

# BLUE SKY Workshop

**Monday, June 3, 2019**

Lurie Engineering Center  
GM Conference Room

## AGENDA

### MORNING

8:15-8:45 Welcome and Refreshments

8:45-11:00 **QUANTUM OPTOELECTRONICS**

Quantum Theory for Quantum Engineered Optoelectronics Mack Kira

Atomically Thin Nitrides: A Novel Material Platform for Efficient Deep UV Light Emitters and Room-temperature Quantum Effects Emmanouil Kioupakis

Hyperspectral Absorbers With Chirped GaN Monolayer Stacks Qiannan Wen

Molecular Beam Epitaxy and Characterization of Monolayer and Multi-layer Boron Nitride David Laleyan and Ping Wang

AlGaIn Nanostructures and Heterostructures for High Efficiency Deep UV Light Emitters Ayush Pandey and Yuanpeng Wu

Optical Characteristics of GaN/Al(Ga)N Monolayers Anthony Aiello

Monolithic Integration of Multi-color III-nitride Emitters Kunook Chung

11:00-11:30 *Coffee Break*

11:30-12:30 **MATERIALS CHARACTERIZATION**

Introduction to Transmission Electron Microscopy in Real and Reciprocal Space Suk Hyun Sung

Stacking, Strain, and Stiffness of 2D Transition Metal Dichalcogenides Measured Through Electron Diffraction Noah Schnitzer

Electron Transport in N-polar (In,Ga,Al)N-GaN Heterostructures Sandra Diez

Thermal Characterization of Deep UV and Water Splitting Devices Connie Lee

## AFTERNOON

12:30-1:15 *Lunch*

1:15-3:00 **OPTICAL SPECTROSCOPY AND CATALYSIS**

**Using Multidimensional Optical Spectroscopy to Study Ultrafast Dynamics and Catalysis** Kevin Kubarych

**Gallium Nitride: A Platform for Scalable Artificial Photosynthesis** Srinivas Vanka,  
Baowen Zhou, and Nick Pant

**Spectroscopy of GaN Nanowire Array CO<sub>2</sub> Reduction Catalysts** Joseph Mastron

**Excitation-induced Effects in Semiconductors** Mark Ahn

**Multiphoton Absorption in GaN Monolayers** Qile Wu

**Developing Multidimensional Coherent Spectroscopy for Characterizing GaN Based Heterostructures** Rachel Owen

3:00-3:30 *Coffee Break*

3:30-4:30 **PI Meeting**