



Project Title:

Large area atmospheric pressure plasma sources for water and biological applications

Project Reference Code:

UAH-Xu

Host Facility:

The University of Alabama in Huntsville

Host Facility Location:

301 Sparkman Dr.
Huntsville, AL 35899
<https://www.uah.edu/>

Project Description:

At UAH, we have been studying atmospheric pressure plasma, primarily in the form of a thin pencil-like jet. We have also developed a larger area plasma sheet device. However, the limitation of both of these is the small size and volume of plasma produced. This project seeks to develop novel designs for atmospheric plasma sources that can produce larger plasma output for more efficient treatment of water, food, and plants. Two current concepts is a multi-electrode plasma sheet to create an overall larger area, and a packed bed plasma reactor to treat water as it flow through. Testing of different gases such as helium, argon, and air is also desirable. The decomposition of methylene blue due will be used as a comparison parameter and metric for the effectiveness of the the plasma devices, along with emission spectroscopy measurements of the plasma itself.

Disciplines:

Engineering, physics, chemistry

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

No

Internship Location and COVID-19 related Backup Plan

The internship location is the University of Alabama in Huntsville. Due to the COVID-19 pandemic, we are preparing multiple options to ensure that the internship will take place. For any in-person component we will ensure that there is adequate physical spacing between workspaces, following all university cleaning protocols. Due to the nature of this project, a virtual version will be very difficult. Therefore, in case of campus closures we would have to carry out an alternative project.

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

Gabe Xu (gabe.xu@uah.edu)

Internship Coordinator/ HR manager:

Dana Waller (dsw0012@uah.edu)

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.