Michigan Institute for Plasma Science and Engineering (MIPSE)

University of Michigan & Michigan State University

6th ANNUAL GRADUATE STUDENT SYMPOSIUM

October 7, 2015
1005 EECS, 1301 Beal Avenue, Ann Arbor, MI 48109

Schedule

2:15 – 3:00  Registration, poster set-up  EECS atrium
3:00 – 3:20  Refreshments (box lunch + coffee, tea)  1005 EECS
3:20 – 3:25  Prof. Mark J. Kushner, Director of MIPSE
             Opening remarks  1005 EECS
3:25 – 3:30  IEEE NPSS South-East Michigan Chapter presentation  1005 EECS
3:30 – 4:30  Special MIPSE Seminar:
             Dr. Edmund Synakowski, U.S. Department of Energy
             Transformative Passages in the Fusion and Plasma Sciences  1005 EECS
4:30 – 5:15  Poster session I  EECS atrium
5:15 – 6:00  Poster session II  EECS atrium
6:00 – 6:45  Poster session III  EECS atrium
6:45 – 7:00  Light refreshments  EECS atrium
7:00 – 7:05  Best Presentation Award ceremony  EECS atrium
Poster Session I

1-01  Xiao Feng, Michigan State University  
*A Positivity-Preserving Single-Stage Single-Step High-Order Constrained Transport Method for Magnetohydrodynamic Equations*

1-02  Manan Kocher, University of Michigan  
*Anomalous Behavior of Carbon, Oxygen Charge States in a Population of Interplanetary Coronal Mass Ejections*

1-03  Joshua Davis, University of Michigan  
*Measurements of Laser Generated Soft X-ray Emission from Irradiated Gold Foils*

1-04  Shuo Huang, University of Michigan  
*Dry Etching of Si$_3$N$_4$ Using Remote Plasma Sources Sustained in NF3 Mixtures*

1-05  Jinpu Lin, University of Michigan  
*Field Distribution in a Vacuum-nano Diode*

1-06  Greg Meece, Michigan State University  
*Self Regulating AGN Feedback in Cool-Core Galaxy Clusters*

1-07  Neil Arthur, University of Michigan  
*Increasing Extracted Beam Current Density in Ion Thrusters through Plasma Potential Modification*

1-08  Patrick Tracy, University of Michigan  
*Relative Heating of Heavy Ions Observed at 1 AU with ACE/SWICS*

1-09  Alexander Rasmus, University of Michigan  
*Interaction of a Plasma Jet with a Magnetized Planar Obstacle*

1-10  Janis Lai, University of Michigan  
*Active Interrogation of Plasma-liquid Boundary Using 2D Plasma-in-liquid Apparatus*

1-11  Scott Rice, Michigan State University  
*Simulation of Multipactor Initiation in FRIB Halfwave Cavities*

1-12  Frans Ebersohn, University of Michigan  
*Simulation of Magnetic Nozzle Thruster Plasma Expansion*

1-13  Willow Wan, University of Michigan  
*Observations of Vortex Merger and Growth Reduction in a Dual-mode, Supersonic Kelvin-Helmholtz Instability Experiment*

1-14  Chenhui Qu, University of Michigan  
*Properties of Bipolar and Unipolar DC-Pulsed Microplasma Arrays at Intermediate Pressures*

1-15  Rachel Young, University of Michigan  
*Using the OMEGA Laser to Study Accretion Shocks on Forming Stars*
Poster Session II

2-01 Wei Guo, Michigan State University
Asymptotic Preserving Maxwell Solver Resulting in the Darwin Limit of Electrodynamics

2-02 Gang Kai Poh, University of Michigan
MESSENGER Observation on Reconnection and Structure of Mercury’s Magnetotail Lobes and Plasma Sheet

2-03 Keegan Behm, University of Michigan
Measurements of the Betatron Spectrum Around the K-edge of Thin Foils

2-04 Chad Huard, University of Michigan
Stochastic Defect Detection for Monte-Carlo Feature Profile Model

2-05 C. F. Dong, University of Michigan
Harmonic Generation in the Beam Current in a Traveling Wave Tube

2-06 Derek Neben, Michigan State University
Bremsstrahlung Measurement on the Superconducting Source for Ions (SuSI)

2-07 Timothy Collard, University of Michigan
Ion Energetics of the Modes of the CubeSat Ambipolar Thruster

2-08 Jeffrey Fein, University of Michigan
Experiments on the Scaling of Growth and Saturation of Multi-beam Two-plasmon Decay with Plasma Conditions

2-09 Amanda Lietz, University of Michigan
DBD on Liquid Covered Tissue: Modeling Long-Timescale Chemistry

2-10 Adrian Lopez, University of Michigan
Effects of Secondary Electron Emissions from a Plasma Immersed Graphite Substrate

2-11 Stephen Zajac, Michigan State University
Microwave Plasma Assisted Chemical Vapor Deposition of Boron Doped Diamond for Vertical Schottky Barrier Diode Fabrication

2-12 Scott Hall, University of Michigan
30-kW, Constant-Current-Density Performance of a 100-kW-class Nested Hall Thruster

2-13 Adam Steiner, University of Michigan
Characterization of a MA-Class Linear Transformer Driver for Foil Ablation and Z-Pinch Experiments

2-14 Thomas Batson, University of Michigan
High Energy Electron Acceleration from Underdense Plasmas with the OMEGA EP Laser

2-15 Patrick Wong, University of Michigan
Spatial Amplification in a Disk-on-Rod Traveling-Wave Amplifier
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