

Technical Session	Technical Session Organizer
5.1 Nonequilibrium Plasma Applications	Zoran Petrovic ( <a href="mailto:zoran@ipb.ac.rs">zoran@ipb.ac.rs</a> )

**Session MO 1.5: Nonequilibrium Plasma Applications I**

Monday, May 22 10:00-11:45, Wildwood 14

Session Chair: Kevin Martus, William Paterson University

**10:00 MO 1.5-1 (invited) PULSED DISCHARGES IN LIQUIDS: GENERATION AND APPLICATIONS**

J. F. Kolb<sup>1</sup>, C. Miron<sup>1</sup>, R. Rataj<sup>1</sup>, J. Kredl<sup>1</sup>, T. Schulz<sup>1</sup>, P. Lukes<sup>2</sup>

<sup>1</sup>*INP Greifswald, Greifswald, Germany*

<sup>2</sup>*Institute of Plasma Physics, Prague, Czech Republic*

**10:30 MO 1.5-2 DIRECT NATRUAL GAS LIQUEFACTION VIA ATMOSPHERIC PRESSURE DBD**

C. Liu<sup>1,2</sup>, A. Fridman<sup>1,3</sup>, A. Rabinovich<sup>1</sup>, D. Dobrynin<sup>1</sup>

<sup>1</sup>*Nyheim Plasma Institute, Camden, United States*

<sup>2</sup>*Electrical & Computer Engineering, Drexel University, Philadelphia, United States*

<sup>3</sup>*Mechanical Engineering, Drexel University, Philadelphia, United States*

**10:45 MO 1.5-3 DYNAMIC STALL CONTROL AT HIGH ANGLE OF ATTACK BY NS PULSED ACTUATOR**

A. Starikovskiy, K. Meehan, R. Miles

*Princeton University, Princeton, United States*

**11:00 MO 1.5-4 THE INFLUENCE OF CARRIER GAS ON NANOSECOND-PULSED PLASMA DISCHARGE GENERATED IN A WATER FILM PLASMA REACTOR**

H. Wang, R. J. Wandell, B. R. Locke

*Department of Chemical and Biomedical Engineering, Florida State University, Tallahassee, Florida, United States*

**11:15 MO 1.5-5 PLASMA ACTIVATED WATER FOR FRUITS AND VEGETABLES PRESERVATION**

Y. Zheng<sup>1</sup>, J. Zhang<sup>1,2</sup>, J. Fang<sup>1,2</sup>

<sup>1</sup>*College of Engineering, Peking University, Beijing, China*

<sup>2</sup>*Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China*

**11:30 MO 1.5-6 EFFECOS OF BUBBLE CONTROL ON SYNTHESIS AND CHARACTERIZATION OF CARBON NANOPARTICLE IN AC SOLUTION PLASMA**

J. -G. Shin<sup>1</sup>, H. -J. Kim<sup>1</sup>, D. Kum<sup>1</sup>, D. H. Kim<sup>1</sup>, C. -S. Park<sup>1</sup>, H. -S. Tae<sup>1</sup>, J. H. Seo<sup>2</sup>, B. J. Shin<sup>3</sup>

<sup>1</sup>*School of Electronics Engineering, College of IT Engineering, Kyungpook National University, Daegu, South Korea*

<sup>2</sup>*Department of Electronics Engineering, Incheon National University, Incheon, South Korea*

<sup>3</sup>*Department of Electronics Engineering, Sejong University, Seoul, South Korea*

## Session TU 1.6: Nonequilibrium Plasma Applications II

Tuesday, May 23 10:00-11:30, Wildwood 15

Session Chairs:

### 10:00 TU 1.6-1 EFFECT OF CHEMICAL AND PLASMA FUNCTIONALIZATION ON THE PERFORMANCE OF MICROWAVE RESONATORS

E. H. Lock<sup>1</sup>, P. Xu<sup>2</sup>, T. Kohler<sup>2</sup>, Y. Rosen<sup>2</sup>, A. Ramanayaka<sup>2</sup>, K. D. Osborn<sup>2</sup>

<sup>1</sup>Materials Science and Technology Division, Naval Research Laboratory, Washington, DC, United States

<sup>2</sup>Laboratory of Physical Sciences, College Park, MD, United States

### 10:15 TU 1.6-2 EXPLORING THE KINETIC CONTRIBUTION OF CATALYST-PLASMA INTERACTIONS TO ACTIVATE C-H BONDS

J. Kim<sup>1</sup>, M. S. Abbott<sup>1</sup>, D. B. Go<sup>2</sup>, J. C. Hicks<sup>1</sup>

<sup>1</sup>Department of Chemical and Biomolecular Engineering, University of Notre Dame, Notre Dame, IN, United States

<sup>2</sup>Department of Aerospace and Mechanical Engineering, University of Notre Dame, Notre Dame, IN, United States

