



---

**Project Title:** Continuum and Kinetic Laser Plasma Simulations with AMR Codes

**Project Reference Code:** Arslanbekov-CFDRC

**Name of Project Leader:** Dr. Robert Arslanbekov

**Host Facility:** CFD Research

**Internship Location:** 6820 Monquin Dr. NW, Huntsville, AL 35806, <https://www.cfd-research.com/>

**Host Facility Location:** Huntsville, AL

**Project Description:**

CFD Research is seeking one intern with good knowledge of, or willingness to learn C, C++, Octave/Matlab programming languages or with skills to apply commercial software packages to multi-physics modeling. Some background knowledge of plasma, chemistry and laser physics and computational physics is a plus. The intern will learn how to program commercial quality, as well as research, software or to apply it to a variety of problems related to gas discharge and laser plasma physics continuum and kinetic settings and run software on Linux platforms in HPC environment. The intern will work closely with researchers from the FTTP institutions to apply computational tools to various problems of interest. Some levels of qualifications are required in visualization & data exploitation on Linux and Windows platforms. Work experience with MS Office applications for reporting and presentation preparation is required.

**Disciplines:**

Gas Discharge Physics, Laser Physics, Computational Plasma Physics, Electrical and Computer Engineering

**Importance:**

Plasma and laser applications are important for variety of laboratory and industrial applications.

**Requirements:**

- **Preferred Major**
  - Physics, Computational (CS/CE)
- **Class work**
  - Physics, math, or other background (list of specific level of classes are necessary)
- **Programming knowledge**
  - Linux/Windows
- **Software knowledge**
  - C, C++, COMSOL and/or Octave/Matlab
- **Other**
  - N/A

---

**Biography:**

Dr. Robert Arslanbekov holds PhD degree in Plasma and Computational Physics and is Senior Principal Scientist at CFD Research. His computational and experimental work related to plasmas includes various plasma device ranging from fusion, high-temperature, plasmas to laboratory, low-temperature, plasma devices (lasers, arcs, light sources, material & medical treatment).

**Is U.S. citizenship required to participate in this project?** No

**Contact information:**

Dr. Robert Arslanbekov, [Robert.Arslanbekov@cfd-research.com](mailto:Robert.Arslanbekov@cfd-research.com)

**Name(s) of Mentor(s) and contact information:**

Dr. Robert Arslanbekov, [Robert.Arslanbekov@cfd-research.com](mailto:Robert.Arslanbekov@cfd-research.com)

**Internship Coordinator/ HR manager:**

Christal Smith  
Human Resources Manager  
CFD Research Corporation

p: 256.361.0806

m: 256.348.8709

w: [www.cfd-research.com](http://www.cfd-research.com)

e: [christal.smith@cfd-research.com](mailto:christal.smith@cfd-research.com)

*The name and contact information of personnel at the host facility is provided for further assistance with questions regarding the host facility or the project.*

*Interns will not enter into an employee/employer relationship with the host facility. No commitment with regard to later employment is implied or should be inferred.*