

iPlasmaNano-IX
August 26-29, 2018
Marina Grand Resort
New Buffalo, Michigan, USA

The Local Organizing Committee

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Sunday, August 26th, 2018

2:00-5:00 pm Registration
5:00-5:20 pm Conference Opens and Welcome
5:20-7:20 pm **Session S1: Plasmas and liquids for environmental, biomedical, and agricultural applications**
7:20 pm Opening Reception

Monday, August 27th, 2018

7:30-9:00 am Breakfast
9:00-10:40 am **Session M1: Plasma synthesis of nanoparticles in the gas phase**
10:40-11:10 am Coffee break
11:10 am-12:10 pm **Session M2: Plasma synthesis of nanoparticles/nanomaterials in the liquid phase**
12:10-1:50 pm Lunch
1:50-3:30 pm **Session M3: Plasma physics**
3:30-4:00 pm Coffee break
4:00-5:40 pm **Session M4: Thin film deposition and modification**
6:30 pm Dinner

Tuesday, August 28th, 2018

7:30-9:00 am Breakfast
9:00-10:20 am **Session T1: Plasma-based manufacturing**
10:20-10:50 am Coffee break
10:50 am-12:30 pm **Session T2: Plasma sources**
12:30-2:10 pm Lunch
2:10-3:10 pm **Session T3: Energy applications**
3:10-3:40 pm Coffee break
3:40-4:40 pm **Session T4: Plasma catalysis**
6:30 pm Depart for excursion and dinner

Wednesday, August 29th, 2018

7:30-9:00 am Breakfast
9:00-10:40 am **Session W1: Plasma diagnostics and modeling**
10:40-11:10 am Coffee break
11:10 am-12:10 pm **Session W2: Multicomponent, multidimensional, multifunctional materials**
12:10-12:30 pm Concluding remarks and departure

Sunday August 26th

5:00-5:20 pm Welcome by David Go and David Ruzic

5:20-7:20 pm Session S1: Plasmas and liquids for environmental, biomedical, and agricultural applications

5:20-5:40 pm John Foster, "Plasma self organization in atmospheric pressure dc glows and its role in the modification of metal and liquid anode properties"

5:40-6:00 pm Paul Rumbach, "Understanding the chemistry of the plasma-liquid interface through experiment and theory"

6-6:20 pm Selma Thagard, "A plasma-based process for treatment of perfluoroalkyl substances (PFASs) in ion exchange brine regenerant solution: reactor design challenges and physiochemical processes at the plasma-liquid interface"

6:20-6:40 pm Jacob Shelley, "Atmospheric-pressure glow discharges as tools for the detection and identification of elemental, molecular, and biopolymeric species"

6:40-7:00 pm Michael Keidar, "Adaptive plasma for cancer therapy: physics, mechanism, and applications"

7:00-7:20 pm Sung-Jin Park, "Microplasma Technology in Nanoscale Processes and Environmental Science: Future for the Social Impact,"

Monday August 27th

9:00-10:40 am Session M1: Plasma synthesis of nanoparticles in the gas phase

9:00-9:20 am Lorenzo Mangolini, "Low temperature plasmas for nanoparticle synthesis: fundamentals and applications"

9:20-9:40 am Jan Benedikt, "Atmospheric plasmas for generation of nanostructured materials or nanoparticles"

9:40-10:00 am Rebecca Anthony, "Plasma-based synthesis and surface modification for photoluminescent nanocrystals"

10:00-10:20 am Yevgeny Raitses, "Arc-based synthesis of carbon nanoparticles and nanostructures"

10:20-10:40 am Souvik Ghosh, "Fundamental studies of agglomeration of nanoparticles generated in a dc microplasma"

10:40-11:10 am Coffee break

11:10-12:10 pm Session M2: Plasma synthesis of nanoparticles/nanomaterials in the liquid phase

11:10-11:30 am Angela Capece, "Synthesis of silver nanoparticles in ionic liquids by electron irradiation"

11:30-11:50 am Thierry Belmonte, "Synthesis of alloy nanoparticles by discharges in liquids: a short review"

11:50 am-12:10 pm Daniel Jaramillo, "Low pressure plasma Interactions with molten metals for materials processing"

12:10-1:50 pm *Lunch*

1:50-3:30 pm Session M3: Plasma physics

1:50-2:10 pm Venkatt Ayyaswamy, "A general-purpose computational framework for plasma physics and chemistry"

2:10-2:30 pm Yangyan Fu, "Gas breakdown in microgaps with electrode surface protrusions: Paschen's curve, non-uniformity of electric field, and breakdown mode transitions"

