

Lawrence Gardner

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Experience

- 6/18 - Present **Research Intern, Harvard-Smithsonian Center for Astrophysics** Cambridge, Massachusetts
- Developed a near-field THz vector beam scanner to calibrate the receiver optics of the Submillimeter Array (SMA) in Mauna Kea, Hawaii
 - Designed various instrumentation components, such as wave guide housing
 - Used python code for motion control and data collection of the system
 - Used Solidworks to create models and simulations
- 5/17 – 8/17 **REU Undergraduate Researcher, Texas A&M University** College Station, Texas
- Physics & Astronomy REU Program
 - Designed and built device to test the reflectivity properties of various materials for the optimization of optical systems and aerospace structures
 - Created in-depth Solidworks models
 - Controlled automation of system and analyzed data using LabVIEW software
 - Presenting culmination of research at the SPIE Astronomical Instrumentation Conference
 - Paper published through SPIE journals
- 9/16 – 5/17 **Research Intern, Princeton University** Princeton, New Jersey
- Conducted research involving silicon photomultipliers for the DarkSide-20k dark matter detector
 - Built electrical test instruments and wrote corresponding programs using both python and Arduino languages
 - Collected and analyzed data from these instruments
- 6/15 – 8/16 **Maintenance, Discover Camp** Hawthorne, New York
- Maintained structure within a day camp
 - Built necessary items for science camp activities
 - Oversaw deliveries and purchases for daily events

Honors and Awards

2018 Goldwater Scholarship – Honorable Mention
Member of Sigma Xi – The Scientific Research Honor Society
Member of Tau Beta Pi – The Engineering Honor Society
Rutgers Trustee Scholarship for the Rutgers University Honors College
Henry Rutgers Scholarship for the Rutgers University Honors College
Eagle Scout – Boy Scouts of America

Activities/ Interests

Electronics / Avionics Lead for Rutgers Rocket Propulsion Laboratory (RRPL)

- Designed and built competition ready rockets

Built and modified electrical audio equipment and instruments

Skills

Microsoft Office (Advanced), Solidworks (Intermediate), Python (Intermediate), Matlab (Intermediate), Arduino (Beginner), LabVIEW (Beginner)
Trained to operate .8 and .9 meter telescopes at the McDonald Observatory in Fort Davis, Texas

Education

- 8/15 - 5/19 **School of Engineering, Rutgers University Honors College** New Brunswick, New Jersey
- B.S. Mechanical Engineering, Aerospace Concentration, Physics Minor, Philosophy Minor
- GPA: 3.96
 - Ranked #4 in Class/Major
- Dean's List – All semesters