

## Alfred University researcher wins funding to expand high-temperature facilities

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[David Lipke](#), assistant professor of materials science and engineering in the [Inamori School of Engineering](#) at Alfred University, is one of 149 university researchers nationwide to win funding for research equipment from the [federal Department of Defense](#).

Lipke will use the \$308,667 award to design and install a xenon-arc image furnace for the synthesis and characterization of materials in ultra-high temperature (up to 3000 degrees C) environments under a variety of atmospheric conditions ranging from high vacuum to elevated pressure.

“This instrument will provide us with exciting new research capabilities especially for processing of materials under conditions previously only achievable in highly specialized, sometimes inaccessible laboratories,” explained Lipke.

“These facilities will complement Alfred University’s already impressive [Center for High Temperature Characterization](#) by significantly extending the upper temperature limit of our furnaces, especially in oxidizing or reactive environments, which is expected to help enable the discovery of new materials and the study of historically ill-defined materials systems,” said Lipke.

The Center for High Temperature Characterization is a user facility, one that allows researchers from academia and industry to process and characterize materials and devices exposed to high temperature environments. The Center for High Temperature Characterization was created through funding from New York State in response to requests from industry partners for such a facility.

Lipke joined the faculty of the Inamori School of Engineering at Alfred University after completing a two-year National Research Council postdoctoral fellowship at the Air Force Research Laboratory (Edwards AFB, CA). He earned a B.S. degree in engineering from Harvey Mudd College, and a Ph.D. in materials science and engineering from Georgia Institute of Technology.

Among the research activities in the Lipke research group is the study of elevated temperature gas-solid interactions as they relate to materials synthesis and performance degradation, especially of ceramics, metallics, and their composites.