

Positions Available

DEPARTMENT CHAIR
Department of Chemical & Metallurgical Engineering
University of Nevada–Reno

The Department of Chemical & Metallurgical Engineering at the University of Nevada–Reno, the land grant University of the State of Nevada, invites applications for the position of Department Chair. The Department offers Undergraduate degrees in Chemical Engineering and Materials Science and Engineering, and MS and PhD degrees in Chemical Engineering and Metallurgical Engineering. The Department has ten faculty members, about 130 undergraduate, and about 40 graduate students. Research awards, new and continued, for the period 1-1-06 to 9-30-06 amounted to \$12.2 million; additional awards, expected to start after 1-1-07 are ~ \$7.5 million. We seek a dynamic person who will help the Department increase the research activity in existing and emerging technologies in Chemical and Materials Science Engineering.

Responsibilities: The chair is responsible for the academic quality, operational effectiveness, human resource development, and growth of the Department. Duties include overseeing all curriculum developments, especially those related to the undergraduate programs ensuring consistency with the ABET accreditation requirements; playing a key role in developing a strategic plan; handling the finances in a responsible manner; providing leadership for the development and implementation of new emphasis areas and/or programs; developing professional alliances both internal (University) and external (community, industry) for the benefit of students and faculty; and creating an environment for promoting and increasing research activities.

Qualifications: Candidates must hold an earned PhD degree in Chemical or Materials Science Engineering or in a closely related Engineering field, have a proven record of excellence in scholarly activities (funded research, publications, etc.) and education, and possess strong leadership, management experience, and human relations skills.

Application Deadline and Procedures: Applicants must submit electronically a full CV and a statement of personal objectives for research and education. To apply, please visit www.unrsearch.com/applicants/Central?quickFind=51846.

Review of the applications will begin on **March 5, 2007** and continue until the position is filled. Anticipated starting date is July 1, 2007.

EEO/AA

POSTDOCTORAL POSITIONS
Materials Science
Universidad de Chile

The Center for Advanced Interdisciplinary Research in Materials (CIMAT) in Santiago, Chile, is seeking applicants to fill a number of Postdoctoral positions. The Center's mission is to perform scientific research and graduate student training with a strong commitment to excellence and interdisciplinarity.

To learn more about CIMAT, please visit the web address <http://www.cimat.cl> or contact Mrs. Carolina Rojas (crojas@ciamat.cl); tel: 56-2-9784855; fax: 56-2-6993982).

Prospective applicants are encouraged to discuss their plans with one of CIMAT's senior investigators. Applications including curriculum vitae, research plans, copies of up to three most relevant publications, and names and addresses of three references should be sent to:

Postdoctoral Positions; c/o Mrs. Carolina Rojas
 CIMAT; Av. Blanco Encalada 2008, piso zócalo; Santiago, Chile
 E-mail: crojas@ciamat.cl

Applications are considered on a rolling basis, and may be submitted at any time.



CLUSTER HIRING IN NANO-BIO ENGINEERING
The University of Texas at Arlington

The University of Texas at Arlington seeks to establish a leadership position in Nano-Bio Engineering by implementing a cluster hiring strategy to recruit five faculty members who will initiate and sustain interdisciplinary research in this important and dynamic area beginning fall 2007.

The positions will be for tenured or tenure-track faculty at all ranks with appointment(s) in the departments of Bioengineering, Computer Science and Engineering, Electrical Engineering, or Mechanical and Aerospace Engineering. Preference will be given to candidates who are committed to achieving excellence at the boundaries of the nanotechnology, sensors, bioinformatics, and bioengineering disciplines. Additionally, preference will be given to candidates who can leverage and capitalize on existing and unique strengths at The University of Texas at Arlington as well as academic institutions and industry in the Dallas-Fort Worth Metroplex.

The positions currently being recruited include, but are not limited to:

- Tissue Engineering (Associate Professor)—Manufacturing, modifications, and applications of biomaterials, nanoparticles, tissue scaffolding, and drug delivery devices.
- Bioinformatics (Assistant Professor)—Structure modeling, protein folding and threading, structure prediction, docking, molecular dynamics, bioinformatics ontologies and data source access/integration, text mining/classification, mediators, systems biology.
- Sensors, Nanoelectronics, and Nanofabrication (Assistant Professor)—Chemical, pressure, radiation, and millimeter wave nano-sensors; nanostructured materials and fabrication; nanoelectronic modeling and simulation; non-traditional nano-scale devices.
- Biofluidics (Assistant Professor)—Experimental and computational fluid mechanics of biological and biomedical applications in molecular and cellular scale, and design, development, and characterization of nano-fluidic systems.
- Nano-BioEngineering (Assistant/Associate/Full Professor)—Research in related or complementary areas to the above fields.

Applicants must hold a PhD degree in related areas. Required experience will be commensurate with the level of the position sought. Candidates recruited at the associate professor or full professor levels will meet the criteria for tenure at The University of Texas at Arlington. The successful candidates will be expected to establish a vigorous, externally funded research program, teach graduate and undergraduate courses, and perform university service. UT Arlington is ideally situated between the Dallas and Fort Worth metropolitan areas with less than 18 miles distance to either city and excellent access to a large number of medical centers, high tech companies, and cultural activities.

