Health Monitoring of Systems, Structures, and People  
Department of Engineering Science and Mechanics  
The Pennsylvania State University

The Department of Engineering Science and Mechanics (ESM) at Penn State invites applications for a faculty position at any rank in the cross-cutting area of health monitoring. Health monitoring is one of the strategic research thrusts of the Department, involving faculty with active interests in: all types of complex systems (structures, vehicles, humans); components for transportation (air, land, sea), power generation (nuclear, fossil fuel, wind), and petrochemical structures (piping, vessels, tanks); materials (metal, ceramic, polymers, composite, biological); and human systems (neurological, vascular, skeletal). The Department is seeking outstanding candidates who have demonstrated research expertise in several of these topical areas:

- Sensors and sensor systems – utilization of new sensory modalities, energy harvesting, wireless communication, measurement methodology;
- Innovative materials – sensing, multifunctional, self-healing;
- Material degradation and biodegradation mechanisms;
- Signal processing, data analysis, and imaging for advanced diagnostics and prognostics;
- Predictive science – statistical pattern recognition, data fusion, data assimilation, model based observation and control;
- Multiscale modeling and computation of man-made and biological structures.

Applicants with the ability to work across disciplines are especially encouraged to apply. The ESM Department was founded in 1906, and in 1956 introduced the Engineering Science undergraduate degree as the Honors Program for the College of Engineering. The ESM Department comprises 29 tenure and tenure-track faculty, 2 fixed-term graduate faculty, 18 affiliated graduate faculty (in the Applied Research Laboratory, Electro-Optics Center, Materials Research Laboratory, and other departments), and 15 staff. There are around 130 undergraduate and 130 graduate students in the department. The ESM Department is inherently interdisciplinary and transdisciplinary and has a highly active research active faculty with annual research expenditures ranging from $9-16 million. All ESM faculty are members of the Materials Research Institute, several are affiliated with the Institute for Cyberscience, and approximately 50% are members of the Huck Institutes of the Life Sciences, the Penn State Institutes of Energy and the Environment, or have collaborations with the College of Medicine. Additional information about the department can be found at [http://www.esm.psu.edu](http://www.esm.psu.edu).

Required qualifications include a Ph.D. in an engineering related discipline, and evidence of excellent potential or accomplishments in research and teaching. The position begins August 2015. Screening of applicants will begin on October 15, 2014. Nominations and applications will be considered until the position is filled. Applicants should submit: (1) a cover letter, (2) curriculum vitae, (3) a statement of professional interests including research and teaching, (4) two most relevant publications, and (5) names and addresses of four references. Please submit these five items in one PDF file electronically to job 53722 at [http://www.psu.jobs](http://www.psu.jobs). Inquiries should be addressed to ESM-Health-Search@esm.psu.edu. Exceptional candidates should also submit a separate application to be considered for one of 6 Dean's Frontier Faculty positions, job 53460.

Employment will require successful completion of background check(s) in accordance with University policies.

CAMPUS SECURITY CRIME STATISTICS: For more about safety at Penn State, and to review the Annual Security Report which contains information about crime statistics and other safety and security matters, please go to [http://www.police.psu.edu/clery/](http://www.police.psu.edu/clery/), which will also provide you with detail on how to request a hard copy of the Annual Security Report.

Penn State is an equal opportunity, affirmative action employer, and is committed to providing employment opportunities to minorities, women, veterans, disabled individuals, and other protected groups.