

RIT College of Science Grant Awards (2019)

Grant Awards

December

- Young and Rapidly Evolving: a Panchromatic WFC3 Imaging Study of the Planetary Nebulae NGC 7027 and NGC 6302
 - **PI: Joel Kastner**
- Brown -DIRSIG CLIN003 of LASS Research in Sensor and System Modeling
 - **PI: Scott Brown**

November

- Workshops to Increase Capacity for Competitive S-STEM Proposals from Colleges and Universities in the Northeast
 - **PI: Gray Skuse**
- Ultrafast Laser Welding and Waveguide Inscription for Nano-implant Chips
 - **PI: Jie Qiao**
- Phase 4 task 2; CLIN 6 DIRSIG Development Support Phase 4; Task 3 CLN 7: DIRSIG Development Support
 - **PI: Scott Brown**

October

- DIRSIG Development Support to Arete Surface Zone Modeling Tool (SZT)
 - **PI: Adam Goodenough**
- DIRSIG Development Support to Etegent Technologies PEMS program
 - **PI: Scott Brown**
- Improved Strategies to Enhance Calibration and Validation of Landsat Thermal Data and Their Associated Higher-Level Products
 - **PI: Aaron Gerace**

September

- Toward a Robust Method for Identifying Merger Signatures in Deep Hubble Images
 - **PI: Jeyhan Kartaltepe**
- Measuring Reionization and the Growth of Molecular Gas with TIME
 - **PI: Michael Zemcov**
- Simulation and Modeling to Support Definition of Sustainable Land Imaging (SLI) System Requirements
 - **PI: Aaron Gerace**
- Rochester Bioinformatics Cooperative
 - **PI: Andre Hudson**

- Global Surveillance Augmentation Using Commercial Satellite Imaging Systems (Phase III)
 - **PI: Emmett Ientilucci**
- CPS: Frontier: Collaborative Research: Compositional, Approximate, and Quantitative Reasoning for Medical Cyber-Physical Systems
 - **PI: Niels Otani**
- Accretion assessment in mangrove forests: A comparison between terrestrial laser scanner data from two disparate mangrove forests
 - **PI: Jan van Aardt**
- RI: Small: Lifelong Multimodal Machine Learning
 - **PI: Christopher Kanan**
- REU Imaging in the Physical Science
 - **PI: David Messinger**
- High Relaxivity PSMA-Targeted Contrast Agents for MRI of Prostate Cancer
 - **PI: Hans Schmitthenner**

August

- Multi-Color Anisotropy Measurements of Cosmic Near-Infrared Extragalactic Background Light with CIBER-2
 - **PI: Michael Zemcov**
- A Single Photon Sensing and Photon Number Resolving Detector for NASA Missions
 - **PI: Don Figer**
- SPHEREx: An All-Sky Spectral Survey, Phase B
 - **PI: Michael Zemcov**
- DataCell: A Solar Cell Integrated Retroreflector
 - **PI: Seth Hubbard**
- Radiometrically Accurate Spatial Resolution Enhancement of Spectral Imagery
 - **PI: David Messinger**
- Landsat Thermal Image Systems Engineering Support
 - **PI: Matthew Montanaro**
- Collaborative Proposal: Bottom-up Construction of a Synthetic Neuron and Programmable Neuronal Network
 - **PI: Moumita Das**
- DIRSIG Simulation Demonstration for LLNL
 - **PI: Scott Brown**
- Using Artificial Intelligence on Street View Imagery to Detect High Priority Invasive Plant Species in New Year State
 - **PI: Christopher Kanan**
- Femtosecond laser-based fabrication of photonic waveguides toward waveguide lasers
 - **PI: Jie Qiao**

July

- Support to MLIS Instrument Development and Demonstration

- **PI: Aaron Gerace**
- QLCI - CG: Quantum Photonic Institute
 - **PI: Don Figer**
- Uncovering a new role of nucleosomes in gene regulation
 - **PI: Feng Cui**
- Development of Quantum Dot Coated Detector Arrays
 - **PI: Zoran Ninkov**
- Sustained-Petascale in Action: Blue Waters Enabling Transformative Science and Engineering
 - **PI: Carlos Lousto**
- Diagnosing, Addressing, and Forecasting CIB Contamination in Spectral Measurements of the Sunyaev Zel'dovich Effect
 - **PI: Michael Zemcov**
- WoU-MMA Collaborative Research: Constraining the nuclear EOS and neutron star astrophysics through multi-messenger and multi-object observations of neutron star
 - **PI: Richard O'Shaughnessy**
- Textual science: a curriculum for cultural heritage
 - **PI: Roger Easton Jr.**

June

- Imaging and Laser Beam Effects
 - **PI: Grover Swartzlander**
- Diffractive Lightsails
 - **PI: Grover Swartzlander**

May

- Fully Relativistic Studies of Black Hole Binaries with Applications to Gravitational Wave Observations
 - **PI: Carlos Lousto**
- Development of a new, filament-based, low-energy, single-pulse cardiac defibrillation technique
 - **PI: Niels Otani**

April

- Ultrafast Laser for 3D fabrication of waveguide lasers
 - **PI: Jie Qiao**
- Development & Commercialization of a High Fidelity Proton Defect Simulation for Large Format Focal Plane Arrays
 - **PI: Seth Hubbard**

March

- CAREER: Learning to solve problems in context-rich environments: A naturalistic study in STEM workplaces, research labs, project-based courses and lab courses
 - **PI: Ben Zwickl**
- Fundamental Image Science Research
 - **PI: Emmett Ientilucci**
- Remote Multi-Sensor Multi-Angular Terrain Characterization
 - **PI: Charles Bachmann**

- Effects of a Modified Mowing Machine in NYSDOT ROWs on Pollinators and Vegetation
 - **PI: Kaitlin Stack Whitney**
- Exploring Planet Formation in the Nearest Known Protoplanetary Disks
 - **PI: Joel Kastner**

February

- Collaborative Research: Data Integration in Undergraduate Mathematics Education
 - **PI: Carl Lutzer**
- Integrative Experimental and Multi-scale High Resolution Modeling of Atrial Arrhythmias to Optimize Low Energy Anti-fibrillation Pacing (LEAP)
 - **PI: Elizabeth Cherry**
- DIRSIG 5 Development Support
 - **PI: Scott Brown**

January

- The Cosmic Evolution Early Release Science (CEERS) Survey
 - **PI: Jeyhan Kartaltepe**
- High-fidelity scene modeling and vehicle tracking using hyper-spectral video
 - **PI: Matthew Hoffman**
- Image Science Support to Harris Gazelle Program
 - **PI: Michael Gartley**
- TAP Hub 2019 Development
 - **PI: Don Figer**