Interested individuals should upload a cover letter, curriculum vita, statement of research interests and teaching plan, sample publications, and the names of at least three references to our website at <http://www.cse.uta.edu/nbcluster/>. Review of applications will begin on **December 1, 2006** and continue until the positions are filled.

Underrepresented groups are encouraged to apply. UT Arlington is an Equal Opportunity & Affirmative Action Employer.

Positions Available

POSTDOCTORAL RESEARCH ASSOCIATE Analytical Instrumentation Facility SIMS Laboratory North Carolina State University

The Analytical Instrumentation Facility (AIF) of the North Carolina State University College of Engineering has an opening for a post-doctoral research associate in its SIMS laboratory. The successful candidate will operate our magnetic sector IMS-6f magnetic sector and our PHI TRIFT I SIMS instruments. The successful candidate must be interested in learning and participating in the analysis of a wide variety of samples (semiconductors, metals, ceramics, polymers). Work in the laboratory will consist of a combination of SIMS analytical technique research, experimental design, instrument operation, and data interpretation for university and industrial researchers. Training in SIMS and other analytical techniques and instrumentation (AFM, FIB, SEM, XPS, optical and stylus profilometry, etc.) will be provided as needed for supporting SIMS research and analysis. For information on AIF, access our web site at <http://www.ncsu.edu/aif/>.

A PhD degree in Analytical Chemistry, Applied Physics, Materials Science, or a materials related discipline along with hands on experience with SIMS or other surface analysis or ion beam instrumentation is required. SIMS experience is highly desirable although training will be given to a suitable applicant. Experience in UHV equipment and/or electronics maintenance; operational and programming experience with Windows and Unix operating systems; and experience with analysis of semiconductor or other non-biological materials are desirable.

Please apply on line at <http://jobs.ncsu.edu> (search position #04-31-0601). Applicants will need to submit a cover letter, curriculum vitae, and the names and addresses of three references. Review of applications will begin **January 8, 2007**, and this position will remain open until a suitable candidate is identified. NC State welcomes all persons without regard to sexual orientation. ADA individuals desiring reasonable accommodations call 919-515-3148.

NC State University is an OEO/AA employer.

SENIOR SYNTHESIS CHEMIST Sensor Research and Development Corporation

Sensor Research and Development Corporation (SRD) is seeking a Senior Synthesis Chemist to join a team focused on synthesizing inorganic nano-materials and polymers for detection of chemical and biological agents. The successful candidate will build upon existing methods within SRD as well as develop novel materials for new sensing applications. Typical duties will include all aspects of synthesizing materials and reviewing sensor response data to achieve the sensitivity and selectivity requirements. In addition, the position will be required to contribute to proposal and report writing efforts.

Required skills include:

- At least a PhD degree in inorganic/organometallic/polymer chemistry or other appropriate field with 5+ years hands-on experience in functional monomers, oligomers, and nano-structure colloidal synthesis
- Proficient in micro-emulsion Sol-Gel technology and surface reactions
- Experience working on high temperature adhesive layers and additives for strengthening coating mechanics and binding properties
- Effective English language speaking, writing, and presentation skills

SRD is a 13-year old small business located in Orono, ME. SRD researches and develops new technologies for chemical and biological detection systems. Clients include the U.S. Departments of Agriculture, Defense, Energy, and Homeland Security. For more information, visit our web site at <http://www.srdcorp.com>. Send resumes to jobs@srdcorp.com.

TENURE-TRACK ASSISTANT PROFESSORS Department of Physics University of Missouri-Kansas City

The Department of Physics at the University of Missouri-Kansas City invites applications for two tenure-track Assistant Professorship positions to start in the Fall of 2007. The preferred area of interest for the first position is in **Experimental condensed matter physics/materials science**. The second position, which is contingent upon final approval, is in **Theoretical condensed matter physics/materials science**.

A PhD degree and postdoctoral experience are required. The successful candidates are expected to establish vigorous externally funded research programs in condensed matter physics/materials science or related areas including nano-technology and biomaterials. He or she is also expected to teach at both undergraduate and graduate levels, supervise undergraduate, MS, and PhD students, as well as interact with other faculty in the Department and across disciplines. The review of applications starts immediately and will continue until the positions are filled.

Please send application materials (e-mail application preferred) which should include a letter of application, full curriculum vitae, a statement of teaching and research interests, and contact information of at least three references to: Prof. Wai-Yim Ching, Chair, Faculty Search Committee, Department of Physics, University of Missouri-Kansas City, Room 257, R.H. Flarsheim Hall, 5110 Rockhill Road, Kansas City, MO 64110 USA (send e-mail applications to: umkcphysics@umkc.edu with subject line: Faculty application). Please do not send recommendation letters until requested. For more information about the Department and UMKC, please visit <http://cas.umkc.edu/physics>.

UMKC is an equal opportunity/affirmative action employer.



FACULTY POSITION Y. Austin Chang Professor of Materials Science and Engineering University of Wisconsin-Madison

The Department of Materials Science and Engineering invites applications for a newly established chaired professorship to augment and enhance present departmental strengths in research and teaching. The successful candidate for this prestigious appointment will have a distinguished record that includes (1) international recognition of success and leadership in creative research, (2) excellence and innovation in both undergraduate and graduate education, and (3) service to the profession.

