Positions Available

Why not change the world?

TENURE TRACK FACULTY POSITIONS

Department of Materials Science and Engineering

The Department of Materials Science and Engineering at Rensselaer Polytechnic Institute is seeking exceptionally well-qualified candidates for tenure-track faculty positions at all levels. Positions are available in all materials areas including metallurgy, polymer science and engineering and ceramic materials with particular interest with research area in nano-science and technology, information technology and biotechnology. The Department has broad interests and world-class expertise in ceramics and glasses, electronic and nano-structured materials, metals, polymers and composites. The candidates must have doctoral degrees and outstanding records of accomplishments in materials research. Dedication to high-quality teaching is also essential. Responsibilities of the positions include teaching undergraduate and graduate courses, supervision of graduate students, scholarly research, and generation of significant research funding.

Applications will be considered until the positions are filled. Send inquires and applications, including a statement of research and teaching goals, a list of publications, and a minimum of three references to: **Prof. David J. Duquette, Head of the Department of Materials Science and Engineering, Rensselaer Polytechnic Institute, 110 Eighth Street, Troy, NY 12180-3590 or duqued@rpi.edu.**

Rensselaer

We welcome candidates who will bring diverse intellectual, geographical, gender and ethnic perspectives to Rensselaer's work and campus communities. Rensselaer Polytechnic Institute is an Affirmative Action/Equal Opportunity Employer.

MATERIALS CHARACTERIZATION FACILITY MANAGER
Chemistry Department
University of Pittsburgh

The Chemistry Department at the University of Pittsburgh is seeking a manager for a new Materials Characterization Laboratory. The successful candidate for this non-tenure stream position will have a degree in a relevant scientific discipline (PhD degree in Chemistry or Materials Science preferred), but candidates with equivalent experience will also be considered. In addition to expertise in operating and maintaining instrumentation, candidates must also be familiar with a wide variety of sample preparation techniques. Experience in some or all of the following areas is desired: microscopy, soft materials characterization, hard materials characterization, and spectroscopy.

Candidates must have strong interpersonal and communication skills as well as a willingness to continuously learn new characterization skills and to participate in the generation of proposals for facility expansion. The position will be as a Research Assistant Professor, or comparable level.

Interested candidates should submit their resume along with the names of three references to:

Dr. Ken Migliorese
Department of Chemistry
University of Pittsburgh
219 Parkman Avenue
Pittsburgh, PA 15260
kenm2@pitt.edu

Screening of applications will begin **April 1, 2007** and continue until the position is filled.

The University of Pittsburgh is an Affirmative Action, Equal Opportunity Employer. Women and members of minority groups underrepresented in academia are especially encouraged to apply.

UNIVERSITY AT ALBANY
State University of New York

Open Faculty Position
Nanobioscience Constellation
College of Nanoscale Science and Engineering

As part of its multi-year strategic plan, the College of Nanoscale Science and Engineering (CNSE) of the University at Albany-SUNY invites applications for a tenure track position at the full Professor level in its Nanobioscience Constellation.

Opportunities are available for individuals with expertise in the area of development and deployment of atomic scale analytical tools and metrology techniques for solving cutting edge problems at the interface of nanotechnology and biology. Demonstrated expertise and established track record in biometrics and/or biomimetics is required.

Particular areas of interest include: (i) the formulation of novel approaches for examining, interrogating, and manipulating the physical (e.g. structural, electro-mechanical) and biochemical aspects of biological systems; (ii) the development of new protocols for investigating and exploiting cell membrane/organelle dynamics and cell/tissue/biomolecule-substrate interactions including adhesion, preferential attachment and structural analysis; and/or (iii) the design and demonstration of useful processes, systems, and devices that integrate nanometer scale controllability and atomic level know-how with the exotic properties and revolutionary functionalities of biochemical, electrobiochemical, and biological materials.

The CNSE Nanobioscience Constellation is a "think tank" of scholarly excellence in research and education that is designed to catalyze and encourage cross-disciplinary innovation and pedagogy, as driven by the fundamental intellectual underpinnings of nanotechnology. As part of its portfolio, the CNSE Nanobioscience Constellation is planning graduate (doctoral and Masters) degrees in Nanobioscience that will provide a comprehensive education in the application of nanoscale scientific concepts and principles to the study of biological, biomedical, and medical procedures, practices, structures, systems, and organisms.

