

**Faculty Name:**

Carlos Paz-Soldan

**Faculty Email:**

carlos.pazsoldan@columbia.edu

**Lab:**

Plasma Physics Laboratory

**Project Title:**

Non-Planar High-Temperature Superconducting Magnets

**Description:**

This project involves assisting in the design and fabrication of non-planar high-temperature superconducting (HTS) magnets for the Columbia Plasma Physics Lab. HTS magnets offer access to higher magnetic field at higher operating temperature, opening new experimental opportunities for plasma physics study. Non-planar magnet geometries are needed to enable finding the best 3D shape of future fusion reactor. The student will participate in design and modeling in COMSOL and SolidWorks, and assist in fabricating test apparatus for prototype magnets. Prototypes will be 3D printed at the Columbia Makerspace. Initial prototypes will be tested to assess their performance towards the current limit at cryogenic temperatures. Students will also generally assist with other Columbia Plasma Physics Lab initiatives. More information can be found at <https://plasma.apam.columbia.edu>

\*\* This position and others in Prof Paz-Soldan's group have a common application \*\*

\*\* Please apply using the form <https://forms.gle/viSUdEneLy66vFaZ6>. Do NOT email the PI \*\*

\*\* Flexibility in project choice is welcome \*\*

**Location of Research:**

On Site

**# of hrs/week:**

40

**Department/Program:**

Applied Physics and Applied Mathematics

**Eligibility:**

BS, First Year, BS, Second Year, BS, Third Year, BS, Fourth Year

**To apply, please contact:**

Carlos Paz-Soldan

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