



Michigan Institute for Plasma Science and Engineering (MIPSE)
University of Michigan
Michigan State University
Michigan Technological University

7th ANNUAL GRADUATE STUDENT SYMPOSIUM

October 5, 2016
1005 EECS, 1301 Beal Avenue, Ann Arbor, MI 48109

Schedule

2:15 – 3:10	Registration, poster set-up	EECS atrium
3:10 – 3:30	Refreshments (box lunch + coffee, tea)	1005 EECS
3:30 – 3:40	Prof. Mark J. Kushner, Director of MIPSE Opening remarks	1005 EECS
3:40 – 4:40	Special MIPSE Seminar: Prof. Luís Silva Instituto Superior Técnico, Lisbon, Portugal <i>In Silico Plasmas under Extreme Conditions:</i> <i>From Particle Accelerators to Pair Plasmas in Pulsars</i>	1005 EECS
4:45 – 5:30	Poster session I	EECS atrium
5:30 – 6:15	Poster session II	EECS atrium
6:15 – 7:00	Poster session III	EECS atrium
7:00 – 7:15	Poster removal	EECS atrium
7:15 – 7:20	<i>Best Presentation Award</i> ceremony	EECS atrium

Poster Session I

- 1-01 **Scott Rice**, Michigan State University
Additional Survey of Multipactor Trajectory Migration via Higher-Order Mode Perturbations
- 1-02 **Timothy Collard**, University of Michigan
Initial Plume Characterization of the CubeSat Ambipolar Thruster
- 1-03 **Joshua Davis**, University of Michigan
Long pulse Soft X-ray Emission from Laser Irradiated Gold Foils
- 1-04 **Gautham Dharuman**, Michigan State University
Atomic Bound States and Scattering in Strongly Coupled Plasmas Using Effective Momentum-dependent Potentials
- 1-05 **Yao Kovach**, University of Michigan
Optical Emission Spectroscopy Investigation of an Atmospheric Pressure Plasma Glow that is Associated with Self-organization Pattern on Liquid Surface
- 1-06 **Steven Lanham**, University of Michigan
Inductive and Capacitive Power Distribution and Impact on Plasma Properties in Inductively Coupled Plasma Reactors
- 1-07 **Rajib Mandal**, Michigan State University
Gas-Phase Synthesis of Gallium Nitride (GaN) Nanocrystals using Non-Thermal Plasma
- 1-08 **Kurt Terhune**, Michigan Technological University
Ionic Liquid Ferrofluid Electrospray
- 1-09 **Amina Hussein**, University of Michigan
The Role of Hot Electrons in the Creation of Hollow Atoms by Relativistic Laser Plasma Interaction
- 1-10 **Grant Miars**, University of Michigan
Ion Emission Energetics from a Charged Hollow Cathode Plasma Contactor System
- 1-11 **Amanda Lietz**, University of Michigan
Electrode Configurations in Atmospheric Pressure Plasma Jets
- 1-12 **Astrid Raisanen**, University of Michigan
Boundary Conditions in a Two-dimensional, Axisymmetric, Direct Kinetic Hall Thruster Simulation
- 1-13 **Rachel Young**, University of Michigan
Using the OMEGA Laser to Study Accretion Shocks on Forming Stars

Poster Session II

- 2-01 **Amanda Charris**, Michigan State University
The Influence of the Substrate Holder Depth on the Surface Morphology and Crystal Shape of Single Crystal Diamonds Grown via MPACVD
- 2-02 **Abigail Azari**, University of Michigan
Investigation of the Evolution of Plasma Injection Events within Saturn's Magnetosphere
- 2-03 **Sarah Cusson**, University of Michigan
Investigation of Channel Interactions in a Nested Hall Thruster
- 2-04 **Alborz Izadi**, Michigan State University
Gas-phase Nanoparticle methods for Processing Silicon Nanorod Formation
- 2-05 **Kenneth Engeling**, University of Michigan
Time-Resolved Imaging of Micro-Plasmas as a Function of Dielectric Media
- 2-06 **Juliusz Kruszelnicki**, University of Michigan
Effects of Pulse-to-pulse Residual Species on Discharges in Repetitively Pulsed Discharges Through Packed Bed Reactors
- 2-07 **Omar Leon**, University of Michigan
Determining the Quasi-neutral Plasma Plume Region in the Presence of a Biased Cathode
- 2-08 **Kevin Ma**, University of Michigan
Numerical Modeling of LLNL's Au-Sphere Experiments on the OMEGA Laser
- 2-09 **Guy Parsey**, Michigan State University
Kinetic Global Modeling of Rare Gas Lasers
- 2-10 **Janis Lai**, University of Michigan
Schlieren High Speed Imaging of Fluid Flow in Liquid Induced by Plasma-driven Interfacial Forces
- 2-11 **Chenhui Qu**, University of Michigan
Customizing Arrays of Microplasmas for Controlling Properties of Electromagnetic Waves
- 2-12 **Robert Vandervort**, University of Michigan
Experimental Design to Understand the Interaction of Stellar Radiation with Molecular Clouds
- 2-13 **Paul Campbell**, University of Michigan
Relativistic Magnetic Reconnection in High-intensity Laser-plasma Interactions

Poster Session III

- 3-01 Ethan Dale, University of Michigan
Sheath Capacitance Effects in High-speed Langmuir Probes
- 3-02 Gautham Dharuman, Michigan State University
Generalized Mesh-based Ewald Decomposition for Molecular Dynamics Simulation of Correlated Plasmas with Screened Coulomb Interactions
- 3-03 Foivos Antoulidakis, University of Michigan
Effects of Temperature Dependence of Electrical and Thermal Conductivities on the Heating of a One Dimensional Conductor
- 3-04 Keegan Behm, University of Michigan
Production of 100 MeV Gamma Rays Through Inverse Compton Scattering on a Laser Wakefield Accelerator
- 3-05 Janez Krek, Michigan State University
KGMf – Model Class and Boltzmann Equation Solver
- 3-06 Yao Kovach, University of Michigan
An Investigation of the Role of Near-anode Plasma Conditions on Anode Spot Self-organization in Atmospheric Pressure DC Glows
- 3-07 Joseph Levesque, University of Michigan
Exploring Astrophysically Relevant Bow Shocks Using MIFEDS and the OMEGA Laser
- 3-08 Thomas Batson, University of Michigan
High Energy Electron Acceleration from Underdense Plasmas with the OMEGA EP Laser
- 3-09 Ahmet Mazacioglu, University of Michigan
Advanced Ignition Technologies for Heavy-Duty Natural-Gas Engines
- 3-10 Selman Mujovic, University of Michigan
High Throughput Plasma Water Reactor
- 3-11 Shuo Huang, University of Michigan
Etching of High Aspect Ratio Contacts in SiO₂ by Pulsed Capacitively Coupled Plasmas Sustained in Ar/C₄F₈/O₂ Mixtures
- 3-12 Willow Wan, University of Michigan
Vortex Merger in a Supersonic, Dual-mode Kelvin-Helmholtz Instability Experiment