The appointment is anticipated at the full professor level for outstanding candidates. UW-Madison has world-class interdisciplinary opportunities for materials research including an NSF MRSEC and an NSEC and central facilities for materials microcharacterization and nanofabrication. The University is committed to assisting the successful candidate in advancing her or his world-class research.

Unless confidentiality is requested in writing, information regarding applicants must be released upon request. Finalists cannot be guaranteed confidentiality. Applications (CV including contact information for five references, research, and teaching statements) should be submitted to:

Faculty Search Committee, Chair
Department of Materials Science & Engineering
The University of Wisconsin
1509 University Avenue, Madison, WI 53706-1595

Review of applications will begin on **January 15, 2007** and continue until the position is filled.

UW-Madison is an equal opportunity/affirmative action employer.

Positions Available



College of Engineering and Computing
FLORIDA WORLD CLASS SCHOLARS
in Nanotechnology and Bionanotechnology

POSITIONS AVAILABLE

FIU is seeking applications for two senior level faculty positions in nanotechnology, made possible by the Florida 21st Century World Class Scholars Program. Successful candidates are expected to develop world class research programs at FIU's new Motorola Nanofabrication Research Facility, the leading centralized nano-research facility in the State of Florida. One candidate will be considered for Director of the Facility and the Advanced Materials Engineering Research Institute, and the other candidate will lead the research efforts in bionanotechnology. Applicants will be considered for appointments in an appropriate department, or joint appointments. Areas of particular interest are carbon nanotube and nanowire materials processing, nanoelectronics, nanosensor and biosensor development, and biodegradation. Applicants should have a doctoral degree in engineering or a related discipline; a substantial record of scholarly work, extramurally funded research; and a demonstrated ability to lead large research programs, develop new intellectual property, and collaborate with industry on applications with commercial potential.

FIU has a student body of over 38,000 and is located in Miami, Florida, a diverse metropolitan area with a strong biomedical industry. It is ranked as a Research University in the High Research Activity category of the Carnegie Foundation's prestigious classification system. Research in the area of nanodevices and systems is supported by multi-million dollar grants from Federal agencies and industry. See <http://www.eng.fiu.edu>.

Send nominations or applications by e-mail to Richard T. Schoephoerster, Chair, Search and Screen Committee at brmeinfo@fiu.edu.

Application review begins December 1, 2006, continuing until the position is filled. Application materials should include curriculum vitae, teaching and research experience, a vision statement, and a list of at least five references. For more information, e-mail schoepho@fiu.edu. FIU is a member of the State University System of Florida and an equal access/equal opportunity employer and institution.



JOINT FACULTY POSITION
Materials Science and Engineering
and Mechanical Engineering
Virginia Tech

The Departments of Materials Science and Engineering (MSE) and Mechanical Engineering (ME) at Virginia Tech seek a candidate for a joint tenured or tenure-track faculty position. The position is open to all ranks, Assistant, Associate, or Full Professor. Primary consideration will be given for research interests in advanced materials with research applications in fuel cells, energy storage systems, and technologies; renewable energy and energy harvesting technologies, and advanced energy systems. Also includes nanoscale science and engineering applications including nanoengineered materials, nanomaterials processing and characterization, and high temperature materials.

Primary responsibilities include:

- Teaching undergraduate and graduate coursework in Materials Science and Engineering and/or Mechanical Engineering
- Establishment and/or continued development of a nationally and/or internationally recognized research program in one of the targeted areas within Materials Science and Engineering and/or Mechanical Engineering

Required qualifications include:

- Doctoral degree in Materials Science and Engineering, Mechanical Engineering, or closely related field of engineering
- Effective written and oral communication skills; and ability to establish external research funding
- Willingness and ability to work in a high-tech environment, such as computer-aided instruction, distance learning, video-conferencing, collaborative research using electronic networks, on-line courses

How to apply for this job:

The screening of applicants will begin on **January 15, 2007**, and will continue until the position is filled. Applicants should submit a curriculum vitae, the names of five references, separate statements of research and teaching interests, and a cover letter. These items must be submitted electronically at <https://jobs.vt.edu> with Posting Number 061241.

Virginia Tech has a strong commitment to the principles of diversity and, in that spirit, seeks a broad spectrum of candidates including women, minorities, and people with disabilities.



FACULTY POSITIONS
Nanotechnology
Rutgers, The State University of New Jersey

Rutgers seeks to fill several positions in a new interdisciplinary research effort called the Institute for Advanced Materials, Devices and Nanotechnology (IAMDN). The IAMDN is a cross-disciplinary emerging Institute at Rutgers with a mission to serve as a focus for cutting-edge nanoscale materials science and engineering in three main areas:

- Electronics, Photonics and Sensors—nano- and micro-electronics and photonics, multifunctional sensors, and MEMS/NEMS;
- Energy and the Environment—solid state lighting, fuel cells, batteries, solar, hydrogen, catalysis, green chemistry; and
- BioNano—biomaterials, nanomaterials, and devices for pharmaceuticals and medicine.

