

**Project Title:**

Exploring Physics Informed Neural Networks for Plasma Simulations

Project Reference Code:

CFDRC2

Host Facility:

CFD Research Corporation

Host Facility Location:

6820 Moquin Dr
Huntsville, AL 35806
<http://www.cfdrc.com/>

Project Description:

CFDRC is seeking a summer intern with good knowledge of programming languages to explore Physics Informed Neural Networks for simulations of low temperature plasma. The intern will learn how to solve partial differential equations using artificial neural networks and apply available software packages to solve specific problems. Background knowledge of computer science and plasma physics is a plus. The intern will work closely with researchers from CFDRC and other ESPCoR institutions to develop and apply computational tools for solving plasma problems of interest. Some levels of qualifications are required in programming, visualization & data exploitation on Linux and Windows platforms. Work experience with MS Office applications for reporting and presentation of results is required.

Disciplines:

Physics Informed Neural Networks, Computer Science, Computational Plasma Physics, Electrical and Computer Engineering

Is U.S. citizenship required to participate in this project?

No

Internship Location and COVID-19 related Backup Plan

Due to the COVID-19 pandemic, we are preparing multiple options to ensure that the internship will take place. We are looking at least at an in-person, hybrid, and fully virtual option. For any in-person component we will ensure that there is adequate physical spacing between workspaces, following all relevant cleaning protocols.

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

Vladimir Kolobov (vik@cfdr.com)

Internship Coordinator/ HR manager:

Rick G. Wilbourn (rick.wilbourn@cfdr.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.