Working on a Man-made Star

PPPL Overview

Who are we?

And who are you?

Visit us at: www.pppl.gov
Shannon Swilley Greco

- Originally from Houston, TX
- Senior Program Leader in the Science Education Department @ PPPL
- Get to play with zappy stuff... FOR SCIENCE.

Yolanda Milligan

- About Me:
- Sr. Talent Acquisition Partner
- Kean University - Bachelors in Marketing
- Devry University - Keller Graduate School of Management - MBA
- Joined PPPL in October 2022
Christina Liebrich

- About Me:
- Talent Acquisition Manager
- University of Maryland - Bachelors in Psychology
- Rutgers University - Masters in HR Management and Masters in Labor & Employment Relations
- Joined PPPL October 2020

Questions:
What is our mission?
What do we do?
Princeton Plasma Physics Laboratory

- PPPL is one of 17 DoE national laboratories.
- We are managed by Princeton University but have a government mandate that focuses on fusion energy research and basic plasma science.
- 600+ employees all contributing to the mission of clean energy

At PPPL, We Study Plasma

- Fusion Research
- Basic Plasma Physics
- Plasma Theory and Simulation
- Astrophysical Plasmas
- Plasma in Other Fields (e.g. Medicine)
Examples of Plasma

1) Lightning
2) Sun / Stars
3) Interstellar “Gas” / Nebulae
4) Northern Lights
5) Neon Lights / Florescent Lights
6) Plasma TV
7) Flames

NSTX-U
Inside NSTX-U

NSTX-U Diagram
Undergraduate Opportunities

- Internships and Workshops
  - Science Undergraduate Laboratory Internship (SULI)
  - Community College Internship (CCI)
  - Engineering Internship
  - Plasma and Fusion Undergraduate Research Opportunities (PFURO)
  - Undergraduate Workshop in Plasma Physics

Student Intern Projects Samples

Characterization and Simulation of Metastability in Plasmas
David Wasserman, Advisor: Steve Cowley

Investigation of PMI and IAD on LTX-β Surfaces via Simulation and Micro-trench
Jhovanna Garcia, Advisor: Bruce E. Koel (Princeton U.), Shota Abe and Anurag Maan (PPPL)

Constructing MUSE; A permanent magnet stellarator
Mohammed Haque, Advisor: Michael Zarnstorff

Simulating Guiding Center Motion in NSTX-U with ORBIT-GPU
Nathaniel Chen, Advisor: Phillip Bonofiglo

Exploring the formation and robustness of partially relaxed MHD states
Matt Ketkaroonkul, Advisor: Adelle Wright

Temperature measurement of Warm Dense Matter using Streaked Optical Pyrometry
Joseph Vargas, Advisor: Sophia Malko
APS Conference for Undergraduate Women and Gender Minorities in Physics

Employment Opportunities
Graduate Opportunities

PPPL Employee Benefits

- Medical, Dental and Vision; different plan options
- Flexible Spending Accounts
- STD/LTD
- Tuition Reimbursement
- Retirement/Pension Plan – Princeton contributes 9.3%
- Various health and wellness resources (optional)
- Various life insurances
- Generous paid time off (24 vacation days, 11 university holidays, sick days and 2 personal days)

Comprehensive Health/Welfare Benefits:

- Asian Cultural Alliance (ACA)
- Latino Princetonians at PPPL (LPP)
- Women in Engineering (WIE)
- Women in Plasma Physics (WiPP)
- Young Professionals Network (YPN)
- Employees of PPPL can and are encouraged to join ERGs at Princeton University

Employee & Affinity Resource Groups

- Communiversity
- United Way
- Science on Saturdays
- Science Bowl
- PPPL Tours (pre-covid-19)
- Young Women’s Conference in STEM
- American Physical Society (APS) Student Reception Event
- Employees of PPPL can be a part of participating Princeton University’s community events

PPPL Recreation & Perks

- On-site gym
- Health Coach
- Yoga Club
- Walk and Run Club
- Snow Ski and Board Club
- On-site subsidized cafeteria
- Flexible work arrangements

Community Involvement