



The Pennsylvania State University
 N050 MSC Bldg.
 University Park, PA 16802
 PH: 814-863-2224
 Email: jjs366@psu.edu

Joshua J. Stapleton
 MCL Operations Manager
www.mri.psu.edu/facilities/mcl

TOF-SIMS Researcher in the Materials Characterization Laboratory

The Materials Characterization Laboratory (MCL) is a fully-staffed, open access, analytical research facility at Penn State's Materials Research Institute, charged with enabling research while educating the next generation of highly qualified researchers. Staffed by >15 interdisciplinary scientists and engineers, we are passionate about education and collaborative problem solving. Our laboratories occupy >15,000 ft² within the Millennium Science Complex (MSC). More than just a collection of laboratories and instruments, the > 275,000 ft² MSC embodies a new style of research where engineering, physical sciences, life sciences, and environmental sciences augmented by high-speed computation converge to open new frontiers in human health, energy, and materials science.

Each year the Materials Characterization Laboratory supports >900 users from >35 Penn State departments, and >90 external organizations (industry, government labs, and other academic institutions). Current MCL capabilities include: electron & ion microscopy, molecular spectroscopy, electron & ion spectroscopy, x-ray scattering, surface metrology, thermal analysis, particle analysis, electrical characterization, and extensive sample processing resources.

The MCL is seeking a highly qualified PhD researcher to lead in the use and development of Time-of-Flight Secondary Ion Mass Spectrometry (TOF-SIMS) using a newly acquired *PHI nanoTOF*. The successful candidate will work in a highly collaborative environment within Penn State, including faculty, PhD researchers, industrial partners, and graduate students in various strength areas such as biomaterials, electronic materials, ceramics, 2-D materials, geosciences, life sciences, agricultural sciences, and soft materials to name a few.

The candidate must have a PhD degree in chemistry, materials science, physics or related areas, and have a strong background in SIMS. Experience with SIMS of biological systems is highly desirable. Experience with other common surface analytical techniques such as XPS and AES is also desirable. Strong communication and interpersonal skills are absolutely essential. The responsibilities of this position will involve efforts towards:

- Development of new experimental techniques using TOF-SIMS
- Support of existing internal and external industrial research projects using TOF-SIMS
- Execution of cutting-edge, independent research utilizing TOF-SIMS.
- Participation in the development and implementation of a forward thinking vision of surface science at Penn State
- Preparation of highly competitive grant applications using state-of-the-art characterization techniques in conjunction with existing Penn State research programs and faculty researchers

Based upon experience, this position will be filled at either the research faculty or post-doctoral scholar level. This is a fixed-term or post-doctoral appointment funded for two years with an excellent possibility for renewal. Benefits are commensurate with appointment type. Employment will require successful completion of background check(s) in accordance with university policies. For additional information please contact Dr. Josh Stapleton at jjs366@psu.edu