laboratory equipment. They will be immersed in the scientific environment of Professor Andreas Tünnermann, director of the FSU Institute of Applied Physics and the Fraunhofer Institute for Optics and Precision Engineering, and will have access to research infrastructure within both.

Friedrich Schiller University and the Fraunhofer Institute for Optics and Precision Engineering, together with the BMBF, are now inviting applications for two junior research group leader positions:

### Junior Research Group Leader

#### Applied Physics: Manufacturing Technologies in Advanced Micro- and Nano-Optics

The candidate has a strong record in advanced manufacturing processes for micro- and nano-optics, with expert knowledge in the design of passive photonic elements as well as their linear experimental analysis. Practical experience in electron and laser lithography would be desirable.

### Junior Research Group Leader

#### Applied Physics: Diamond-/Carbon-Based Optical Systems

The candidate must have a strong scientific background in modelling, design and application of advanced opto-mechanical systems. An important part of this candidate's interest is the investigation of optic and photonic elements under extreme lighting conditions.

Applicants fulfilling the formal requirements, possessing outstanding expertise and matching the research topics of the department can be appointed as **Junior Professors**. Candidates for both positions must have a PhD in physics or a closely related area and should not be older than 35 years at time of application. Superb communication skills and a commitment to excellence in both teaching and research are required.

Please send your application to:

Friedrich-Schiller-Universität Jena  
Physikalisch-Astronomische Fakultät  
Dean Professor R. Kowarschik  
Max-Wien-Platz 1  
07743 Jena  
Germany

and Project Management Jülich  
Division Technological and Regional  
Innovations (TRI)  
Forschungszentrum Jülich GmbH  
Zimmerstrasse 26–27  
10969 Berlin, Germany  
Email: k.-d.husemann@fz-juelich.de

For further information, please contact:

Professor Andreas Tünnermann (Andreas.Tuennermann@uni-jena.de); www.ultraoptics.de