### 10:30 TU 1.6-3 SELF-INITIATED MICROWAVE PLASMA FORMATION AND INTERACTION WITHIN A 2D PHOTONIC CRYSTAL

S. Parsons, J. Gregorio, J. Hopwood

ECE, Tufts University, Medford, MA, United States

### 10:45 TU 1.6-4 SURFACE MODIFICATION OF PET, PS, PE POLYMERS BY SINGLE RF PLASMA DISCHARGE

D. Mansuroglu<sup>1,2</sup>, I. U. Uzun-Kaymak<sup>1</sup>

<sup>1</sup>Physics Department, Middle East Technical University, Ankara, Turkey

<sup>2</sup>Physics Department, Canakkale Onsekiz Mart University, Canakkale, Turkey

### 11:00 TU 1.6-5 ULTRAFAST SPRAY OF TiO<sub>2</sub> SELF-CLEANING FILMS IN TUBULAR SUBSTRATES

L. Zhang<sup>1</sup>, S. Yu<sup>1</sup>, K. Wang<sup>1</sup>, J. Zhang<sup>1,2</sup>, J. Fang<sup>1,2</sup>

<sup>1</sup>Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China

<sup>2</sup>College of Engineering, Peking University, Beijing, China

### 11:15 TU 1.6-6 PLASMA SURFACE MODIFICATION OF ELECTROSPUN POLYMERIC SCAFFOLDS INTENDED FOR TISSUE ENGINEERING

R. Ghobeira<sup>1</sup>, P. Wieringa<sup>2</sup>, N. De Geyter<sup>1</sup>, L. Moroni<sup>2</sup>, R. Morent<sup>1</sup>

<sup>1</sup>Research Unit Plasma Technology (RUPT), Ghent University, Ghent, Belgium

<sup>2</sup>Department of Complex Tissue Regeneration, MERLN institute, Maastricht University, Maastricht, The Netherlands

### **Session WE 1.3: Nonequilibrium Plasma Applications III**

Wednesday, May 24 10:00-12:00, Wildwood 12

Session Chair: Sungo Kim, NYIT

#### **10:00 WE 1.3-1 MICROWAVE PLASMA MULTI-POINT IGNITION PROCESS IN METHANE-AIR MIXTURES**

C. Liu, G. Zhang, H. Xie, L. Deng

*Department of Electrical Engineering, Tsinghua University, Beijing, Beijing*

#### **10:15 WE 1.3-2 ELECTRON BEAM TREATMENT OF DIELECTRICS BY FOREVACUUM PLASMA ELECTRON SOURCES**

E. Oks<sup>1,2</sup>

<sup>1</sup>*Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russian Federation*

<sup>2</sup>*High Current Electronics Institute, Tomsk, Russian Federation*

#### **10:30 WE 1.3-3 EXPERIMENTAL STUDY ON CHARACTERISTICS OF NANOSECOND SLIDING DISCHARGE**

H. Lin<sup>1,2</sup>, C. Zhang<sup>2,3</sup>, Y. Wang<sup>1,2</sup>, Q. Xie<sup>1</sup>, P. Yan<sup>2,3</sup>, T. Shao<sup>2,3</sup>

<sup>1</sup>*North China Electric Power University, Baoding, China*

<sup>2</sup>*Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China*

<sup>3</sup>*University of Chinese Academy of Sciences, Beijing, China*

#### **10:45 WE 1.3-4 FORMATION OF HYDROGEN PEROXIDE IN DBD NON-THERMAL REACTOR WITH WATER MIST**

D. Xu

*Department of Physical Electronics, Institute of Light Sources & Illuminating Engineering, Fudan University, Shanghai, China*

#### **11:00 WE 1.3-5 CHARACTERIZATION OF A PULSE DRIVEN ARGON PLASMA JET ARRAY**

R. Wang<sup>1</sup>, S. Hao<sup>1</sup>, S. Tian<sup>1</sup>, P. Yan<sup>1</sup>, W. Zhu<sup>2</sup>, T. Shao<sup>1</sup>

<sup>1</sup>*Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China*

<sup>2</sup>*Department of Applied Science and Technology, Saint Peter's University, Jersey City, New Jersey, USA*

#### **11:15 WE 1.3-6 (invited) EXPERIMENTAL STUDY OF AN ULTRA-FAST ATMOSPHERIC PRESSURE AIR DISCHARGE IN A PIN-TO-PLATE GEOMETRY**

J. -M. Pouvesle, S. Iseni, S. Dozias, E. Robert

*CNRS/Universite d'Orleans, GREMI, Orleans, France*

#### **11:45 WE 1.3-7 COLD PLASMA PROVIDES IMMUNE STIMULUS TO BATTLE CANCER**

S. Bekešchus, T. von Woedtke, K. -D. Weltmann

*ZIK plasmatis, Leibniz-Institute for Plasma Science and Technology (INP Greifswald), Greifswald, Germany*