We are especially looking for candidates with strengths in multifunctional devices (e.g., sensors), material growth (e.g., MBE, MOCVD, etc.), and atomic level characterization (e.g., microscopy). Further information about IAMDN, and these openings, can be found at <http://iamd.rutgers.edu/>.

Review of applications will begin **February 1, 2007** and continue until all positions are filled. Tenure-track appointments at Assistant, Associate, or Full Professor level could be made into one of many Rutgers departments, including Physics, Chemistry, MSE, ECE, CBE, MAE, etc. Joint appointments between collaborating departments may be made, depending on the research ambitions of the candidate. Applicants must submit: (1) CV, (2) a detailed research goals/vision statement, (3) three references with contact information, and (4) a cover letter explaining their interdisciplinary ambitions (including preferred/sensible departmental affiliations and rank) to:

Director, IAMDN
 c/o Phyllis Cassell, Dept. of Materials Science and Engineering
 Rutgers, The State University of New Jersey
 607 Taylor Road; Piscataway, NJ 08854

Rutgers is an Affirmative-Action/Equal-Opportunity Employer

Positions Available



Sandia National Laboratories

NANOSCALE MATERIALS SCIENTIST
Surface and Interface Sciences Department
Sandia National Laboratories

The Sandia National Laboratories (SNL) Surface and Interface Sciences (SIS) Department (www.sandia.gov/1100/X1114.htm) in New Mexico has a staff opening for a Nanoscale Materials Researcher. We seek a scientist who will conduct world-class investigations in areas important to the SNL Physical, Chemical & Nano Sciences Center (www.sandia.gov/1100). The successful candidate will build a research program in one or more of the following thrust areas: (1) understanding, tailoring, and exploiting the behavior of thin film and/or nanostructured materials relevant for electronic, photonic, photovoltaic, quantum computing, and/or sensor devices; (2) nanomechanics research relevant for understanding nanoscale growth mechanisms, nucleation, dislocation physics, etc.; and (3) inventing, adapting, and/or simulating novel techniques of advanced materials processing or characterization. Applicants with expertise and research interests that align with existing SNL DOE/BES programs (and associated infrastructure) focused towards the measurement and basic understanding of epitaxial and nanostructured materials behavior are especially encouraged. The successful candidate will have a PhD degree in physics, chemistry, materials science & engineering, or a related field; and a substantial record of sustained performance in a postdoctoral, or more advanced position. Published evidence of scientific leadership and stature is expected. A strong ability to work in teams and collaborate is essential.

The SNL SIS Department conducts a coordinated array of internationally-recognized experimental and theoretical research activities, aimed at characterizing and understanding surface and interfacial effects that govern the behavior of a wide variety of advanced materials systems. Our theorists employ state-of-the-art DFT and MD simulation techniques. Our experimentalists have expertise and resources for wet chemistry synthesis, UHV deposition, nanomanipulation, nanolithography, and various complementary advanced materials characterization techniques (e.g., LEEM, STM, IFM, and AFM). We have a strong interest in fundamental nanoscience activities potentially relevant for nanotechnology innovation, and strong collaborative links with the SNL DOE Center for Integrated Nano Technologies (see: cint.sandia.gov).

U.S. citizenship is required for this position, and the candidate must have the ability to obtain a DOE Security Clearance. For further information, please contact Carlos Gutierrez, Department Manager, at 505-284-2971 or cgutie@sandia.gov. To apply, please follow the on-line employment application procedures at www.sandia.gov/employment/career-opp/index.html (Reference Number 56514; Job Posting Location: Albuquerque; Ladder: Technical-Salaried). To be fully considered for this position, a three-page maximum summary of relevant research background and interests should also be directed to clporte@sandia.gov. This position is available immediately, and the search will continue until filled.

Sandia National Laboratories is an Equal Opportunity Employer M/F/D/V



Cornell University
School of Civil and
Environmental Engineering

FACULTY POSITIONS
School of Civil and Environmental Engineering
Cornell University

Cornell University, School of Civil and Environmental Engineering, announces two tenure-track faculty positions in structural engineering starting in Fall 2007-2008. At Cornell, structural engineering is conceived of broadly. Thus we are seeking candidates with a passion for applying fundamental principles of physics, cast within the framework of solid and structural mechanics, to enable improvements in understanding and design of complex structural systems in a multi-scale context, and across a range of materials.

In this spirit, two complementary candidates are sought:

High Performance Materials, Position #00127814—The successful candidate for position one is expected to advance the analysis and design of structural systems made of high-performance materials including concrete structures by integrating structural mechanics with multi-scale modeling and advanced experimentation. The Cornell NEES site and the newly renovated Bovay Laboratory Complex will likely be of value to this candidate's research program.

Computational Mechanics, Position #00141783—The successful candidate for position two is expected to have expertise in multi-scale modeling and simulation of materials and structures with considerable background and interest in uncertainty quantification. The cyber infrastructure capabilities of the Cornell Theory Center will likely be of value to this candidate's research program.

For both positions, additional supporting interests and expertise in areas such as smart and multifunctional materials, earthquake engineering, risk and reliability, and sensing and structural health monitoring will be considered. Additional information may be found at <http://www.cee.cornell.edu/>.

The successful candidates for these positions will seek innovative solution methodologies to challenging structures problems wherever they may be. Candidates must have a PhD degree in engineering or an allied field within the physical sciences.

