



Position Description: Dr. Kristina Lemmer, Assistant Professor at Western Michigan University, Department of Mechanical and Aerospace Engineering and director of the Aerospace Laboratory for Plasma Experiments (ALPE) in Kalamazoo, Michigan is seeking one Ph.D. student to conduct research on the decomposition and ionization of ionic liquids that are commonly used as monopropellants. The main goals of this research are to determine the decomposition products, ionization processes, and ionization products of various ionic liquids and mixtures of ionic liquids under vacuum conditions. Research will involve experimental plasma engineering, laser and optical emission spectroscopy, gas analysis, and basic plasma diagnostics. Travel to conduct research at other locations (universities, government laboratories, or industry) may be a possibility. Funding for this project provides at least full summer support in 2016, a full graduate research appointment during the 2016/2017 academic year, and full summer support in 2017. The ideal candidate is expected to apply for external research fellowships. Support may be supplemented by teaching assistantships if available. Assignment of teaching assistantships is contingent upon the strength of the candidate's application and academic progress while at WMU. Presentation of research at national and/or international conferences is expected, and support is available. For further information, Dr. Lemmer's website is: <http://homepages.wmich.edu/~xaq8349/ALPE/about.html>

About WMU and Kalamazoo: Western Michigan University is located in Kalamazoo, about halfway between Chicago and Detroit. Kalamazoo is the cultural and educational center of southwest Michigan, within an hour drive from Lake Michigan. It is a thriving metropolitan area and a vibrant technological center. The College of Engineering and Applied Sciences has seven academic departments residing in a \$100 million facility surrounded by a Business Technology and Research Park on a 270-acre engineering campus. For information about CEAS see www.wmich.edu/engineer. More information about the Department of Mechanical and Aerospace Engineering can be found at www.wmich.edu/mae.

Qualifications: The candidate must have a B.S. degree in mechanical engineering, aerospace engineering, or a closely related field, previous research experience prior to start of the position, and experience with LabView. The successful candidate should be able to demonstrate excellent organizational and writing skills. The research will require significant hands on experimental work, data analysis, and cooperation with other lab members.

Desired Experience: The project will require the use and operation of vacuum equipment, minor machining, the use of very small amounts of hazardous and combustible chemicals, high powered electronics, and lasers. While not required, experience in these research areas is beneficial. Previous teaching or tutoring experience is also desirable. Start Date: Preferably May 15, 2016.

To Apply: Send 1) a letter of interest, including statement of goals and research interests, 2) a resume or curriculum vitae, 3) an unofficial transcript and 4) contact information for three references to the following email: kristina.lemmer@wmich.edu. Electronic versions of all materials are required. Please attach all materials as a single PDF file. Review of applicants will begin immediately and a short-list of candidates will be encouraged to apply to WMU's graduate program.