

Positions Available

**RESEARCH SCIENTIST  
ELECTRON MICROSCOPIST**  
University of New Mexico

Applications are invited for a permanent position as a research scientist in the Department of Geology at the University of New Mexico. The applicant should have substantial experience in characterizing the structure, morphology and chemistry of materials by analytical electron microscopy and will have responsibility for the day-to-day operation of the analytical electron microscopy laboratory (JEOL 2000FX AEM with STEM and EDS). The research will involve the characterization of metallic, ceramic and composite materials, including rock-forming minerals. Preference will be given to candidates who have experience characterizing ion beam modified materials or complex ceramic composites. Experience in x-ray diffraction crystallography would be useful.

The analytical electron microscopy laboratory is part of the Electron Microbeam Analysis Facility which includes a fully-automated ARL EMX-SM electron microprobe; an automated, five spectrometer, 733 JEOL Superprobe; and Hitachi 450 scanning electron microscope. Each instrument has an EDS and is housed in specially constructed laboratories. Technical staff support the laboratories.

The successful applicant will be part of ongoing research programs directed by Prof. R.C. Ewing at UNM, but he/she will also be expected to maintain their own research activities and to interact with faculty and students throughout the University in cooperative materials science research. A PhD is required, and the salary will be commensurate with experience.

Applicants should forward a detailed resume to Prof. R.C. Ewing, Department of Geology, University of New Mexico, Albuquerque, New Mexico 87131. Deadline for applications is **August 31, 1989**.

*The University of New Mexico is an  
Equal Opportunity Employer.*



**ADVANCED CERAMICS**

Unocal Corporation is a large earth resources company with an interest in using its resources and technology for advanced ceramic materials. The Unocal Science & Technology Division currently has an opening for a PhD Ceramist, Chemist, or Engineer to conduct laboratory research to develop commercial applications for our advanced ceramic materials.

We are looking for a team oriented individual who can work within a multidisciplinary group to develop composites for various applications. Experience in the characterization and processing of ceramic powders and in the fabrication of ceramic materials is an advantage. A strong interest or experience with ceramic matrix composites and the mechanical properties of brittle materials is desirable. Good oral and written communication skills are required. Ceramists with these qualifications are encouraged to apply, including those with several years of experience as well as new graduates.

The position will be located at the Fred L. Hartley Research Center in Brea, California (about 35 miles east of Los Angeles). U.S. citizenship or permanent U.S. residency is required. Qualified candidates should send a resume to:

John S. Mahar  
Supervisor, Human Resources  
Unocal Corporation  
Science & Technology Division  
P.O. Box 76, Dept. 89051  
Brea, California 92621  
An Equal Opportunity Employer



**Member  
Technical Staff**

**III-V MOCVD & MBE  
EPITAXIAL MATERIALS R&D**

**T**his position requires a PhD in materials science or related field and a demonstrated capability in the preparation and characterization of III-V epitaxy. Experience in hi-vacuum and/or metallo-organic materials handling technologies is a plus.

The applicant should be an experimentalist with the ability to communicate with the characterization, electronic device, and systems organizations to relate the materials properties and defects to the end-use applications.

Hiring is contingent on eligibility to work in the United States. Send resume and list of publications to: Dr. John G. Fish, Manager/Professional Resources/Texas Instruments/P.O. Box 655936, M.S. 145M/Dallas, TX 75265.

An Equal Opportunity  
Employer M/F/V/H



**TEXAS  
INSTRUMENTS**

**Materials Scientist  
Associate Staff Level**

GE's Analytical Electron Microscopy group can offer you high-profile challenges in advanced materials characterization involving a wide range of metals, ceramics, semiconductors, and polymers. Particular emphasis will be placed on electronic materials and cross-sectional analysis. This position will allow you to interact with a wide variety of GE materials programs, while giving you the flexibility to conduct independent research leading to new techniques / applications / equipment for microstructural analysis using analytical transmission electron microscopy.

Requires BS or MS in Materials Science and Engineering or closely related field. Familiarity with crystallography, diffraction, phase transformations and materials microstructure is essential. Similar experience, particularly in transmission or analytical electron microscopy, is highly desirable.

To further explore this position and GE's generous benefits, applicants should send resume with salary requirements to: N.T. Dietrich, **GE Corporate Research and Development, P.O. Box 8, Schenectady, NY 12301.**  
An Equal Opportunity Employer.

**Positions Available**

**FACULTY POSITIONS**  
**Department of Materials**  
**Science and Engineering**  
**University of Illinois**  
**at Urbana-Champaign**

The Materials Science and Engineering Department at the University of Illinois at Urbana-Champaign seeks qualified candidates for tenure and tenure-track faculty positions, available August 21, 1989. The Department encompasses a broad range of materials interests including ceramic, electronic, metallic and polymeric materials. We seek candidates with an earned doctorate degree and demonstrated achievement or potential for distinction in research and sincere interest in teaching at both the undergraduate and graduate levels. While we do not specify the research areas, we seek candidates able to couple development of their research specialty to the broader interests of the materials community and the University.