2:30-2:50 pm Allen Garner, "Gas breakdown at microscale and smaller gaps: Theoretical unification of mechanisms and experimental assessment of surface roughness"

2:50-3:10 pm Matthew Goeckner, "The physics of pulsed and level-to-level discharges used for material processing"

3:10-3:30 pm Sergey Baryshev, "Field emission to glow discharge transition in nanodiamond vacuum diode"

3:30-4:00 pm *Coffee break*

4:00-5:40 pm Session M4: Thin film deposition and modification

4:00-4:20 pm Erwin Kessels, "Ion-surface interaction during plasma-enhanced atomic layer and how it can be used to tailor film properties"

4:20-4:40 pm Carles Corbella, "Plasmas and the nanoscale: from surface nanotexturing and plasma-surface interactions towards the synthesis of nanomaterials"

4:40-5:00 pm J. P. Allain, "Controlling soft matter nanotopography with directed plasma nanosynthesis resulting in bioinspired antibacterial properties"

5:00-5:20 pm Remi Dussart, "Cryogenic etching for advanced processing"

5:20-5:40 pm Holger Vach, "From aromatic silicon nanoclusters to 2D silicene layers"

Tuesday August 28th

9:00-10:20 am Session T1: Plasma-based manufacturing

9:00-9:20 am Luis Velasquez-Garcia, "Plasma microsystems for sensing and additive manufacturing"

9:20-9:40 am Christian Zorman, "A novel, low temperature inkjet printing technology based on non-thermal plasma conversion of metal-salt based inks"

9:40-10 am Sang Han, "From materials engineering to device applications: Testing our understanding of nature"

10:00-10:20 am Timothy Fisher, "Roll-to-roll plasma chemical vapor deposition for scalable graphene production"

10:20-10:50 am *Coffee break*

10:50-12:30 pm Session T2: Plasma sources

- 10:50-11:10 am Steve Shannon, "Advances in source design to extend process to the atomic scale"
- 11:10-11:30 pm Semnani Abbas, Microwave microplasma: From destructive power-limiting effects to promising high-power tuning applications
- 11:30-11:50 pm Gary Eden, "Microcavity plasmas and their macro-impact"
- 11:50 am-12:10 pm Jeffrey Hopwood, "Plasma-reconfigurable metamaterials and photonic crystals"
- 12:10-12:30 pm Sergey Macharet, "Nanoscale spatial and temporal manipulation of plasmas for RF electronics"

12:30-2:10 pm Lunch

2:10-3:10 pm Session T3: Energy applications

- 2:10-2:30 pm Uwe Kortshagen, "Nonthermal plasma synthesis of semiconductor nanocrystals for energy applications and electronic materials"
- 2:30-2:50 pm Zheng Bo, "Plasma-enabled growth of vertical graphenes for energy storage"
- 2:50-3:10 pm Michael Gordon, "Microplasma spray deposition of micro-supercapacitors for on-chip energy storage"

3:10-3:40 pm Coffee break

3:40-4:40 pm Session T4: Plasma catalysis

- 3:40-4 pm Chris Hadacre, "In situ investigation of non-thermal plasma driven catalytic reactions"
- 4:00-4:20 pm Angel Barranco, "Remote plasma deposition and processing of oxide and metal supported nanostructures for multifunctional applications"
- 4:20-4:40 pm Richard van de Sanden, TBD

Wednesday August 29th

9:00-10:40 am Session W1: Plasma diagnostics and modeling

- 9:00-9:20 am Chris Hogan, "Utilization of aerosol analytical approaches in the examination of non-thermal plasma synthesis reactors"
- 9:20-9:40 am Holger Kersten, "Spatiotemporal diagnostics and extraction of nanoparticles during particle growth cycles in an acetylene plasma"
- 9:40-10:00 am David Pai, "Plasma-fluid-surface diagnostics of nanosecond pulsed plasmas"
- 10:00-10:20 am David Boris, "Precise flux control of ions and radicals using electron beam generated plasmas"
- 10:20-10:40 am Ken Hara, "Multispecies plasma fluid modeling of carbon arc discharge"

10:40-11:10 am Coffee break

11:10-12:10 pm Session W2: Multicomponent, multidimensional, multifunctional materials

11:10-11:30 am Ana Borrás, "Advances in the development of functional 1D and 3D nanostructures"

11:30-11:50 am Mohamed Chaker, "Metal-insulator transition materials synthesized by pulsed laser deposition"

11:50-12:10 pm Elijah Thimsen, "Materials with nonequilibrium atomic configuration produced by low temperature plasma"

12:10-12:30 pm Concluding remarks and departure