Undergraduate Research Projects AY19-20

Faculty Name	Student Name and Project
Baalrud	
Bounds	• Noelle Beam – • Suman Sherwani –
DeRoo	• Jared Termini – Measuring the Limiting Spectral Resolution of Astronomical Gratings • Samantha Watkins – Methods for Unbiased Outlier Identification in Astronomical Surveys
Flatté	
Fu	
Gayley	
Goree	
Gurnett	• Joshua Kamp – Mars Express data processing support for research staff data analysis studies (supervised by Andy Kopf) • Xinyu Mai – Mars Express data processing support for research staff data analysis studies (supervised by Andy Kopf)
Halekas	• Michael Kistler – The Moon in the Terrestrial Magnetotail
Hospodarsky	• Ryan Helland – • Samuel Hisel –
Howes	
Jaynes	• Joshua Doucette – Identifying Cases of Radial Diffusion Driven Acceleration in Earth's High-Energy Radiation Belts (Iowa Space Grant Consortium undergraduate research fellowship recipient)
Kaaret	• Emily Silich – A HaloSat Search for 3.5 keV x-rays from Sterile Neutrino • Tyler Rother – CMOS sensors for X-ray detection • Steven Tammes – CMOS sensors for x-ray detection
Kletzing	• Noelle Beam – • Ryan Helland – • Thomas Petrzelka –
Kurth	• Ryan Helland –
Lang	• Hailey Moore – • Genna Crom –
Mallik	• Joshua Doucette – ATLAS silicon detector upgrade and data analysis.
Merlino	• Joshua Larson –
Meurice	• Zheyue Hang – Real-time evolution with IBM quantum computers
Miles	• Maxwell Bernstein – Comparing inferred field-aligned current to auroral intensity • Damion Johnson – MAGIC • Alex Hoffman – MAGIC
Mutel	• Joshua Larson – Building a new plasma experiment for the advanced lab
Nachtman	• Thomas McDowell – Electronics design and construction, CMS TOTEM analysis • Max Herrmann – DUNE APA Simulation studies • Brandon Williams – CMS TOTEM analysis • James Thompson – DUNE APA simulations with GEANT/Garfield • Daniel Reinhart – DUNE APA pre-construction
Onel	• Max Herrmann – CMS Outer Tracker gantry robot programming

	• Theodore Simmons – Geant Simulation for Generic Optical Detector • Richard Defano – Geant Simulation for Quartz Cube Radiation Hard Colorimetry • Jeffrey Schnell – CMS New QIE-10 Boards and Design for the housing for several PMT types • Cory Rude – Coding development for the CMS outer tracker (OT) gantry
Polyzou	• Jonatan Posligua – Sea quarks in a relativistic string breaking model of the proton
Prineas	• Matthew Nelson – Quantum efficiency measurements in novel, mid-wave semiconductor superlattices
Pryor	
Reno	
Rodgers	• Eric Peters – Inflation and Cosmology in Thomas-Whitehead Gravity • Patrick Vecera – Superspace Realization of Projective Geometry and Supergravity • Salvatore Quaid – Anomalous Geodesics Due to Projective Geometry • Lexi Leali – Projective Gauss-Bonnet and Gravitation/Cosmology • Taylor DeMello – Dirac Fermions in Thomas Whitehead Gravity • Cole Dorman – Black Holes in Thomas Whitehead Gravity
Scudder	
Skiff	• Hank Hammer – Single mode operation of a diode-pumped Nd YLF laser • Dustin Stansberry – Diode laser for optical pumping of Argon and Calcium • Clive Power – Device to quantify magnetic cleanliness
Spangler	
Wohlgenannt	