Salaries are very competitive and depend on the qualifications of the candidates and on the level of the position. The University of Illinois is an equal opportunity employer and welcomes applications from all qualified candidates. For full consideration applicants should submit curriculum vitae, a list of publications, and the names of at least three suitable references by **July 15, 1989** to:

Prof. J. Economy, Head  
Department of Materials Science  
and Engineering  
University of Illinois  
1304 W. Green St.  
Urbana, IL 61801  
(217) 333-1440

*The University of Illinois at Urbana-Champaign is an affirmative action/equal opportunity employer.*

**FACULTY POSITIONS**  
**Experimental Condensed Matter**  
**Physics and Experimental**  
**Materials Science**  
**University of Arizona, Tucson**

As part of an expanding interdepartmental program involving research on thin films, surfaces, and interfaces, the Department of Physics and the Department of Materials Science and Engineering each invite applications and nominations for tenure track positions. Well-qualified junior-level candidates are sought by both departments, although senior-level appointments may be made. We seek candidates with records of high-quality research, the ability to attract external funding for a vigorous research program, and the desire to help shape anticipated future growth in this area. Many opportunities exist for interaction with existing groups in the Departments of Chemistry, Electrical Engineering, Materials Science and Engineering, Optical Sciences, and Physics, as well as with a number of companies in Tucson and Phoenix. Search and selection procedures will be closed when qualified candidates have been identified, but no earlier than September 1, 1989. Direct inquiries and applications (vita plus names of three references who can be contacted later) for the physics position to **Prof. Charles M. Falco, Department of Physics, (602) 621-6771**, and for the materials science and engineering position to **Professor Donald Uhlmann, Department of Materials Science and Engineering, (602) 322-2960. The University of Arizona, Tucson, Arizona 85721.**

*An Equal Opportunity/Affirmative Action Employer.*

**TWO TENURE-TRACK POSITIONS**  
**IN CERAMICS/MATERIALS**  
**The Ohio State University**  
**Department of Materials**  
**Science and Engineering**

Applications are invited to fill two entry faculty positions in the Department of Materials Science and Engineering of The Ohio State University. The positions will be filled at the assistant or associate professor level as early as August 1, 1989. Applicants must have a PhD degree in a materials-related discipline. These are tenure-track positions with particular emphasis on ceramic materials. Strong backgrounds in any of the following topics are highly desirable: electron microscopy, electronic properties, fracture mechanics, and advanced processing. The appointees would be expected to teach and do independent research in ceramics science and engineering. The department has a faculty of 24, about 200 undergraduate and 100 graduate students, and \$4 million in annual research expenditures. In addition, the appointees would be expected to contribute to programs of the developing Orton Ceramics Research Center and the University Materials Research Institute. Please send resume and the names of three references to Prof. George R. St.Pierre, Chairman, Department of Materials Science and Engineering, The Ohio State University, 116 West 19th Avenue, Columbus, OH 43210. Phone: (614) 292-2491. Fax: (614) 292-1537.

*The Ohio State University is an equal opportunity/affirmative action employer.*

**MARKETING/SALES MANAGER**

60K+, Growing established Colorado company seeking individual with 10+ years domestic/international experience in thin film coating industry (transparent display products). Must have proven success at building and managing a strong sales team. Excellent benefits and growth potential. Please send resumes or contact: Nancy Slitz, Robert William James & Associates, Professional & Technical Recruiting, 2741 Mapleton Avenue, Boulder, Colorado 80304; telephone: (303) 443-1591.

**Editorial Contact**  
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Pittsburgh, PA 15237  
(412) 367-3036  
Fax: (412) 367-4373

**Positions Available**

**POSTDOCTORAL  
RESEARCH ASSOCIATE**

**Announcement of Vacancy  
Arizona State University  
Tempe, Arizona**

**Liberal Arts and Sciences  
Center for Solid State Science**

PhD in Physics/Chemistry/Materials Science. Must have four years experience in high resolution electron microscopy including at least two years experience in computer methods for simulating high resolution crystal images. Salary commensurate with education and experience - \$24,847. **Application deadline - August 5, 1989.**

Qualified applicants send resume or application letter to: AZ DES Job Service Attn 732-A RE: 0803146, P.O. Box 6123, Phoenix, AZ 85005 (Job Location: Tempe, AZ. Emp pd ad; Proof of authorization to work in U.S. required; list in resume or app. letter)

To carry out investigations with ultra high resolution electron microscopy and to assist local and outside users of the HREM Facility in projects to study the structure of defects and chemical reactions in semiconductors, oxides and superconductor materials, including interpretation of HREM images, image analysis (processing and simulations), and microanalysis. Development of new techniques/methods in solving the above-mentioned problems.

