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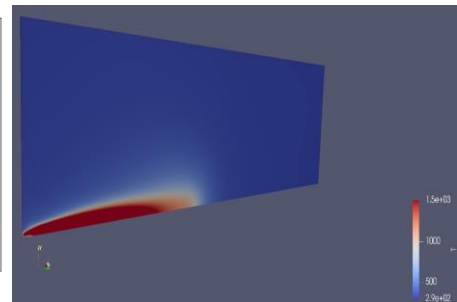
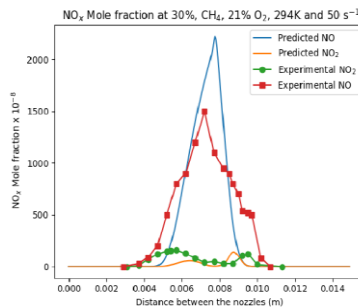


## Research Interests

- Combustion
- Laser Diagnostics
- Experimental Fluid Dynamics
- Numerical simulations of isothermal and reacting flows

## Brief Summary of Research

Current research in the combustion and laser diagnostics laboratory focuses on developing and carrying out measurements in laminar flames using non-intrusive laser-based techniques. A Planar Laser Induced Fluorescence (PLIF) and Particle Image Velocimetry (PIV) setup is used to study intermediate and stable species in flames. Numerical simulations on OpenFOAM platform are employed to compare results on standard flames with predictions. Past research has been on developing laser diagnostic techniques and their implementation. Gas turbine engine combustors and novel combustion strategies are also an active area of research.



## Projects

- “Soot Measurement and modelling in a counterflow diffusion flame”, DST - Early Career Research Award, 16 May 2019 – 15 May 2022.

## Recent Publications (Full list of publications: <http://www.iitpkd.ac.in/people/krishnas>)

- Saumitra Saxena, Krishna Shesha Giri, John McIntosh, Ziad Dawood, Andrew Maloney, Ronan Carolan, Hatsari Mitsudharmadi, Aiping Chen, William L. Roberts, Bassam Mohammad, Paul Glaser, Jeffrey Goldmeier, “Development of a high-pressure hot corrosion burner rig for testing structural materials following long exposures to Arabian Extra Light crude oil combustion products”, *ASME Turbo Expo* (2019)
- Deanna A. Lacoste, Byeong Jun Lee, Aman Satija, Krishna S., Scott A. Steinmetz, Issam Alkhesho, Omar Alhazzaa, Robert P. Lucht, Min Suk Cha, and William L. Roberts, “Investigation of Gas Heating by Nanosecond Repetitively Pulsed Glow Discharges”, *Combustion Science and Technology*, 189 (11) (2017)
- Krishna S., and Ravikrishna R. V., “Experiments and numerical studies on a Syngas fired Ultra low NO<sub>x</sub> combustor”, *ASME Journal of Engineering for Gas Turbines and Power* 139 (11) (2017)