



## Why not change the world?

### *The School of Engineering Department of Materials Science and Engineering John Tod Horton '52 Endowed Chair Professorship*

Applications from candidates with internationally recognized research programs in the field of materials science and engineering are sought. We are particularly interested in applications from candidates whose research is focused in the following fields: the interface between materials and biology / biotechnology; advanced metallurgical materials; materials for renewable energy solutions; new applications of nanostructured materials; and the application of advanced characterization methods to development of new materials. Rensselaer is investing heavily in these research fields, including a multi-million dollar investment in a state-of-the-art nanoscale characterization core. The Department of Materials Science and Engineering has broad interests and world-class expertise in glasses, nanostructured and bio materials, electronic materials, metals, polymers and their composites, and computational materials science.

Candidates are required to have an earned doctorate degree (or foreign equivalent) in materials science, materials engineering or other closely related field. In addition, candidates must possess an outstanding record of accomplishments in materials research. Candidates must also possess ten (10) or more years of experience beyond the doctoral-level degree. Candidates should have demonstrated experience in leading multi-disciplinary research efforts, as well as a commitment to high-quality teaching. The duties of the position include teaching undergraduate and graduate courses, the supervision of graduate students, scholarly research, and generation of significant research funding. The appointment will be made as a Full Professor.

Rensselaer Polytechnic Institute is a private, research-oriented university in Troy, NY. The School of Engineering (<http://eng.rpi.edu/soe/>) has approximately 150 faculty and 2600 undergraduate students. The institution's commitment to excellence is documented in the Rensselaer Plan ([www.rpi.edu/president/plan/index.html](http://www.rpi.edu/president/plan/index.html))

Application review is ongoing, and will be accepted until the position is filled. Send inquiries and applications, including a list of publications, and contact information for a minimum of four (4) references to:

Search Committee Chair  
c/o Dana M. Chichester  
Department of Materials Science and Engineering  
Rensselaer Polytechnic Institute  
110 8th Street, Materials Research Center, RM-141  
Troy, NY 12180-3590  
Email: [chichd@rpi.edu](mailto:chichd@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.*

### CLEAN ROOM FACILITY MANAGER

Rice University is seeking a technical manager to oversee the operations of its clean room user facility and associated characterization equipment. This Class 100/1000 facility contains a suite of instruments, including a photolithography mask maker, a contact mask aligner, an e-beam evaporator, an RIE/PECVD system, and a collection of characterization tools. The manager's responsibilities include oversight of this facility, training of undergraduate and graduate students and other users, and maintenance and upkeep of the equipment.

Applicants must have a BS degree in a science or engineering discipline (PhD preferred but not required), and extensive experience with several of the relevant instruments or a related technical degree or diploma with an additional two years of the related experience (for a total of 7 years of related experience working with clean room instruments). Salary will commensurate with experience. The need to fill this position is immediate, and resumes will be examined as they arrive. Please visit <http://cohesion.rice.edu/campuservices/humanresources/riceworks.cfm> to apply for this listing.



*Rice University is an equal opportunity, affirmative action employer.*

# bring it

Automotive Fuel Cell Cooperation, the fuel cell centre of excellence for Daimler and Ford Motor Company, is seeking a

## Senior Scientist

to join the R&D department to develop fundamental understanding of properties that are critical for PEMFC catalyst layer performance and durability. Key responsibilities:

- Development/selection of fabrication methods for novel CL/CCM structures, prototyping of such structures and integration into MEA's
- Development of correlations between catalyst structural parameters, properties and in-situ performance measurements

### Qualifications:

A Ph.D in materials science, mechanical engineering, chemical engineering or related field is required. Preference will be given to candidates with 5-10 years professional experience in the areas of electrocatalyst design, nanostructured electrodes and/or integration of micro/nanomaterials in functional energy conversion devices. Knowledge of advanced structural and/or property characterization techniques and a solid background in catalysis and/or electrochemistry would be an asset. Candidates should possess strong written and verbal communication skills, an ability to work collaboratively with scientists/engineers of various disciplines, and must be self-motivated, creative individuals able to deliver to deadlines.

**Applicants should forward a detailed CV along with three references to Jürgen Stumper – Manager, Tools Development & Testing**  
[juergen.stumper@afcc-auto.com](mailto:juergen.stumper@afcc-auto.com)



AUTOMOTIVE FUEL CELL COOPERATION



## Announcement of Open Faculty Positions College of Nanoscale Science and Engineering (CNSE)

As part of its multi-year strategic plan, the College of Nanoscale Science and Engineering (CNSE) at the University at Albany-SUNY seeks applicants for multiple positions at the tenure-track Assistant, Associate and Full Professor levels. Recruitments of individual faculty or clusters of faculty with specific integrated expertise will be considered and are actively sought.

