

**XXXVI – ROCHESTER SYMPOSIUM FOR PHYSICS (ASTRONOMY AND
OPTICS) STUDENTS
SPS ZONE 2 REGIONAL MEETING**

PROGRAM

8:15 AM – 8:45 AM: REGISTRATION AND POSTER SETUP (B&L LOBBY)

**8:45 AM: WELCOME: PROF. FRANK WOLFS, UNIVERSITY OF ROCHESTER
(B&L 109)**

9.00 AM – 10:15 AM: SESSION IA. ASTRONOMY & ASTROPHYSICS (B&L 109)

**SESSION CHAIR: PROF. CHAD SCHOOLS, UNITED STATES MILITARY
ACADEMY**

**9:00 Computational Modeling of Dust Grains and Biomolecules in Star
Forming Regions**

Kenneth Tousignant and Dr. George Hassel, Siena College

**9:15 Identification and Properties of Galaxies in the Filaments Around the
Virgo Cluster**

Kelly Whalen and Dr. Rose Finn, Siena College

9:30 DESI and Gravitational Lensing

Andrea Kueter-Young, Siena College

9:45 West Point Observatory

Calvin Nguyen and Michael Lee, United States Military Academy

**10:00 Using Differential Photometry to Determine Rotational Period of
Asteroids**

AnnaMaria Dear, United States Military Academy

9:00 AM – 10:15 AM: SESSION IB. INSTRUMENTATION/EXPERIMENTAL TECHNIQUES (B&L 106)

SESSION CHAIR: PROF. MARK YULY, HOUGHTON COLLEGE

9:00 Design and Construction of the Houghton College Low-Speed Wind Tunnel

Jonathan Jaramillo, Houghton College

9:15 Development and Integration of a Low Cost, High Voltage Power Supply into a Thin Film Deposition System

Andrew Redman and Brandon Hoffman, Houghton College

9:30 Development of the Optical Feedback System of an Atomic Force Microscope

Heidi Kroening, Houghton College

9:45 Senior Capstone Project

Frank Chietro and Dr. Finn, Siena College

10:00 Constructing a Gravity Battery Using a Microwave Motor

Alyx Gleason, Siena College

10:15AM – 11:00 AM: SESSION II. POSTER SESSION (LOBBY AND B&L 208)

Atmospheric Pressure Plasma Jet: Shielding Gas Effects on DNA Damage

Mattison Flakus, James Kapaldo, and Sylwia Ptasinska, University of Rochester and University of Notre Dame

The Effect of Stacking Fault Energy on Texture Transformation in Thin Metal Films

Heather Phillips, Yan Tang, and Brandon Hoffman, Houghton College

Characterization of Spin-Coated Perovskite Thin Films

Samuel Fordin, Professor Yongli Gao, Ben Ecker and Congcong Wang, University of Rochester

Measurement of the ^6He Decay Produced by the $^9\text{Be}(n,\alpha)^6\text{He}$ Reaction

Katelyn Cook, Micah Coats, Mark Yuly, Stephen Padalino, Craig Sangster and Sean Regan, Houghton College, SUNY Geneseo, Laboratory for Laser Energetics

Validation of the gFR Computational Fluid Dynamics Methodology

Dan Eager, Houghton College

Particle Motion in kappa-Poincare Symmetry

Tom Brick, CUNY - City College of New York

11:00 AM – 12:00 PM: SESSION IIIA. ASTRONOMY AND ASTROPHYSICS (B&L 109)

SESSION CHAIR: PROF. CANDICE FAZAR, ROBERTS WESLEYAN COLLEGE

11:00 Analyzing TeV Gamma-Ray Binary Candidates with the HAWC Observatory

Ryan Rubenzahl, University of Rochester

11:15 Refining the Supernova Event Significance Calculation in IceCube

Cameron Ziegler, University of Rochester and SUNY Geneseo

11:30 The Search For A Standard Candle Effect in the Sloan Digital Sky Survey Quasar Database

Christopher Wahl, SUNY Brockport

11:45 Ionospheric Scintillation and Radio Wave Propagation

Alexis Klimasewski, University of Rochester and Sandia National Labs

11:00 AM – 12:00 PM: SESSION IIIB. INSTRUMENTATION/EXPERIMENTAL TECHNIQUES (B&L 106)

SESSION CHAIR: PROF. MICHELE MCCOLGAN, SIENA COLLEGE

11:00 Solar Tracker Using an Arduino

Miranda Marnes, Siena College

11:15 Computational and Experimental Analysis of the R.I.T e-NABLE Arm

Elisha Cheeran, Dr. Graziano Vernizzi, and Dr. Gregory Byrnes, Siena College

11:30 VIPER Telescope

Zachary Rahilly and George Hassel, Siena College

11:45 SEM Analysis of Commercial Materials

Michelle Lieu, Dr. G Vernizzi, and Dr. K Kolonko, Siena College

12:00 PM – 1:00 PM: LUNCH (RUSH RHEES LIBRARY – HAWKINS-CARLSON ROOM)

1:15 PM – 2:45 PM: SESSION IVA. OTHER (B&L 109)

SESSION CHAIR: PROF. ERIC MONIER, SUNY BROCKPORT

1:15 Analyzing Homelessness Data Using Python
Sara Mahar and Matthew Bellis, Siena College

1:30 Bike Generator
Jordon Penor, Siena College

1:45 Graphene Growth in the Presence of Background Gases
Alexander Sidou and Mayuka Sasaki, SUNY Brockport

2:00 Generating High Power Femtoseconds Optical Pulses Using a Yb:KGW Modelocked Laser
CDT Ian Greer, United States Military Academy

2:15 Studying the Effects of Morphology on Conjugated Polymer Photophysics
Paul Wrona, University of Rochester

2:30 Characterization of the NEOCam Infrared Detector Arrays
John Piotrowski, University of Rochester

1:15 PM – 2:30 PM: SESSION IVB. NUCLEAR AND PARTICLE PHYSICS & INSTRUMENTATION/EXPERIMENTAL TECHNIQUES (B&L 106)

SESSION CHAIR: PROF. BRANDON HOFFMAN, HOUGHTON COLLEGE

1:15 A Parity Violation Experiment for Undergraduate Laboratories
Michael Ganger, Houghton College

1:30 Brane Brick Models and 2d (0,2) triality
Simon Gurvets, City College of New York

1:45 E-NABLE Pedometer
Alexander Warn, Siena College

2:00 Gravity Battery: Energy Storage Using Gravitational Potential Energy And A Bike Dynamo
Jamie Bedard and Matt Bellis, Siena College

2:15 Charging a Battery with a Solar Panel
Joseph Caldara III, Siena College