Appointments at the rank of Assistant Professor are anticipated, but applications from candidates from all levels are welcomed. Applications will be held in strict confidence. To apply please mail a detailed resume, statement of professional research and teaching goals, official graduate transcript, and the names, addresses, e-mail addresses, and phone and fax numbers of at least three references to:

Structural Engineering Search Committee Chair
 School of Civil and Environmental Engineering
 220 Hollister Hall, Cornell University, Ithaca, New York 14853-3501

In addition, electronic copies of all application materials must be submitted online at http://www.cee.cornell.edu/position_search/. Review of applications will begin immediately and continue until the position is filled.

The College of Engineering is an equal-opportunity, affirmative-action employer committed to employing a highly qualified, diverse faculty. Women and minorities are encouraged to apply for these positions.

TENURE-TRACK POSITION
Polymer Engineering
Auburn University

The Department of Polymer and Fiber Engineering, Samuel Ginn College of Engineering, at Auburn University is seeking applicants for a 9-month tenure-track faculty position at the Assistant or Associate Professor level. A PhD degree in Polymer Engineering, Materials Engineering, or a closely related engineering field, is required. Please see position announcement for details at <http://www.eng.auburn.edu/department/pfen>.

Send application to: Dr. Sabit Adanur, Dept. of Polymer and Fiber Engineering, Auburn University, AL 36849 (phone: 334-844-5497; fax: 334-844-4068). Review of applications will start on **March 1, 2007** and will continue until the position is filled.

Auburn University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

Positions Available



香港城市大學
City University
of Hong Kong

The University invites applications for the following posts. Candidates with applied research achievements will receive very positive consideration. Relevant experience in business and industry will be a definite asset.

**Professor/Associate Professor/Assistant Professor
Department of Physics and Materials Science [Ref. A/484/49]**

Applications are invited from outstanding candidates for Assistant Professor and higher positions. The University endeavours to be internationally recognized as a leading university in the Asia-Pacific region. The Department of Physics and Materials Science was formed in 1993 as the first of its kind in Hong Kong, and already excels in several fields.

The Department seeks strong candidates in emerging fields that strengthen and expand its existing areas of focus. Particularly strong candidates are welcome in any field.

Requirements: A PhD in a closely related discipline with a promising research record and a strong teaching ability. The successful candidates are expected to develop new research directions and courses.

Salary and Conditions of Service

Salary offered will be highly competitive and commensurate with qualifications and experience. Appointment will be on a fixed-term gratuity-bearing contract. Fringe benefits include annual leave, medical and dental schemes, and housing benefits where applicable.

Application and Information

Information concerning the posts and the University is available at <http://www.cityu.edu.hk> or from the Human Resources Office, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong [Fax : (852) 2788 1154 or (852) 2788 9334/email : hrojob@cityu.edu.hk]. Additional information about the Department is available at <http://www.ap.cityu.edu.hk/>. Please send an application letter enclosing i) a current CV with evidence of teaching ability in English; ii) a concise (up to 1 page) statement of research interests and teaching philosophy; iii) names and addresses of four referees to the Human Resources Office. **Applications will be considered until positions are filled.** Please quote the reference of the post in the application and on the envelope. The University reserves the right to consider late applications and nominations, and to fill or not to fill the positions.

CATALYTIC CHEMIST

Sensor Research and Development Corporation

Sensor Research and Development Corporation (SRD) is searching for a Catalytic Chemist to join a team focused on surface reactions between the interface of the analyte and sensor material for detection of both chemical and biological agents. The successful candidate will provide theoretical input on appropriate surface reactions for synthetic chemists to develop novel materials for new sensing applications. Typical duties will include analyzing sensor response kinetics (in collaboration with Signal Processing Group) to interpret surface reaction mechanisms, determine appropriate surface reaction modifications to achieve sensitivity, selectivity, and reliability, and coordinate with synthetic chemists on practical implementation of such surface reactions onto sensor platforms. In addition, the position will be required to contribute to proposal and report writing efforts.

Required skills include:

- At least a PhD degree in physical or catalytic chemistry with 5+ years practical/theoretical experience in chemical reactions for sensor applications
- Detailed knowledge of organometallic and catalyst chemistry
- Experience with designing materials to control reaction kinetics to a wide range of analytes
- Effective English language speaking, writing, and presentation skills

SRD is a 13-year old small business located in Orono, ME. SRD researches and develops new technologies for chemical and biological detection systems. Clients include the U.S. Departments of Agriculture, Defense, Energy, and Homeland Security. For more information, visit our web site at <http://www.srdcorp.com>. Send resumes to jobs@srdcorp.com.



RESEARCH STAFF

**Functional Nanomaterials Group of the Center
for Nanophase Materials Sciences
Oak Ridge National Laboratory**

The Functional Nanomaterials Group of the Center for Nanophase Materials Sciences (CNMS) at Oak Ridge National Laboratory (ORNL) is searching for a Chemist, Chemical Engineer, Materials Scientist, or Condensed Matter Physicist to further develop a strong research program in the area of nanomaterials synthesis. The CNMS (<http://cnms.ornl.gov/>) is a collaborative nanoscience user research facility established by the Office of Science, U.S. Department of Energy. The CNMS has a diverse spectrum of nanoscience research activities including a nanofabrication facility; laboratory-based research on macromolecular materials, catalysts, functional nanomaterials, bio-inspired nanomaterials, and magnetism/transport; characterization with electron microscopes, scanning probes, and neutron diffraction and scattering; and theory, modeling, and simulation.