*An Equal Opportunity  
Affirmative Action Employer.*

**RESEARCH ASSOCIATE  
Materials Research Laboratory  
Penn State**

Supervise and conduct research in diamond and related materials, and particle beam interactions with solid surfaces for the processing of microelectronic materials; coordinate research in the processing of microwave plasma enhanced chemical vapor deposition of diamond films, and the growth mechanism of surface and interface of ion beam assisted and magnetron sputtering deposited films; prepare and characterize thin film for scanning tunneling microscopy, field ion microscopy and spectroscopic ellipsometry for microstructure analysis; knowledge of surface physics, electronics, computer software, microwave devices, plasma chemical vapor deposition process, physical vapor deposition process and thin film characterization techniques is essential; supervise graduate students at the MS and PhD levels. Requires PhD in Physics, Material Science or Engineering with a strong background in thin film processing and characterization. Postdoctoral experience required. Standard University benefits package. Salary range \$25,000 - \$28,000 annual. Application Deadline: August 1, 1989. Send letter of application and resume to: Director, Materials Research Laboratory, The Pennsylvania State University, University Park, PA 16802.

*An Affirmative Action/Equal Opportunity Employer.  
Women and Minorities Encouraged to Apply.*

**VISITING PROFESSOR  
KYOTO UNIVERSITY  
Ion Beam Engineering  
Experimental Laboratory**

This position is to be filled for up to one year by a professor having extensive experience in low or medium energy ion beam physics or engineering related to thin film deposition, surface modification, and surface analysis. Positions at all academic levels will be considered. Emphasis will be on ionized cluster beam deposition, ion beam deposition and modification of organic and inorganic thin films. A wide range of equipment is available for research, including a 400 kV ion implanter, UHV ionized cluster beam deposition systems, AES, XPS, RHEED, SEM, TEM, RBS, x-ray diffraction, ellipsometry, etc. Assistance in finding suitable housing will be given. All faculty and most students in this laboratory speak English. This position will remain open until a suitable candidate is found. Salary will be based on Japanese government standards for visiting professors according to experience. Send letter, resume and the names of three references to:

Prof. Isao Yamada, Director  
Ion Beam Engineering  
Experimental Laboratory  
Kyoto University  
Sakyo, Kyoto 606, Japan  
Telephone 075-753-5951  
Fax 075-751-6774

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**Advertising Contact:** Mary E. Kaufold, MRS BULLETIN, Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237; telephone: (412) 367-3036; fax: (412)367-4373.

**Positions Available**

**FACULTY POSITION  
Department of Materials  
Science and Engineering  
McMaster University**

Applications are invited for a tenure-track faculty position at the level of Assistant Professor commencing on July 1, 1989 or as soon as possible thereafter. The department has a strong research effort and was recently rated by an international review panel as *among the strongest materials departments in North America*. (The department currently has 15 faculty, 50 graduate students and about 40 full-time research workers.) Departmental research is amplified by involvement in the multi-departmental McMaster Institute for Materials Research, and in the Ontario Centre for Materials Research. Departmental members are also involved with the McMaster Centre for Electro-photonic Materials and Devices, the McMaster Institute for Polymer Production Technology, and the Manufacturing Research Centre of Ontario.

Applications are sought from candidates with an interest in the processing, properties and characterization of all classes of materials, including metals, ceramics, polymers, composites and microelectronic materials. However, preference will be given to candidates in the area of phase transformations and related topics.

Candidates should possess a recent PhD degree in materials science or a related field. The successful applicant will be expected to develop a strong research program and to teach at both the undergraduate and graduate level. Applicants should send a copy of their current curriculum vitae along with the names and addresses of at least three referees to:

Dr. D.S. Wilkinson, Chairman  
Department of Materials Science and Engineering  
1280 Main Street West  
McMaster University  
Hamilton, Ontario  
Canada L8S 4L7

*(McMaster University is situated in pleasant surroundings on the outskirts of Hamilton, a city of 300,000 inhabitants located 50 miles west of Toronto. Both rural and urban environments are readily accessible.)*

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**RESEARCH MANAGER**

Responsible for directing our government sponsored research efforts including the identification of areas for PECVD diamond technology development, proposal writing and managing the Crystallume project team. Qualifications include 8-10 years overall experience with 3-5 years of hands-on experience in government sponsored research. A PhD degree in materials science, physics, chemistry or related physical science, and excellent written and verbal communication skills are required. The successful candidate will have a demonstrated track record in managing government research projects and delivering the results on time and within budget. Exposure to the SBIR program is desirable.

Crystallume offers equity participation plus competitive salary and benefits. Consider joining an industry innovator by sending your resume to:

Crystallume, Dept. RJK, 125 Constitution Drive, Menlo Park, CA 94025.

*We are an equal opportunity employer. Principals only please.*

**Crystallume**  
Engineered Diamond Products

**Technical Editor  
Materials Research Society**

The Materials Research Society, headquartered in Pittsburgh, seeks a creative and assertive leader to serve as editor of a rapidly growing monthly magazine serving materials research professionals. Responsibilities include establishing issue themes, acquiring and evaluating technical overview articles, writing and directing the rewriting of articles, and soliciting and evaluating news from government, industry, and education. Masters degree in a technical field relevant to materials science and engineering required and knowledge of current developments in one or more major materials research areas desirable. Well-organized individual sought with strong writing and editing skills and prior experience in writing and editing for publications serving the technical community. Salary and benefits commensurate with experience. Send resume, samples of writing, names of two references, and relevant salary history to Chairman of Technical Editor Search Committee, Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237.

**MRS**