## Schedule

**Thursday, June 1, 2017**

### 7:45 – 8:00 am  
**Registration**

### 8:00 – 8:15 am  
**Mark J. Kushner (University of Michigan)**  
*Introduction to the Annual Meeting: The Role of the Center in the Future of Low Temperature Plasmas*

### 8:15 – 9:55 am  
**Session I. Plasma-Surface Interactions: Solid and Liquid**  
**Moderator: Sophia Gershman (Princeton Plasma Physics Laboratory)**

#### 8:15 – 8:40 am  
**Gottlieb Oehrlein (University of Maryland)**  
*Cold Atmospheric Plasma/Polymer Treatment as Model System for Elucidating Complex Plasma-Surface Interactions (PSI) at Atmospheric Pressure*

#### 8:40 – 9:05 am  
**Peter Bruggeman (University of Minnesota)**  
*Water Vapor Plasma Kinetics: Non-equilibrium Kinetics, Radical Production and Transport*

#### 9:05 – 9:30 am  
**David Graves (University of California-Berkeley)**  
*Physico-chemical Dynamics of Atmospheric Pressure Plasma-liquid Interactions*

#### 9:30 – 9:55 am  
**John E. Foster (University of Michigan)**  
*Progress Towards Understanding Physical Processes Prevailing at the Plasma Liquid Interface*

### 9:55 - 11:00 am  
**Coffee Break**  
**Poster Session I**
<table>
<thead>
<tr>
<th>Time</th>
<th>Session II. Particles, Aerosols, Specialty Sources</th>
<th>Speaker</th>
<th>Title</th>
</tr>
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<tbody>
<tr>
<td>11:00 – 11:25</td>
<td>Steven Girshick (University of Minnesota)</td>
<td>Nanoparticles in Low-Temperature Plasmas Are Not All Negatively Charged</td>
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<tr>
<td>11:25 – 11:50</td>
<td>Mark J. Kushner (University of Michigan)</td>
<td>Interaction Between Atmospheric Pressure Plasmas and Liquid Micro-droplets</td>
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<tr>
<td>11:50 – 12:15</td>
<td>Yevgeny Raitses (Princeton Plasma Physics Laboratory)</td>
<td>Generation of Energetic Electrons in a Microplasma at Moderate Pressures</td>
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<tr>
<td>12:15 – 12:40</td>
<td>Brandon Smith (University of Michigan)</td>
<td>Development of a GPU-Accelerated Poisson Solver for Hybrid Fluid/Kinetic Plasma Simulations</td>
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<tr>
<td>12:40 – 1:40 pm</td>
<td>Lunch (on your own)</td>
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</table>
Thursday, June 1, 2017

1:40 – 3:45 pm  Session III. Kinetics and Diagnostics  
**Moderator:** Yangyang Fu (Michigan State University)

1:40 – 2:05  Eray Aydil (University of Minnesota)  
*Plasma Diagnostics and Modeling of Lithium-containing Plasmas*

2:05 – 2:30  Igor Adamovich (Ohio State University)  
*Electric Field Measurements in Ns Pulse Discharges in Atmospheric Pressure Air*

2:30 – 2:55  Vladimir Kolobov (CFDRC/University of Alabama at Huntsville)  
*Dynamic Discharges*

2:55 – 3:20  Igor Kaganovich (Princeton Plasma Physics Laboratory)  
*Kinetic Modeling of Non-Equilibrium High Pressure Plasmas for Modern Applications*

3:20 – 3:45  Valery Godyak (University of Michigan)  
*Plasma Density Perturbation by Microwave Probes*

3:45 - 5:00 pm  Coffee Break  
Poster Session II

5:15 – 5:30 pm  Group Photo
### Friday, June 2, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Session IV. Atmospheric Pressure Plasmas</th>
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<tbody>
<tr>
<td>8:00 – 9:40 am</td>
<td><strong>Moderator:</strong> Marien Simeni Simeni (Ohio State University)</td>
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<tr>
<td>8:00 – 8:25</td>
<td>Vincent Donnelly (University of Houston)</td>
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<td></td>
<td><em>VUV to near IR Optical Emission Excitation Mechanisms in Atmospheric Pressure He Discharges into Open Air</em></td>
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<tr>
<td>8:25 – 8:50</td>
<td>Michael Lieberman (University of California-Berkeley)</td>
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<td><em>Kinetic Instability in Water-Containing Atmospheric Pressure Discharges</em></td>
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<td>8:50 – 9:15</td>
<td>Ed Barnat (Sandia National Labs)</td>
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<td><em>Interrogating High Pressure, Highly Collisional Plasma Environments With Ultrafast Laser Diagnostics</em></td>
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<tr>
<td>9:15 – 9:40</td>
<td>John Verboncoeur (Michigan State University)</td>
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<td></td>
<td><em>Dynamics in Strongly Driven High Pressure Reactive Plasmas</em></td>
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| 9:40 - 10:00 am | Coffee break |