Candidates should have a Ph.D. in an appropriate concentration in physics, chemistry, chemical engineering, materials science, materials engineering, biology, biotechnology, or electrical engineering from a college or university accredited by a USDOE or internationally recognized accrediting organization. The candidates must also have a strong publication record and must possess demonstrated excellence in academic, scientific and scholarly activities and a proven track record in establishing vigorous externally funded research programs in one of the technical areas listed above. Applicants must address in their applications their abilities to work with and instruct a culturally diverse population. Joint appointments in the other CNSE constellations are possible and highly encouraged where appropriate. Candidates will be asked to submit a list of publications related to their research activities.

The College of Nanoscale Science and Engineering of the University at Albany-State University of New York is the first college in the world devoted exclusively to the research, development and deployment of innovative nanoscience, nanoengineering, nanobioscience and nanoeconomics concepts. In May 2006, it was ranked by *Small Times* magazine as the nation's number one college for nanotechnology and microtechnology. CNSE's Albany NanoTech complex is the most advanced research facility of its kind at any university in the world: a $3 billion, 450,000-square-foot complex that attracts corporate partners from around the world and offers students a one-of-a-kind academic experience, and it is growing.

The UAlbany CNSE is also home to the New York State Center of Excellence in Nanoelectronics. The CNSE complex, financed through more than $500 million in governmental support and over $2.5 billion in corporate investments, houses the only pilot prototyping facilities in the academic world for the two standard sizes in computer chip design, the 200-millimeter (or 8-inch) wafer, and the 300-millimeter (or 12-inch) wafer. CNSE has more than 150 U.S. and worldwide partners, including some of the world's largest semiconductor and semiconductor-related tool manufacturing companies. For more information, visit the CNSE Web site at **http://cnse.albany.edu**

Please submit a minimum of three letters of recommendation, statement of research interests, statement of teaching interests, and curriculum vitae to: **Ms. Rhonda Haines, RHaines@uamail.albany.edu, ATTN: Faculty Search/NanoBioscience Constellation, College of Nanoscale Science & Engineering, NanoFab 300 South, 255 Fuller Road, Albany, NY 12203.**

The University at Albany is an EEO/AA/IRCA/ADA employer.

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Positions Available

FACULTY POSITION
Department of Materials Science and Engineering
University of Utah

A tenure-track faculty position is available beginning Spring 2008 in Materials Science and Engineering (MSE) at the University of Utah. Prospective candidates should have a strong record of published research in the field of nanoscience, nanotechnology, and/or biomaterials. Preference will be given to candidates with demonstrated expertise in experimental materials science and engineering with emphasis on nanoscience, nanotechnology, and/or biomaterials. The position is open to candidates in the rank of associate professor or full professor, depending upon qualifications. Demonstrated prior success in establishing externally funded vibrant research programs is highly desired. The College of Engineering has an interdisciplinary program in nanotechnology. The successful candidate will interact across departments in the College of Engineering although the position is in Materials Science and Engineering. Applicants must have an earned doctorate in Materials Science and Engineering or a closely related field.

The Department, the College of Engineering, and the University of Utah are committed to excellence in both education and research. The successful candidate must have a strong commitment to teaching at the undergraduate and graduate levels, with emphasis on interdisciplinary teaching across departments in the College of Engineering. Demonstrated prior success in teaching at the undergraduate level, and especially in attracting students to the Materials Science & Engineering discipline, will be highly valued. The candidate will be expected to contribute significantly to education at the undergraduate and graduate levels as well as to establish an independent, world-recognized, externally funded experimental research program in nanoscience, nanotechnology, and/or biomaterials.

Applicants should include the following documents and information with their letter of application: a detailed resume, a list of publications, a clear and a concise statement of teaching (undergraduate and graduate) and research interests and objectives, and three professional references including complete mailing addresses, telephone numbers and e-mail addresses. Nominations of prospective candidates from respected experts in the field are encouraged. Applicants who are currently faculty at other academic institutions should also include evidence of prior successes in research and teaching. This information should be sent to the MSE Faculty Search Committee Secretary, 122 South Central Campus Drive #304, Salt Lake City, UT 84112-0560. Evaluations of applications will begin **May 2007** and will continue until the position is filled.

The University of Utah is an Equal Opportunity, Affirmative Action employer, encourages applications from women and minorities, and provides reasonable accommodation to the known disabilities of applicants and employees.