The successful candidate will have demonstrated excellence in a "bottom up" chemical approach to the controlled synthesis of quasi-1D nanostructures, and a strong interest in developing chemical strategies for their directed assembly (hierarchical organization) into functional macroscale materials. The goal is to understand nanoscale mechanisms and phenomena that will allow reproducible control of the synthesis of nanomaterials with exceptional properties, in sufficient quantities to support research collaborations and to form nanocomposites with novel combinations of properties.

Consequently, this position provides opportunities for highly interdisciplinary collaborations with members of the CNMS' Macromolecular and Catalysis groups on processing nanomaterials into functional composites and on the mechanisms, reaction pathways, and origins of selectivity in catalytic reactions, respectively. The candidate is expected to have wide and creative nanomaterials-synthesis experience that could exploit these opportunities. The candidate will be expected to initiate new research directions including participation in the development of proposals for new programs/sponsors and to build a world-leading in-house research program that includes collaborations within and outside of ORNL. An equal part of the duties will be to promote and participate in the CNMS User Program which includes working with researchers from universities and elsewhere.

This position requires a PhD degree in Chemistry, Chemical Engineering, Materials Science, or Condensed Matter Physics with specialization in nanomaterials synthesis. A strong background in physical chemistry is highly desirable. This is a mid-career position; a senior-level appointment will be considered for a candidate with suitable scientific breadth and depth of experience and demonstrated high creativity. A minimum of 10 years beyond the date of the receipt of the PhD, or a documented record of extraordinary creativity and leadership in nanomaterials synthesis, is required. Prior research experience is required in nanomaterials synthesis, structural characterization of nanomaterials, and detailed understanding and use of catalytic and non-catalytic growth mechanisms and methods. The applicant must have a demonstrated capability to organize a creative, independent research program and have communicated the results in publications in peer-reviewed journals and presentations at scientific meetings. Demonstrated ability to communicate in English to an international scientific audience is essential. The applicant must have demonstrated the ability to work on a team and to interact effectively with a broad range of colleagues.

To apply for this position please visit ORNL's website at <http://jobs.ornl.gov>. Select Job ID number 2145 "CNMS Nanomaterials Synthesis Research Staff" and then select "Apply for this job online." Candidates who identify themselves as 3161-eligible will be required to supply appropriate documentation upon request.

UT-Battelle is an Equal Opportunity Employer.

Positions Available



UNIVERSITY AT ALBANY
State University of New York

Open Faculty Positions - NanoEngineering Constellation

College of Nanoscale Science and Engineering

The University at Albany - Albany, New York

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 two tenure track positions at the assistant professor level in its NanoEngineering Constellation.

Opportunities are available for individuals with expertise in the areas of: (i) optoelectronic, photonic, and/or nano-optoelectronic materials, devices, and architectures; (ii) magnetic (such as spintronic) materials, devices, and architectures; (iii) molecular (such as carbon nanotube, graphene, ...) materials, devices, and architectures; (iv) nanolithography, such as ultra-violet, e-beam, and/or molecular imprint lithography; (v) 3D hyper-integration of devices and systems; and (vi) nanoengineered energy and environmental technologies.

The CNSE NanoEngineering 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 NanoEngineering Constellation is implementing a graduate (Doctoral and Master's) degree in nanoengineering that provides a comprehensive education in the application of nanoscience principles to practical applications, such as the atomic scale design, manufacture, and operation of efficient and functional structures, machines, processes, and systems.

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 proven ability to establish vigorous externally funded research programs in one of the technical areas listed above. Applicants must address in their applications their ability 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
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.

FACULTY POSITION
Department of
Mechanical Engineering
Johns Hopkins University

The Johns Hopkins University, Department of Mechanical Engineering, invites applications for a full-time tenure-track faculty position in the general area of mechanics of materials. Modeling and simulations that address the interfaces between atomic and continuum length scales are of particular interest, but all outstanding candidates will be considered. Scientific issues addressed at small scales may involve applications to nanotechnology and biology. The research environment includes strong groups in experimental mechanics and materials behavior at small scales. Opportunities for interactions across the University include the NSF MRSEC on Nanostructured Materials, the Whitaker Biomedical Engineering Institute, and the NSF ERC for Computer-Integrated Surgical Systems and Technology. Preference will be given to applicants at the assistant professor level, but exceptionally qualified candidates at all ranks will be considered.

The successful candidate must have a doctorate, and is expected to establish a strong, independent, internationally recognized research program as well as contribute fully to both undergraduate and graduate instruction. All applications should be submitted electronically (before **February 15, 2007**) as a single PDF document to me-search@jhu.edu. Electronic applications should include a cover letter describing the principal expertise of the applicant, a statement of teaching and research interests and experiences, a complete resume, and the names of at least three references. The Department is committed to building a diverse environment; women and minorities are strongly encouraged to apply.