As the first of its kind in the world, CNSE was created to enable the discovery and dissemination of fundamental knowledge and new frontier scientific principles in the emerging interdisciplinary fields of nanotechnology, including nanoscience, nanoengineering, nanobiotechnology and nanoeconomics. CNSE is housed within a 750,000 square foot NanoFab megacomplex that includes the only integrated 200mm/300mm wafer facilities in the academic world. Over 85,000 sq.ft. of state-of-the-art, class 1 capable, cleanroom facilities house the most advanced 200mm/300mm wafer device fabrication and integration facilities. These are coupled with an optimized set of tailored design, assembly, and characterization capabilities for new frontier nanoscience, nanoengineering, nanoeconomics, and nanobiotechnology concepts. Opportunities are available in the following areas within the four cross-disciplinary constellations of CNSE:

- Molecular, optoelectronic, nanobiological, and spintronic materials, devices, and architectures;
- Nanosystems and nanosensors;
- Optical, extreme ultra-violet and e-beam nanolithography;
- 3D hyper-integration of devices and systems;
- Atomic scale materials characterization, analysis reliability, and metrology;
- Nanobiotechnology;
- Nanomedicine.

**Qualifications:** Candidates must have a Ph.D. in a relevant field of physics, chemistry, chemical engineering, materials science, materials engineering, biotechnology, or electrical engineering, from a college or university accredited by a USDOE or internationally recognized accrediting organization. They 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. Postdoctoral experience is required, with a minimum of two to ten years experience in an aggressive academic, research and development environment, depending on the level of the position sought. Applicants must address in their application their ability to work with culturally diverse populations. Joint appointments in additional academic departments are possible and highly encouraged where appropriate. Candidates will be asked to submit a list of publications related to their research activities.

Please submit three letters of recommendation, summary of research plans, summary of teaching background/approach, and curriculum vitae to:

Mr. Terry Kremer  
CNSEHR@uamail.albany.edu  
ATTN: Faculty Search  
College of Nanoscale Science & Engineering  
NanoFab East  
257 Fuller Road  
Albany, NY 12203

Review of applications will occur on June 30, 2011 and continue until all positions are filled.

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## PROGRAM DIRECTORS

Division of Materials Research  
National Science Foundation

The Division of Materials Research (DMR) at the National Science Foundation (NSF) announces a nationwide search for senior-level researchers to serve as Program Directors. Consideration of applications will continue until selections are made. While we are interested in a variety of experts that span the Division's multidisciplinary scope, we anticipate five specific areas of need, with the following desired start dates:

- **Special Programs** (Summer 2011) requires an individual with broad expertise and demonstrated experience in international, educational, and broadening participation aspects of materials research.
- **Metals and Metallic Nanostructures** (Summer 2011) requires an individual with broad expertise and demonstrated experience in understanding structure-property relationships in metallic materials from the atomic to nano- and micro-structural to bulk length scales, and also in their synthesis, processing and characterization for desired physical, mechanical and functional properties.
- **Condensed Matter and Materials Theory** (Fall 2011) requires an individual with broad expertise and demonstrated experience in theoretical and computational materials research and education.
- **Condensed Matter Physics** (Fall 2011) requires an individual with broad expertise and demonstrated experience in the fundamental physics behind phenomena exhibited by condensed matter systems.
- **Biomaterials** (Fall 2012) requires an individual with broad expertise and demonstrated experience in materials research related to materials of biological origin, synthetic materials intended for applications in biological systems, materials that mimic or are inspired by biological materials, and the processes through which biological materials are produced in nature. Additional expertise in interdisciplinary research areas at the interface between the biological/life and the materials/physical sciences is also desired.

Applicants must have a PhD degree or equivalent experience in materials research or a closely-related field, demonstrated expertise in materials research, plus six or more years of successful research, research administration, and/or managerial experience pertinent to the position. For additional information about the above programs, please see [www.nsf.gov/materials](http://www.nsf.gov/materials). For more information about the types of appointments, please see "Programs for Scientists, Engineers, and Educators" on the NSF website at [http://www.nsf.gov/about/career\\_opps/](http://www.nsf.gov/about/career_opps/).