NIST

ATOMIC FORCE MICROSCOPIST
Nanomechanical Properties Group, Ceramics Division
Materials Science and Engineering Laboratory (MSEL)
National Institute of Standards and Technology (NIST)

Applications are invited from qualified candidates for a research position involving atomic force microscopy within the Nanomechanical Properties Group, Ceramics Division, at NIST in Gaithersburg, Maryland. The Nanomechanical Properties Group, one of four groups in the Ceramics Division, provides measurement science, standards, and technology needed by U.S. industry to apply materials and components in nanomechanical applications. Specific Group project areas are surface and interfacial nanomechanics, nanoparticle metrology for biomedical applications, nanomechanical standards, and small-scale mechanical metrology. Group facilities include a state-of-the-art nanomechanics cleanroom laboratory within the Advanced Measurement Laboratory at NIST with extensive atomic force microscopy (AFM), scanning tunneling microscopy (STM), and instrumented indentation testing (IIT) capabilities. More information about other activities in the Ceramics Division may be found on our website at http://www.ceramics.nist.gov/.

The research position will involve the use of AFM in quantitative measurement and analysis of forces and dimensions at the nano scale, including measurements in ultra-high vacuum, air ambients, and liquids. Mechanical analysis of measurements in static, dynamic, contact, and non-contact AFM modes will be required in order to measure the dimensions and deformation and fracture properties of surfaces, AFM probes and cantilevers, and nano-scale entities such as nanoparticles and nanowires. Development of AFM techniques that can be traced to NIST standards will be required, along with supplemental STM and IIT measurements. The position will require research as part of a project team and participation in efforts with project, Group, and Division leadership to define new measurement directions.

Applicants must have at least two years of postdoctoral research experience in quantitative AFM-based mechanical measurements and demonstrated ability to execute projects and the related publication outputs. Strong speaking and writing skills are required. The ideal candidate would have strong connections with the mainstream materials science and engineering community as well as knowledge of industrial measurement needs in the AFM field.

The position is in the Scientific and Engineering Career Path ("ZP") and is initially a two-year appointment, with potential for a permanent appointment. The base salary ranges from $70,000 to $80,000, depending on qualifications and experience. United States citizenship is required.

Interested applicants should send a curriculum vita and three references (names and contact information only) via post or e-mail to Dr. Robert F. Cook, Leader, Nanomechanical Properties Group, Ceramics Division, NIST, 100 Bureau Drive, Stop 8520, Gaithersburg, MD 20899, robert.cook@nist.gov. Applications must be received by **May 31, 2007**.

NIST, a bureau of the U.S. Department of Commerce, is an Equal Opportunity Employer.

MRS BULLETIN Upcoming Themes

MAY 2007
Focused Ion-Beam Microscopy and Micromachining
Andrew Minor (Lawrence Berkeley National Laboratory) and Cynthia A. Volkert (Forschungszentrum Karlsruhe), Guest Editors

JUNE 2007
Biological Adhesive Systems
Costantino Creton (Laboratoire PPMD-ESPCI) and Stanislav Gorb (Max-Planck-Institut für Metallforschung), Guest Editors

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Positions Available

MICROELECTROMECHANICAL SYSTEMS (MEMS) RESEARCHER
Optoelectronic and Electronic Materials Group, Ceramics Division
Materials Science and Engineering Laboratory (MSEL)
National Institute of Standards and Technology (NIST)

Applications are invited from qualified candidates for a research position involving measurements using microelectromechanical systems (MEMS) devices, within the Optoelectronic and Electronic Materials Group, Ceramics Division, at NIST in Gaithersburg, Maryland. The Optoelectronic and Electronic Materials Group, one of four groups in the Ceramics Division, provides measurement science, standards, and technology needed by U.S. industry to apply materials and components in optoelectronic and electronic applications. Specific group project areas include nanocalorimetry of interfacial reactions, structure and properties of advanced CMOS devices, thermoelectric measurements and standards, and small-scale optical measurements of strain and structure. Initially, the MEMS measurement activity will be driven by nanocalorimetry applications. Group facilities include access to a state-of-the-art nanofabrication cleanroom facility within the Advanced Measurement Laboratory at NIST, apparatus for depositing complex multilayer structures, and advanced electronic instrumentation for measuring reaction properties using MEMS nanocalorimetric devices. More information about other activities in the Ceramics Division may be found on our website at http://www.ceramics.nist.gov/.