*The Johns Hopkins University
is an EEO/AA Employer.*

MRS
BULLETIN
Upcoming
Themes

MARCH 2007

Advanced Materials for Inorganic Photovoltaics

Reuben T. Collins (Colorado School of Mines) and
Abdelilah Slaoui (InESS-CNRS, France), Guest Editors

APRIL 2007

Polymer Nanocomposites

Karen I. Winey (University of Pennsylvania) and
Richard A. Vaia (Wright-Patterson Air Force Base), Guest Editors

MRS Bulletin space reservation and materials deadlines are the 1st and 5th working day, respectively, preceding month of issue. Issues are published mid-month.

Positions Available



DIRECTOR
Center for Nanotechnology
University of Washington

The University of Washington seeks an exceptional leader with a world-class record of scholarship and strong organizational and team-building skills to become the Director for the Center for Nanotechnology. The Center for Nanotechnology (www.nano.washington.edu) is an interdisciplinary effort encompassing nanoscale science and technology, which involves over 50 researchers from ten departments in four colleges and schools. The Center for Nanotechnology includes a PhD program, an NSF IGERT training grant, a staffed user facility that serves as a nanobio-focused node on the NSF-sponsored National Nanotechnology Infrastructure Network (NNIN), and a strong collaborative relationship with Pacific Northwest National Laboratories. The Director must provide vision, leadership, advocacy, and management of the Center and its programs.

The successful candidate will have a PhD degree in an engineering or science field, a distinguished record of interdisciplinary research and education in nanotechnology, and an ability to foster broader nanoscience and nanotechnology communities involving university, industry, and government teams. The State, regional industry, and University of Washington are committed to supporting a visionary leader. The position will be at the Full Professor level in any area of relevance to Nanotechnology, with an appointment in an

appropriate department. All University of Washington faculty engage in teaching, research, and service.

Applications should include a letter describing the candidate's qualifications and vision for the future of the UW Center for Nanotechnology. In addition, a full curriculum vitae, record of scholarly activity, and names and contact information for at least three references should be provided. Direct applications to:

CNT Director Search Committee
 Office of Research; Gerberding Hall G-80
 Box 351202; University of Washington
 Seattle, WA 98195-1202

Review of applications will begin immediately, with full consideration given to those received by **February 15, 2007** (however this position is open until filled). The University of Washington is a recipient of a National Science Foundation ADVANCE Institutional Transformation Award to increase the participation of women in academic science and engineering careers. We are also a recipient of a 2006 Alfred P. Sloan Award for Faculty Career Flexibility. We are building a culturally diverse faculty and encourage applications from women and minority candidates.

The University of Washington is an affirmative action, equal opportunity employer.



POSTDOCTORAL RESEARCH ASSOCIATE
NSF Center for High-rate Nanomanufacturing and
NSF Center for Microcontamination Control
Northeastern University

The Center for High-rate Nanomanufacturing and the Center for Microcontamination Control seeks a Postdoctoral Research Associate who will perform basic and applied research in the field of Nanomanufacturing, primarily using existing theories and methods at the two centers.

Responsibilities: Initiate and execute experiments with a solid theoretical understanding in the area of electric field assisted assembly of Nanoparticles and carbon nanotubes in a timely manner. Train graduate students in these experimental methods and exercise functional supervision over them. Assist the supervisor in the interpretation and publication of results and grants. The primary responsibility is ensuring that the research is complete.

Qualifications: Required qualifications include a PhD degree in engineering or physics, ability to undertake substantially full-time research or scholarship, and ability to work under the supervision of a senior scholar. The successful candidate should have expertise in both theory and experiment in the areas Fluid dynamics, Electrodynamics, Carbon nanotube and nanoparticle assembly. Preference would be given to candidates with experience in Multiphysics Modeling using CFD packages.

How To Apply: Interested candidates should send CV and cover letter to Prof. Ahmed Busnaina, Department of Mechanical Engineering, Northeastern University, 360 Huntington Avenue, Boston, MA 02115.

Northeastern University is an Equal Opportunity, Affirmative Action Educational Institution and Employer, Title IX University. Northeastern University particularly welcomes applications from minorities, women, and persons with disabilities.



Providing Opportunities for
Stewardship Science Research

Department of Energy National Nuclear
Security Administration Stewardship
Science Graduate Fellowship

The DOE NNSA SSGF program provides outstanding benefits and opportunities to students pursuing a Ph.D. in areas of interest to stewardship science, such as high-energy density physics, low-energy nuclear science and properties of materials under extreme conditions. Fellows also participate in research at a DOE laboratory.

Benefits include:

- Payment of tuition and required fees
- A competitive yearly stipend
- Yearly academic allowance

Apply now!

www.krellinst.org/ssgf/application



Contact: The Krell Institute

1609 Golden Aspen Drive, Suite 101, Ames, IA 50010

515.956.3696 • www.krellinst.org/ssgf

This program is open to U.S. citizens and permanent resident aliens studying at a U.S. university who are exceptional senior undergraduates or are in their first or second year of graduate study. This is an equal opportunity program and is open to all qualified persons without regard to race, sex, creed, age, physical disability or national origin.

www.mrs.org

Positions Available



FACULTY POSITIONS Materials Science and Engineering University of Wisconsin-Madison

The Department of Materials Science and Engineering at the University of Wisconsin-Madison seeks new faculty at all levels. Successful candidates will develop an internationally recognized research program, demonstrate leadership in attracting extramural funding, dedicate themselves to excellence and innovation in both undergraduate and graduate education, and provide service to the profession.

