

# Department of Physics

## Diploma Ceremony

Sunday, May 13, 2018  
Love Auditorium & Hall of Science



## PROGRAM

### 12:10 Welcome Address

Professor Warren S. Warren, Chair  
Department of Physics

### 12:20 Presentation of Diplomas for Degrees in Physics

Professor John Mercer  
Associate Director  
Undergraduate Studies  
Department of Physics

Professor Kate Scholberg  
Director  
Undergraduate Studies  
Department of Physics

Professor Stephen Teitsworth  
Director  
Graduate Studies  
Department of Physics

### 12:45 Lunch

## FIRST MAJORS IN BIOPHYSICS

Micaela Liani Kulvaranon ❖  
Alec Ruben Koss ❖

Alice Sicong Liu ❖  
Kevin Jad McCoy

## SECOND MAJORS IN BIOPHYSICS

Ksenia Sokolova

## FIRST MAJORS IN PHYSICS

Alexandre Julien Barbet  
Megan Conroy  
Bryan Higgins ❖  
Craig Joseph Madrak Jr. ΣΠΣ  
Jeong Min Park ❖❖ ΣΠΣ  
Enrique Sanz Balboa

Eric Christian Segerberg ΣΠΣ  
Kya Christian Sorli ❖❖ ΣΠΣ  
Wei Tang ❖❖ ΣΠΣ  
Yuqi Yun ΣΠΣ  
Tianqing Zhang ❖❖ ΣΠΣ  
Xueyuan Zhang

## SECOND MAJORS IN PHYSICS

Juan Pablo Gonzalez ❖❖ ΣΠΣ

## MINORS IN PHYSICS

Arjun Ravi Devarajan  
Reuben Moses

Jacob Ryan Warner

## MASTERS OF SCIENCE IN PHYSICS

Ruiyang Zhao

## DOCTOR OF PHILOSOPHY IN PHYSICS

### September 1, 2017

Dr. Reginald Alexander Bain  
Dr. Jiani Huang  
Dr. Chung Ting Ke  
Dr. Arman Margaryan  
Dr. Xuefei Yan  
Dr. Ruiyang Zhao

### December 30, 2017

Dr. Kristen Nicole Collar  
Dr. Yao-Lung Fang

### May 13, 2018

Dr. Jonah Emery Bernhard  
Dr. Anne Watson Draelos  
Dr. Emilie Shirlene Huffman  
Dr. Nurul Taimur Islam  
Dr. Chao Peng  
Dr. Dong Wang  
Dr. Yang Zhang

❖ Graduation with Distinction – Requires a significant thesis with originality and thesis defense.

❖❖ Graduation with High Distinction – Highest Honor in Physics. Requires a thesis comparable to papers in peer reviewed journals and unanimous support from thesis committee members.

ΣΠΣ Physics Honor Society

ΦΒΚ Phi Beta Kappa

## GRADUATION WITH DISTINCTION IN PHYSICS

- Juan Pablo Gonzalez Fernandez:** Graduation with High Distinction [Advisor: Stephen W. Teitsworth] – *Experimental Measurement of Detailed Balance Violation in Noise-Driven Linear Circuits*
- Bryan Higgins:** [Advisor: Stephen Teitsworth] – *Fabrication of Low-Cost Dye-Sensitized Solar Cells Using Kudzu*
- Alec Koss:** [Advisor: Brenton Hoffman] – *The Role of Mechanical Linker Protein Vinculin in the Interpretation of Mechanical Signals by Living Cells*
- Micaela Kulvaranon:** [Advisor: Louis E. DeFrate] – *Obesity Alters the In Vivo Biochemical and Biomechanical Properties of Articular Cartilage*
- Alice Liu:** [Advisor: Anthony Kuo] – *3-D Modeling Patient Eyes using Whole-Eye Optical Coherence Tomography (OCT)*
- Jeong Min Park:** Graduation with High Distinction [Advisor: Sara Haravifard] – *Synthesis, Characterization, and Inelastic Neutron Scattering Studies of Breathing Pyrochlore  $Ba_3Yb_2Zn_5O_{11}$*
- Kya Sorli:** Graduation with High Distinction [Advisor: Christopher Walter & Tane' Remington] – *Hydrodynamic Modeling of the Deep Impact Mission into Comet Tempel 1*
- Wei Tang:** Graduation with High Distinction [Advisor: Al Goshaw] – *Deep Learning Techniques in Standard Model  $W$  Gamma Extraction*
- Tianqing Zhang:** Graduation with High Distinction [Advisor: Christopher Walter] – *Measuring the Chromatic Effect of Atmospheric Point-Spread-Function in Optical Wavelength*

## DOCTOR OF PHILOSOPHY DISSERTATION IN PHYSICS

- Reginald Alexander Bain:** [Advisor: Thomas Mehen] – *Probing Quarkonium Production in Jets Using Effective Field Theories*
- Jonah Emery Bernhard:** [Advisor: Steffen Bass] – *Bayesian Parameter Estimation for Relativistic Heavy-Ion Collisions*
- Kristen Nicole Collar:** [Advisor: April Brown] – *GaAsBi Synthesis: From Band Structure Modification to Nanostructure Formation*
- Anne Watson Draelos:** [Advisor: Gleb Finkelstein] – *Thermal and Electronic Transport in Graphene Superconducting Devices*
- Yao-Lung Fang:** [Advisor: Harold Baranger] – *Waveguide QED: Multiple Qubits, Inelastic Scattering and Non-Markovianity*
- Jiani Huang:** [Advisor: Maiken Mikkelsen] – *Valley Dynamics and Tailored Light-Matter Interaction in Two-Dimensional Transition Metal Dichalcogenides*
- Emilie Shirlene Huffman:** [Advisor: Shailesh Chandrasekharan] – *Fermion Bag Approach for Hamiltonian Lattice Field Theories*
- Nurul Taimur Islam:** [Advisor: Daniel Gauthier] – *High-Rate, High-Dimensional Quantum Key Distribution Systems*
- Chung-Ting Ke:** [Advisor: Gleb Finkelstein] – *Superconducting Electron Transport in Graphene-Based Josephson Junctions*
- Arman Margaryan:** [Advisor: Roxanne Springer] – *Transverse Asymmetry in Nucleon Deuteron Scattering in Pionless Effective Field Theory*
- Chao Peng:** [Advisor: Haiyan Gao] – *Measurement of Generalized GDH Integrand for the Neutron and  $^3\text{He}$  at Low  $Q^2$*
- Dong Wang:** [Advisor: Robert Behringer] – *Response of Granular Materials to Shear: Origins of Shear Jamming, Particle Dynamics, and Effects of Particle Properties*
- Xuefei Yan:** [Advisor: Haiyan Gao] – *Unpolarized SIDIS Cross Section from a  $^3\text{He}$  Target*
- Yang Zhang:** [Advisor: Haiyan Gao] – *A Precision Measurement of Neutral Pion Lifetime*