Hari Paul Choudhury

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Education

PhD - Plasma Physics – Columbia University 2022-present
Advisor: Prof Carlos Paz Soldan
- Research Focus: Magnetic-confinement fusion energy
- Doctoral Topic: Runaway-electron mitigation in tokamaks through kinetic instabilities and alfvenic modes
- Research involves planning, execution, and analysis, of disruption-mitigation experiments on the DIII-D National Fusion Facility.

MSc – Plasma Physics – Columbia University 2021-2022
Focus in magnetic-confinement fusion energy

BSc & ARCS – Physics – Imperial College London 2016-2019
(1st Class Honours)
Supervisor: Dr Yasmin Andrew
BSc Project: *'Experimental Exploration of the Finite-Beta Drift-Wave Model for the Transition to H-mode on JET'*

Employment

Teacher of Physics - *St. Edward's School, Oxford, OX2 7BQ, UK.* 2019-2020
- Independently taught six physics classes, with pupils from 13-18 years, at a co-educational independent boarding school, including GCSE, A-level and IB classes.
- Created and managed a coding club that helped pupils of all ages to learn to code in Python.
- Managed the school's 2nd-eleven football (soccer) team to their most successful season in the history of the school.

Research Experience

Graduate Researcher – Columbia University 2021-present
Different research projects include:
- Software and modelling development for multi-device disruption mitigation code
- Analysis of direct-energy conversion methods for linear and toroidal devices

Researcher: Diagnostics Team at the Joint European Torus (JET) 2018
Culham Centre for Fusion Energy, UK
Supervisor: Dr Ivor Coffey.
Project: analysing spectrometer data to quantify effects on signal-to-noise ratios following tritium contamination of the device.

Student Energy Society's Fusion Project – Imperial College London 2018
Design work on a university-scale inertial electrostatic-confinement device

Technical Skills

Coding languages and frameworks: Python, MATLAB, IDL, Github, Unix/Linux, LaTeX.
Fusion-specific tools and physics models: OMFIT, MDSplus, UEDGE, EFIT

Extra-Curricular Interests

No-gi jiu-jitsu (Renzo Gracie Academy, 5 years of experience) and meditation

Languages

Independently learning Hindi-Urdu, Bengali, and Sanskrit (all are self-taught, out of interest in the region and cultures)