

Kathryn Nicole Gabet



Graduate Institution: The Ohio State University

Graduate Discipline: Mechanical Engineering

Hometown: Canton, OH

Relevant SC Research: Basic Energy Sciences

Research Interest:

Eighty-five percent of the world's energy comes from turbulent combustion and a detailed understanding of its dynamics is an integral part of cutting edge combustion system design and control. To this end, I am working under the supervision of Professor Jeffrey A. Sutton in the Turbulence and Combustion Research Laboratory (TCRL) at Ohio State University, exploring turbulent combustion dynamics with state-of-the-art high-speed laser diagnostics. My project involves collecting time-resolved combustion data including temperature and species concentrations using simultaneous Rayleigh and Raman line imaging at an acquisition rate of 10 kHz. These measurements will characterize

flame dynamics in highly turbulent environments, such as those found under engine conditions. The goal of my project is to provide greater insight into the underlying physics of combustion environments and aid in the development of advance engine technology.

About Me:

Amongst the many issues dominating politics today are questions concerning energy independence and sustainability. While governments debate these issues daily, few political leaders have the technical knowledge to fully understand the problems, let alone a familiarity with the details necessary to propose innovative solutions. I plan on pursuing my doctorate in mechanical engineering with

an emphasis in energy, fluid mechanics, and thermodynamics in order to gain the technical knowledge needed to be a leader in the field and assist in energy-policy decisions.

I received my undergraduate degree in aerospace engineering with a minor in political science from Case Western Reserve University where I was an active member of Tau Beta Pi and Phi Sigma Rho. In addition to my graduate studies, I am a student member of the AIAA and the Combustion Institute, an officer in OSU's Mechanical Engineering Graduate Student Association, an avid baker, and a member of an adult-league soccer team.



U.S. DEPARTMENT OF
ENERGY

Office of
Science