



The University of Toledo



**Three Faculty Positions in Renewable Energy:
Endowed Chair in Condensed Matter (experiment),
Junior Positions in Thin Film Growth (theory) and Photonics (theory)**

The University of Toledo (www.utoledo.edu) invites applications for three faculty positions to begin August 2010. The successful applicants are expected to commit to quality teaching in their discipline at all levels, establish strong externally-funded research programs that involve undergraduate and graduate students, and participate in a broad-based state-wide initiative in renewable energies as members of the Center for Photovoltaics Innovation and Commercialization (www.pvic.org) in the School of Solar and Advanced Renewal Energy. Joint appointments in other departments/colleges at the University of Toledo are likely. The university has strong experimental faculty groups in thin-film photovoltaics with interests in several technologies including polycrystalline CdTe and CIGS (copper-indium-gallium-diselenide), amorphous and nanocrystalline Si, and transparent conducting oxides. Group efforts also exist in many key components of next generation science including nanomaterials and ultrafast spectroscopies. Several companies with strong research and development groups focusing on thin film photovoltaic (PV) technologies exist in the greater Toledo area. The successful candidates are expected to participate in and promote collaboration among university and industry groups.

The first position is a senior-level tenured faculty appointment, and the successful candidate will assume the Ohio Research Scholar Endowed Chair. Candidates are sought having exceptional experience and qualifications in experimental condensed matter physics with applications in renewable energy technologies. Areas of greatest interest include the fabrication and/or analysis of advanced materials and device structures for solar photovoltaics (PV) or PV-generated fuels. This faculty member will collaborate broadly with university colleagues and Center industrial partners throughout Ohio focusing on these technologies. The expertise of the successful candidate, and the infrastructure and capabilities that will be established, are expected to be uniquely valuable for fabricating and/or analyzing PV materials, interfaces, and device structures. The Ohio Research Scholar Endowed Chair is to be supported by a significant start-up package through a grant from the Ohio Department of Development.

The latter two positions are expected to be filled at the Assistant Professor level, although appointment at the Associate Professor level is possible for exceptionally well-qualified candidates. The successful candidate for the deposition modeling position is expected to establish an independent research program and to collaborate with existing experimental and theoretical research groups in the fundamental understanding of renewable energy materials

fabrication and processing, as well as to complement existing departmental theoretical expertise in kinetic Monte Carlo simulations, parallel accelerated dynamics, and density functional theory calculations. Candidates with strong interests and expertise in the modeling of thin-film growth processes are encouraged to apply. Areas of particular interest include modeling of the gas phase and growth surface in chemical and physical vapor deposition, the development and application of accurate many-body potentials for photovoltaic materials, and the development and application of advanced methods for modeling non-equilibrium processes.

The successful candidate for the photonics theory position is expected to establish an independent research program and to collaborate with existing experimental research groups in the fundamental understanding of photonic processes in renewable energy materials and devices, for example multiple exciton generation and up-conversion processes, plasmonic coupling, and light scattering mechanisms. Candidates with strong interests and expertise in the design and simulation of efficient light harvesting concepts in PV materials and devices are encouraged to apply. There are considerable opportunities to interact with experimentalists in the department having unique optical measurement capabilities for the enhancement of existing thin film PV, the development of the next generation of PV, and in addition to interact with the leading thin film PV industries in Northwest Ohio.

A Ph.D. in physics, chemistry, or a closely related field is required, as well as research experience beyond the Ph.D. A strong track record of external research support is required for the senior position whereas candidates for the other two positions must demonstrate considerable potential for attracting external support. We particularly encourage women and minority candidates to apply.

Requests for more information or application packages should be addressed to PVIC Faculty Search Committee c/o Dr. Nina McClelland, Interim Dean, School of Solar and Advanced Renewable Energy, The University of Toledo, 2801 W. Bancroft Street, Mail Stop 906, Toledo, OH 43606; 419-530-7842; nina.mcclelland@utoledo.edu. In the application package, the applicant should state the position of interest, and include a CV, research and teaching statements, and the names, addresses, and phone numbers of at least three references. Consideration of applications will begin after November 30, 2009 and will continue until the positions are filled.

*The University of Toledo is an Equal Access, Equal Opportunity,
Affirmative Action Employer and Educator.*