### How to Apply:

Applicants should indicate within their cover letter and subject line of the email, which Program they are applying to. Please submit a curriculum vitae to [dmr-recruit@nsf.gov](mailto:dmr-recruit@nsf.gov).

*NSF is an Equal Opportunity Employer committed to employing a highly qualified staff that reflects the diversity of our nation.*



## RESEARCH ASSOCIATE Department of Materials Science & Engineering

The Department of Materials Science and Engineering seeks a research associate who will conduct theoretical/computational research on multi-ferroic materials. The chosen candidate will apply and further develop the phase field microelasticity to realistically study diffusional, displacive, ferroelectric and ferromagnetic phase transformations, and will be expected to publish research, write grant proposals, and present research at national society conferences.

This position requires a PhD degree, postdoctoral experience in materials, physics, and advanced phase field computational modeling of microstructure evolution. Published evidence of scientific contributions from theoretical/computational research is also expected. The position, available in August 2011 or sooner, and offers a competitive salary and benefits. Candidates should submit a 1-2 page cover letter stating their qualifications and when they are available for employment, curriculum vitae, three letters of reference, and relevant publications no later than **June 30, 2011** to Armen G. Khachatryan at [khach@jove.rutgers.edu](mailto:khach@jove.rutgers.edu).

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## Why not change the world?

### *School of Engineering Department of Materials Science and Engineering Assistant Professor in Materials Science and Engineering*

The School of Engineering at Rensselaer Polytechnic Institute in Troy, NY invites applications for a tenure track position in the Department of Materials Science and Engineering. The Department has broad interests and world-class expertise in glasses; nanostructured and bio materials; electronic materials; metals; polymers and their composites; and computational materials science.

Outstanding candidates are sought in all materials areas, but we are especially interested in candidates whose research is focused in any of the following fields: the interface between materials and biology/biotechnology; advanced metallurgical materials; materials for renewable energy solutions; new applications of nanostructured materials; and the application of advanced characterization methods to the development of new materials. Rensselaer is investing heavily in these research fields, including a multi-million dollar investment in a state-of-the-art nanoscale characterization core. The institution's commitment to excellence is documented in the Rensselaer Plan ([www.rpi.edu/president/plan/index.html](http://www.rpi.edu/president/plan/index.html)).

At the time of appointment, the successful candidate must possess an earned doctoral degree (or foreign equivalent) in Materials Science, Materials Engineering or other closely related engineering or science discipline. In addition, candidates are required to demonstrate outstanding potential in materials research. Dedication to high-quality teaching is essential, and candidates must show promise of future distinction in scholarship and education. Responsibilities of the position include teaching undergraduate and graduate courses, supervision of graduate students, scholarly research, and generation of significant research funding. Applications will be considered starting April 1, 2011. Send inquiries and applications, including a statement of research and teaching goals, a list of publications, and contact information for a minimum of four (4) references to:

Search Committee Chair  
c/o Dana Chichester  
Department of Materials Science and Engineering  
Rensselaer Polytechnic Institute  
110 8th Street, Materials Research Center RM-141  
Troy, NY 12180-3590  
Email: [chichd@rpi.edu](mailto:chichd@rpi.edu)



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## POSTDOCTORAL RESEARCH ASSOCIATE

**CREST Center for Nanoscale Analytical  
Sciences Research & Education**

The CREST Center for Nanoscale Analytical Sciences Research and Education at Howard University invites applications for a Postdoctoral Research Association.

### Job Description Summary:

1. Applicant must have a PhD degree in Materials Science and Engineering, Electrical Engineering, Physics, or Chemistry with a strong theoretical knowledge of the optical and electrical transport properties of semiconductors.
2. Desired Experimental Skills (or ability and desire to acquire) Sputter Deposition, E-Beam Deposition, Thermal Evaporation, Hall Effect, Radiometric Measurements
3. The research will involve the preparation of films of Ag nanoparticles embedded in an n-type Si matrix. These films are being investigated for use as detectors of infrared radiation by electrons photoexcited in the Ag particles tunneling through the Ag-Si Schottky barrier into the conduction band of the Si matrix.
4. Softwares: Wolfram Mathematica
5. Salary: To be negotiated
6. Appointment can be immediate and is renewable up to two years under mutual agreement

For those interested, please send an e-mail biography to:

Professor Clayton W. Bates, Jr., PhD  
Department of Electrical  
and Computer Engineering  
Howard University  
Washington, DC 20059  
[bates.clayton@gmail.com](mailto:bates.clayton@gmail.com)  
202-806-6147



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