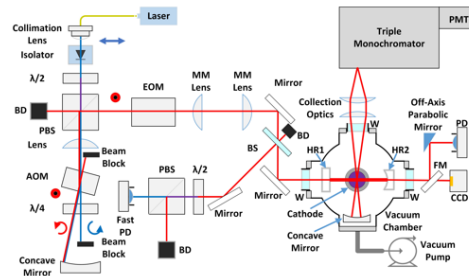


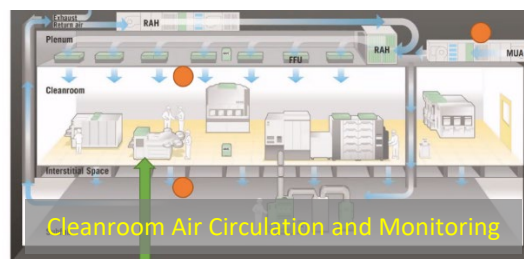
Graduate Student and Post-Doctoral Openings at Colorado State University (CSU)
Faculty Adviser: Azer Yalin, Professor, Dept. Mechanical Engineering

Research Area 1: Laser Diagnostic of Plasmas and Electric Propulsion (EP)



Laser diagnostics provide state-of-the-art methods to non-intrusively probe gases and plasmas. A main objective of our research group is to develop and implement laser diagnostic methods to advance the understanding and capabilities of electric propulsion plasma thrusters (e.g., ion and Hall thrusters) used for satellites and space exploration. As part of the NASA center, Joint Advanced Propulsion Institute ([JANUS](#)), we are tasked with developing laser diagnostics including Cavity-Ring Down Spectroscopy (CRDS) to study thruster sputtering and erosion, and Two Photon Absorption Laser Induced Fluorescence (TALIF) to study densities of neutral atoms to examine facility effects.

Research Area 2: Laser Spectroscopy Systems for Technological Applications



We also have openings for projects related to technological uses of applied spectroscopy systems. These projects include: 1) developing laser diagnostic techniques, including Thomson scattering, to measure laser plasmas within high-power switches for Sandia National Laboratory ([SNL](#)), and 2) developing cleanroom monitoring technology, for gas-phase species and particles, based on cavity ring-down spectroscopy (CRDS) techniques, in support of industrial semiconductor fabrication.

We have **openings for both graduate students (MSc/PhD) and post-doctoral researchers** to contribute to these projects. Researchers will gain experience with advanced laser diagnostics suitable for plasma, combustion and/or atmospheric sampling, while working in a diverse multi-disciplinary environment with collaborators from both within and outside CSU.

Further information about our research group – the Center for Laser Sensing and Diagnostics - can be found on our group's [webpage](#). We are located at the [Powerhouse Energy Campus](#) and EP projects are performed collaboratively with CSU's [Electric Propulsion and Plasma Engineering Group](#). These links contain information about the [Department of Mechanical Engineering](#) and [CSU](#). Information about Fort Collins (ranked as one of top US cities to live in) can be found [here](#) and [here](#). *Start date: ASAP / Fall 2022.*

Questions? – Please contact: Prof. Azer Yalin, azer.yalin@colostate.edu, 970-232-5545