

Priya Gopalakrishnan, Ph.D.
Associate

Professional Profile

Dr. Priya Gopalakrishnan is an Associate in Exponent's Thermal Sciences practice. Dr. Gopalakrishnan's responsibilities include fire cause and origin analysis, investigation of explosions, and consumer appliance failures. She has a background in experimental analysis of nonreacting and chemically reacting fluid flows, specializing in laser diagnostic techniques. She performs analyses involving fluid mechanics, combustion, thermodynamics, gas dynamics, optics, spectroscopy, experimental methods, and data acquisition.

Prior to joining Exponent, Dr. Gopalakrishnan was a Graduate Research Assistant at the Ben T. Zinn Combustion Laboratory and at the John Harper Wind Tunnel at Georgia Institute of Technology. Her doctoral research focused on the application of laser-based techniques to study the interaction between the flowfield and flame characteristics in a lab-scale combustion system, and her work was applied towards the development of an ultra-low emission gas turbine combustor. Dr. Gopalakrishnan also has a background in aerodynamics, and has performed wind tunnel testing to study the effectiveness of multiple winglets in improving wing lift, as well as winglet tip vortex interactions. Prior to her work at Georgia Tech, Dr. Gopalakrishnan performed research in the Gas Dynamics Laboratory at the Indian Institute of Technology, Madras.

Academic Credentials and Professional Honors

Ph.D., Aerospace Engineering, Georgia Institute of Technology, 2008
M.S., Aerospace Engineering, Georgia Institute of Technology, 2003
B.Tech., Aerospace Engineering, Indian Institute of Technology, 2001

Publications

Gopalakrishnan P. Effects of the reacting flowfield on combustion processes in a stagnation point reverse flow combustor. Ph.D. Thesis, Georgia Institute of Technology, January 2008.

Bobba MK, Gopalakrishnan P, Periagaram K, Seitzman JM. Flame structure and stabilization mechanisms in a stagnation point reverse flow combustor. *J Eng Gas Turbines Power* 2008; 130(3):031505-1-8.

Bobba MK, Gopalakrishnan P, Periagaram K, Seitzman JM. Flame structure and stabilization mechanisms in a stagnation point reverse flow combustor. *Proceedings, ASME/IGTI Turbo Expo 2007, Montreal, Canada, May 14–17, 2007.*

Gopalakrishnan P, Bobba MK, Seitzman JM. Controlling mechanisms for low NO_x in a nonpremixed stagnation point reverse flow combustor. *Proceedings, Combustion Institute* 2006; 31:3401–3408.

Bobba MK, Gopalakrishnan P, Seitzman JM, Zinn BT. Characteristics of combustion processes in a stagnation point reverse flow combustor. *Proceedings, ASME/IGTI Turbo Expo 2006, Barcelona, Spain, May 8–11, 2006.*

Conference Papers and Presentations

Gopalakrishnan P, Alison P, Seitzman JM. Effects of fuel injection and mixing on NO_x performance of a liquid-fueled stagnation point reverse flow combustor. Paper #F-32, 5th US Combustion Meeting, San Diego, CA, March 25–28, 2007.

Gopalakrishnan P, Bobba M, Radhakrishnan A, Neumeier Y, Seitzman J. Characterization of the reacting flowfield in a liquid-fueled stagnation point reverse flow combustor. AIAA-2007-0172, 45th Aerospace Sciences Meeting, Reno, NV, January 8–11, 2007.

Bobba M, Gopalakrishnan P, Periagaram K, Seitzman J. Product recirculation and mixing studies in a stagnation point reverse flow combustor. AIAA-2007-0173, 45th Aerospace Sciences Meeting, Reno, NV, January 8–11, 2007.

Gopalakrishnan P, Bobba M, Sankaran V, Seitzman J, Zinn B, Menon S. Measurements and modeling of the flowfield in an ultra-low emissions combustor. AIAA-2006-0962, 44th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, January 2006.

Bobba M, Gopalakrishnan P, Radhakrishnan A, Seitzman J, Neumeier Y, Zinn B. Flame stabilization and mixing studies in a novel ultra-low emissions combustor. AIAA-2006-0963, 44th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, January 2006.

Sankaran V, Gopalakrishnan P, Undapalli S, Parisi V, Seitzman J, Menon S. A LES-PIV Investigation of a stagnation point reverse flow combustor. AIAA-2005-3969, 41st AIAA/ASME/SAE/ ASEE Joint Propulsion Conference, Tucson, AZ, July 10–13, 2005.

Komerath N, Gopalakrishnan P, Wanis S, Ganesh A. Architecture for a radiation shielded, orbiting habitat in the earth-moon system. AIAA-2003-6330, Space Technology Conference, Long Beach, CA, September 2003.

Professional Affiliations

- The Combustion Institute (member)
- The American Institute of Aeronautics and Astronautics (member)