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<tr>
<th>Time</th>
<th>Session V. Students, Post-docs, Visitors Session</th>
<th>Moderator</th>
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<tr>
<td>10:00 – 11:15</td>
<td>Session V. Students, Post-docs, Visitors Session</td>
<td>Daniel Elg (University of California-Berkeley)</td>
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<td>10:00 – 10:15</td>
<td>Emi Kawamura (University of California-Berkeley)</td>
<td><em>Particle-in-cell Simulations of Water-Containing Atmospheric Pressure Plasmas</em></td>
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<td>10:15 – 10:30</td>
<td>Andrew Fierro (Sandia National Laboratories)</td>
<td><em>Developing a Kinetic Approach to Radiation Transport and Its Interaction in He/N₂ Ionization Waves</em></td>
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<td>10:30 – 10:45</td>
<td>Janis Lai (University of Michigan)</td>
<td><em>Argon in 2-D Bubble Test Cell for Studying Active Species Transport Across Plasma-liquid Interface</em></td>
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<td>10:45 – 11:00</td>
<td>Yuchen Luo (University of Minnesota)</td>
<td><em>Validation of the Kinetics Mechanism of High Electron Density Argon-Water Plasma Discharge</em></td>
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<td>11:00 – 11:15</td>
<td>Heng Guo (Princeton Plasma Physics Laboratory)</td>
<td><em>Electron Kinetics in Afterglow Plasma</em></td>
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<tr>
<td>11:15 am – noon</td>
<td>Group Discussion</td>
<td>Mark J. Kushner</td>
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</table>
1. Xiang Chen (PPPL)  
   *An Investigation into Non-adiabatic Behavior of Magnetic Moment in a Mirror Traps*

2. Kenneth Engeling (University of Michigan)  
   *Time-Evolution of Microdischarges in Packed Bed Reactors with Varying Media*

3. Juliusz Kruszelnicki (University of Michigan)  
   *Impact of Catalysts on Discharge Evolution and Incident Surface Fluxes in a 2-dimensional Packed Bed Reactor*

4. Santosh Kumar Kondeti (University of Minnesota)  
   *Absolute OH Density Measurements in an RF Driven Atmospheric Pressure Plasma Jet with a Substrate Below by Laser Induced Fluorescence*

5. Yangyang Fu (Michigan State University)  
   *Investigation on the Effect of Forbidden Processes on Similarity Law in Gas Discharges at High Pressure Based on a Kinetic Global Model*

6. Heng Guo (PPPL)  
   *Electron Kinetics in Afterglow Plasma*

7. Yuchen Luo (University of Minnesota)  
   *Validation of the Kinetics Mechanism of High Electron Density Argon-Water Plasma Discharge*

8. Alexander Khrabrov (PPPL)  
   *The Paschen Curve at High Voltage and Low Pressure*

9. Gaurav Nayak (University of Minnesota)  
   *Gas and Liquid Phase Plasma-Bio Interactions: Role of Reactive Nitrogen Species*

10. Tam Nguyen (University of Houston)  
    *Optical Emission Diagnostics of a Non-equilibrium Helium Plasma Jet at 1 atm in Ambient Air*

11. Andrew Powis (PPPL)  
    *Implementation of a Multigrid Poisson Solver For Massively Parallel Two and Three-Dimensional PIC Simulations of Low-Temperature Plasma Devices*

12. Marien Simeni Simeni (Ohio State University)  
    *Measurements of Electric Field in Ns Pulse Discharges in Atmospheric Pressure Air by ps 4-Wave Mixing*
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<th>Poster Session II</th>
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| 1. Vladislav Vekselman (PPPL)  
*Experimental and Theoretical Study of the Carbon Arc: Identification of Plasma Properties in the Region of Nanotube Synthesis* |
| 2. Daniel Elg (UC-Berkeley)  
*TEMPO Production by O Atoms in Plasma-Liquid Interactions Driven by Spatio-Temporally Varying Atmospheric Pressure Plasma Jet* |
| 3. Janez Krek (Michigan State University)  
*Rapid Modeling of Kinetic Reactive Plasma Dynamic Using the Kinetic Global Model Framework* |
| 4. Andrew Fierro (Sandia National Laboratories)  
*Developing a Kinetic Approach to Radiation Transport and Its Interaction in He/N₂ Ionization Waves* |
| 5. Janis Lai (University of Michigan)  
*Argon in 2-D Bubble Test Cell for Studying Active Species Transport Across Plasma-liquid Interface* |
| 6. Steven Lanham (University of Michigan)  
*Instabilities at Startup of Pulsed Electronegative Inductively Coupled Plasmas* |
| 7. Sophia Gershman (PPPL)  
*Plasma Characterization of Microhollow Anode and Microhollow Cathode Discharges at Moderate Pressures* |
| 8. Pingshan Luan (University of Maryland)  
*A Case Study of Plasma-Surface Interactions at Atmospheric Pressure: Polystyrene Treatment Using an RF Plasma Jet* |
| 9. Emi Kawamura (University of California-Berkeley)  
*Particle-in-cell Simulations of Water-Containing Atmospheric Pressure Plasmas* |
| 10. Andrew Knoll (University of Maryland)  
*On the Variation of the Activation Energy of Polymer Etching by Cold Atmospheric Plasma (CAP) Sources Under Well-Defined Conditions* |
| 11. Toshisato Ono (University of Minnesota)  
*Plasma Diagnostics in Air Plasmas Containing Water Droplets* |
| 12. Alexander Khrabry (PPPL)  
*2D Simulations of the Carbon Arc Discharge for Synthesis of Nanotubes* |