The research position will involve the design, processing, implementation, and modeling of MEMS devices to perform quantitative calorimetry at the nano scale, including measurements of equilibrium and kinetic properties of interfacial reactions. Particular emphasis is placed on the ability to employ quantitative mathematical models to design MEMS devices, as well as analyze and interpret the data generated by nanocalorimetric measurements. Detailed transient heat transfer analyses and development of nanocalorimetric techniques that can be traced to NIST standards will be required. The position will involve research as part of a project team, and participation at project, group, and division levels to define new measurement directions.

Applicants must have at least two years of postdoctoral research experience in MEMS measurements and nanofabrication methods, as well as demonstrated aptitude in heat transfer applications and modeling. The demonstrated ability to execute projects and generate related publication outputs, and strong speaking and writing skills, are further required. The ideal candidate would also have connections with the mainstream materials science and engineering community.

The position is in the Scientific and Engineering Career Path ("ZP") and is initially a two-year appointment, with potential for a permanent appointment. The base salary ranges from $70,000 to $80,000, depending on qualifications and experience. United States citizenship is required.

Interested applicants should send a curriculum vita and three references (names and contact information only) via post or e-mail to Dr. Martin L. Green, Leader, Optoelectronic and Electronic Materials Group, Ceramics Division, NIST, 100 Bureau Drive, Stop 8520, Gaithersburg, MD 20899, martin.green@nist.gov. Applications must be received by **May 31, 2007**.

NIST, a bureau of the U.S. Department of Commerce, is an Equal Opportunity Employer.

TECHNISCHE UNIVERSITÄT DRESDEN

The **Faculty of Mechanical Engineering** offers a full professorship position (W3) in

Biomaterials

An internationally renown specialist is being sought who offers experience in the development and characterization of Biomaterials with special emphasis on materials aspects. A participation in the anticipated core program "Matrix-engineering for the control of healing processes in bone and hard tissue" is solicited. Teaching in Materials Science on the undergraduate and graduate level is expected in close collaboration with the other faculty of the Institute of Materials Science. Furthermore, lectures in biomaterials are expected for the international interdisciplinary curriculum "Molecular Bioengineering".

The candidate has to bring in a university degree, a PhD, and an international record in teaching and research approximately equivalent to a completed assistant professorship / lecturer / doctor of science (equivalence to the German Habilitation). The candidates have to fulfill the recruiting requirements according to § 40 of the Sächsisches Hochschulgesetz of 11th June 1999.

Underrepresented groups are explicitly encouraged to apply. Please submit your curriculum vitae along with copies of all university degrees, a list of teaching activity, list of publications, and lectures to: **TU Dresden, Dekan der Fakultät Maschinenwesen, Herrn Prof. Dr.-Ing. habil. V. Ulbricht, 01062 Dresden, Germany** (Tel.: +49 351 463-32786, Fax.: +49 351 463-37735) until **May 14th, 2007**.

THE STATE UNIVERSITY OF NEW JERSEY RUTGERS

POSTDOCTORAL POSITIONS
Nanoparticle Synthesis and Dispersion
Rutgers, The State University of New Jersey

The Department of Materials Science and Engineering at Rutgers University is seeking to fill postdoctoral positions in synthesis, surface modification, and self-assembly. Demonstrated scientific and technical experience synthesizing or manipulating particles of any chemistry with sizes in the colloidal domain and direct experience with the appropriate characterization tools is preferred along with an ability to initiate, conduct, and publish cutting-edge research.

Candidates demonstrating exceptional research capabilities, collaboration, and project management skills, will be considered for a full time research and development position with a local nanotechnology company. The positions, available immediately, offer a highly competitive salary and benefits. Submit curriculum vitae, three letters of reference, relevant publications, and availability date to Richard E. Riman, Department of MSE, Rutgers, The State University of New Jersey, 607 Taylor Road, Piscataway, NJ 08855-8065, 732-445-4946, riman@rci.rutgers.edu.

Rutgers is an equal opportunity/affirmative action employer.

POST-DOC RESEARCH SCIENTIST
IMRA America, Inc.

Develop functional thin film materials and nanomaterials for energy technologies, using pulsed laser ablation as the growth method. Interested candidates should submit their resumes to employment@imra.com.

EOE

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