Weihang Li

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EDUCATION

Purdue University, School of Engineering 01/2021-05/2022

M.S. in Aeronautical and Astronautical Engineering (System and Aerodynamic), Expected in 05/2022

- Relative courses: Plasmas and Electric Discharges, System Safety & Reliability, System Optimization, Tools and Methodologies for Design Systems

Purdue University, School of Engineering 08/2017-12/2020

B.S. in Aeronautical and Astronautical Engineering (System Engineering), Awarded in 05/2021

- Relative courses: Aerodynamics, Thermodynamics, Structure, Systems Design, Dynamic and Control.
- Honor: Dean's List (4 years), Summer Undergraduate Research Fellowship.

PAPER & CONFERENCE

- ***The Impact of Cathode Surface Roughness and Multiple Breakdown Events on Microscale Gas Breakdown at Atmospheric Pressure***, xccc 125, 203302 (2019).
- ***Crater Formation and Transition of Gas Breakdown Mechanism at Nanoscale***, Purdue Summer Undergraduate Research Symposium, 1 Aug 2019, West Lafayette, IN, USA
- *Case Report:* ***Steroids Rescue Sudden and Persistent Hearing Loss Possibly Owing to Intralabyrinthine Schwannoma and Immune Response from Covid-19 Vaccination***
- ***Nano/Micro-Meter Electrode Topology Effects on Electron Emission***, 22nd Annual Directed Energy Science & Technology Symposium, Student Workshop, 11 March 2020, West Point, NY, USA.
- ***Experimental Assessment of Electrode Effects on Gas Breakdown for Microscale Gaps***, 21st Annual Directed Energy Science & Technology Symposium, Student Workshop II, 10 April 2019, Destin, FL, USA.

RESEARCH

Plasma and Gas Breakdowns in Nanoscale 01/2018-Present

Research Assistant, BioElectrics and ElectroPhysics (BEEP) Lab

- Conducted research testing conditions affecting the breakdown voltage at micro to nano scale. Designed and manufactured microchip for experiment.
- Compared experimental data with the classic and the new universal gas breakdown theory simulation data.
- Designed and built a fully automatic system using chip carrier to test over 2000 samples in vacuum chamber. Estimated reduced over 400 hours of labor work and reduced 45% of human error caused data loss.
- Tested the surface work function impacted by the gas breakdown process using analytical techniques.

Electrostatic Accelerator and Plasma Diagnostic 01/2020-05/2020

Research Assistant, Electric Propulsion and Plasma Laboratory

- Used Langmuir Probe, microwave interferometry, spectroscopy for the diagnose of plasma generated by the electrostatic accelerator and plasma jet.
- Operated the electrostatic accelerator for experiment.

Soil Moisture Remote Sensing using Signal of Opportunity 08/2018-Present

Research Assistant, Satellite Radio Navigation Lab

- Operated USRF310s user defined radio to obtain satellite reflection signals and analyze soil moisture from comparing the original and reflected signal.
- Collected and processed P-band signal. Validated the possibility of using signal from ORBCOMM satellites for measuring soil moisture at soil deepness of 20-100cm.
- Designed and built the customized antenna, electronics and UAV retrofitting for the experiment. Project management including mission planning, link budget, weight budget and power budget.

PROJECTS

Fix Wing VTOL Aircraft Design 08/2020-12/2020

Senior Design, Chief Engineer, Purdue University

- Lead a 6 people team on the project of developing a small, fixed wing VTOL aircraft for urban delivery.
- Responsible for system design, Aerodynamic configuration optimization, power system design, dynamic and control system design.
- Full product design life cycle design from analyzing stakeholder needs and requirement definition to hardware design to product verification and validation.

SAE Formula Race Car Design 09/2017-05/2019

Powertrain Engineer, Formula SAE Team Purdue

- Participated in the redesign of the exhaust manifold, air intake and cooling intake system.
- Used aerodynamic knowledge and CFD software to optimize ducted airflow for these components.
- Experienced using Creo, AutoCAD for modeling and using water jet, milling and CNC for manufacturing.

Radio Telescope and Radio Meteor Monitoring System 05/2016-05/2017

Chief Engineer, Affiliated high school of Peking university

- Designed and built a meteor monitoring system using the radio reflection from the plasma trajectory of the meteor.
- Designed and built customized antenna for the specific frequency need to amplify. Use electronics and user defined radio to receive signal.
- Support the construction of the first radio meteor monitoring network in northern China.

Microgravity Liquid Sloshing Experiment in Microgravity Environment 05/2020-08/2020

Research Engineer, Purdue University, Course Project

- Collaborated with Professor Steven Collicott to design experimental devices, build 3D models, construct experimental load, and design an automatic control system
- Designed the power supply equipment suitable for the blue origin rocket, and protected the device from electromagnetic radiation

WORKING EXPERIENCE

DreamX Edu Tech(STEM Course Provider for Chinese K9 Education) 11/2019 /08/2021

Senior Design, Chief Engineer, Purdue University

- Built and managed a team of 20 people to develop curriculum comprised of 20+ courses in 6 dispensaries with 2000+ course hours.
- Navigated the team to develop 50+ different kinds of teaching appliance such as simple wind tunnel, modular assembled 4 axis UAVs and robotic suit.
- Deployed the tests of courses in 15+ schools among 5000+ students.
- Received 1-million-dollar investment for the deployment of the course.

SKILLS

- **Analytical Techniques**: Scanning Electron Microscope (SEM), Atomic Force Microscope (AFM), Oscilloscope, Source Measure Unit (SMU), Probe Station, Electron Back-Scattered Diffraction (EBFD).
- **Programming Language**: Java, MATLAB, C, Python.
- **Modeling software**: Solidworks, Creo, Catia, Ansys, Core
- **Other**: Microsoft Office, Adobe creative Suite, Tableau, MindX, Latex, 3D printing