

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 12/2022

- 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
- *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 & PROJECT

Dry Etch Process Development Engineer 05/2022-09/2022

Internship, Micron Technology

- Worked in DRAM/ HRAM Dry Etch technology development. Focused on word line metal etch process. Experience with metal, oxide etch and photoresist dry strip process.
- Development of original etching process with a new word line metal. Testing recipe performance on various structures and conditions.
- Performed a demonstration of applying machine learning model in estimating the material etch rate using data from metal blanket etch rate study.
- Experience working with CVD, Photo, Metrology, Wet process teams to design and build travelers for test vehicles.

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.

Ionospheric delay correction for SNOOPI signal and soil moisture measuring 08/2018-Present

Research Assistant, Satellite Radio Navigation Lab

- Use NeQuick model and Klobuchar model for the modeling of earth Ionosphere and integrate the model for the

correction of the signal delay.

- 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.

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, Fortran.
- **Modeling software:** Solidworks, Creo, Catia, Ansys.