We seek outstanding faculty pursuing theoretical, computational, and experimental research in areas including structural, biological, energy-related, and electronic materials. Specific topics of interest are ceramics, polymers, nanostructures, and nanobiomaterials. Exceptional candidates will be considered in other emerging areas of materials research.

UW-Madison offers world-class research opportunities, including interdisciplinary collaborative research centers and exceptional facilities for materials characterization, computation, and nanofabrication, (www.engr.wisc.edu/mse/facultysearch). The University is committed to assisting candidates in achieving the highest levels of accomplishment.

Applicants for tenure-track positions must provide a curriculum vitae, teaching and research plans (each two pages maximum), and three letters of reference. Candidates for tenured positions should include contact information for five references. All materials should be sent electronically to mse.applications@engr.wisc.edu. Questions should be addressed to Professor Max G. Lagally, Faculty Search Committee Chair at 608-263-2078 or email lagally@engr.wisc.edu. Review of applications will begin on **February 15, 2007** and continue until the positions are filled. Unless confidentiality is requested in writing, information regarding applicants must be released upon request. Finalists cannot be guaranteed confidentiality.

UW-Madison is an equal opportunity/affirmative action employer.

GOODYEAR ENDOWED PROFESSOR OF POLYMER ENGINEERING The University of Akron

The Department of Polymer Engineering of The University of Akron has an opening for a Goodyear Endowed Professorship. Applicants are expected to have made internationally recognized scientific contributions to their chosen specialization areas related to the polymer engineering discipline and a proven record of externally funded research activities. Field of specialization is open; however, preference will be given to candidates in the areas of nano science and technology, novel multiphase materials, field responsive materials, and interfacial science and engineering.

Applicants for this position should send a resume (with the names of three references), a list of research publications, statement of research interest, and copies of selected papers (not more than five) to Professor C.D. Han, Search Committee Chairman, Department of Polymer Engineering, The University of Akron, Akron, OH 44325-0301. Applications will be considered until the position is filled.

The University of Akron is committed to a policy of equal employment opportunity and to the principles of affirmative action in accordance with state and federal laws.

POSTERMINARIES

Hidden Materials

I was stopped in my tracks the other day when I realized that the person I was talking with did not know the difference between a nail and a screw. But until we own our own house, and embark on the great voyage of do-it-yourself, why should we? Nail heads are rarely visible and screw heads are either hidden or covered with a plastic cap. As students, did we own a screwdriver or a hammer? A similar argument explains why the average person in the street does not understand or engage with engineering or with the materials from which engineered products are made. The engineering tends to be invisible and the interesting materials are often painted or deeply embedded.

Our designers, engineers, and safety experts seem to be busy hiding all the interesting bits. Our phone, camera, handheld GPS, and computer are almost impossible to open (or to mend), so we cannot see the clever use of silicon, gallium arsenide, lasers, piezodevices, and dielectrics. At this level, the materials that excite our community are as invisible to the general public as nanoparticles or nuclear radiation. The majority of the public appears to fear these last two, possibly because they cannot see or understand them. By extension, they possibly also

subliminally fear the other bits of technology that are too small to handle.

We conspire to increase the level of public ignorance as we develop more hidden mysteries. I recently changed my video recorder for a hard-drive version. No longer do I need to insert a cassette (very obviously a tape) or even a DVD (very obviously a disc). Now my hands never touch, and my eyes never see, the recording medium. How am I to get any idea of how it works, or of the materials hidden within?

To make engineering, and the materials it uses, more accessible, I suggest we hijack the currently overused phrase "value engineering"—which is usually a euphemism for "make it cheaper"—and recast it as: Visible, Accessible, Labeled, Utilitarian, and Educational.

The engineering components of bicycles serve as an excellent example. They are visible, accessible, and utilitarian, and some of them even go a little way toward labeling: "Titanium frame" is probably not very accurate, but it is better than nothing.

For similar reasons, we should support Meccano (an engineering-based construction kit familiar to children of the 1960s) over Lego (click-together bricks relying on a very clever choice of polymers). Lego does simulate brickwork quite well—it is

good in compression but very poor in tension—but most engineered structures and devices are not made of bricks and mortar! Meccano, on the other hand, requires that the user understand (and can use) the nut and bolt; its components were made of that wonderful strong but ductile engineering material—steel. Value engineering par excellence. Meccano was reborn in France this century and can be purchased again, but most of the components of Meccano *nouveau* are plastic, not steel, thereby losing both the satisfying weight of construction and the design freedom to (permanently) bend some components to shape!

A campaign for visible engineering should sponsor transparent casings for mobile phones and video recorders that include extensive labeling: "Encased in Polycarbonate," "Aluminum Alloy Support."

To add VALUE to existing engineered products (i.e., everything), we could each print vast numbers of stickers proclaiming "Contains Materials," "Developed Using Materials Technology," or even "Materials Inside" to place on every manufactured item we come across. It seems to work for a well-known chip manufacturer, so why not for us?

PETER GOODHEW