ISPC 26

26th International Symposium on Plasma Chemistry

University of Minnesota in Minneapolis, USA
15 to 20th June 2025

1 General Information

1.1 Scope

Minneapolis, MN, June 15-20, 2025 We are pleased to invite you to the 26th International Symposium on Plasma Chemistry (ISPC26), to be held on the campus of the University of Minnesota in Minneapolis, USA, from 15 to 20th June 2025. The campus is located in the Twin Cities metropolitan area of the cities of Minneapolis and Saint Paul.

The aim of this Symposium is to bring together leading experts, academics, engineers, practitioners, and students working in the field of plasma chemistry and to establish an informal venue for discussions on the latest discoveries, exchange of new ideas among them and fostering new connections and collaborations. The Symposium will offer the participants a unique opportunity to gain comprehensive first-hand information on the latest developments in the field of plasma chemistry.

The International Symposium on Plasma Chemistry (ISPC) was held for the first time in 1973 and is sponsored by the International Plasma Chemistry Society (IPCS), the largest international not-for-profit professional society specializing in plasma chemistry. The IPCS was established in 1999 as the successor of the association named “International Union of Pure and Applied Chemistry (IUPAC) Subcommittee on Plasma Chemistry.”

The IPCS Summer School collocated with the US Low-Temperature Plasma Summer School and the ASPIRE Summer School, will also be held during the weekend prior to ISPC26, to which we enthusiastically welcome graduate students, young scientists, and senior researchers new to the field.

Contents

2 Program

2.1 Oral presentations

Sunday 15th June			
Track: A		Track: B	Track: C
17:00	Registration		
18:00	Welcome Reception		

Monday 16th June					
Track: A		Track: B		Track: C	
Plenary Session: Plenary 1 (Main Hall)					
08:30	Plasma for Atomic Layer Processing: Anisotropy, Selectivity, Specificity and Sustainability *Jane Chang* UCLA				
09:30	Break				
Session: Diagnostics 1 (Main Hall)		**Session: Liquids 1 (Main Hall)**		**Session: Semiconductor proc. 1 (Main Hall)**	
10:00	Temporal and Spatial Thomson Scattering Measurements of Electron Properties of Laser-Produced Plasmas in Dry and Humid Ar *Ji Yung Ahn* University of Minnesota Twin Cities	10:00	Study of intense cavitation-assisted electric discharge *Alexander Gutsol* (1) LDS Technology Consultants, Inc., (2) Princeton University, (3) Princeton Plasma Physics Laboratory	10:00	How etch-plasma researchers view plasma and how it can be applied to deposition (invited) *Nobuyuki Kuboi* Sony Semiconductor Solutions
10:15	2D Spatial Mapping of the Electron Temperature, Electron Density, and Electric Field Intensity in a Microwave Argon Plasma Jet *Fatima Khazem* (1) Université de Montréal	10:15	Self-Organized Plasma Patterns in DC Glow Discharges with Liquid Anodes: A Numerical Study *Shuva Das* University of South Carolina		
11:00	Nanosecond discharge ignited at the water-heptane interface: streamer-to-spark transition and time evolution of ne and Tp *Audren Dorval* (1) Université de Montréal	11:00	Plasma-liquid droplets interactions in a surface-wave plasma column at low pressure *Veronica Orlandi* Université Paul Sabatier, CNES, CNRS, Université de Montréal	11:00	Boosted chemistry at cryogenic temperature for silicon and silicon compound plasma etching (invited) *Remi Dussart* (1) GREMI - Universite d'Olreans/CNRS
11:15	Measurements of Excited Metastable Species of Nitrogen in a Heated Nonequilibrium Plasma Flow Reactor *Sai Raskar* The Ohio State University	11:15	Nanosecond pulsed discharges on levitated water droplet *Alexandre Devos* GREMI - CNRS - Université d'Orléans		
11:30	Hybrid fs/ps CARS vibrational population measurements of N_2 in nonequilibrium DC plasma *Ziqiao Chang* (1) Princeton University, (2) Applied Materials, Inc, (3) Princeton Plasma Physics Laboratory	11:30	Green synthesis of hydrogen peroxyde in a coaxial microwave plasma reactor using water and argon *Mery Hernandez* Karlsruhe Institute of Technology	11:30	Fluorocarbon Plasma and Sustainable Replacements for Industrial Etching (invited) *Pingshan Luan* TEL, USA
11:45	LIF Study of NH and OH Radicals in a Nanosecond Pulsed Discharge in a N_2:H_2O Mixture at Atmospheric Pressure *Mikhail Gromov* (1) Leibniz Institute for Plasma Science and Technology (INP), Greifswald, Germany. (2) Department of Applied Physics, Ghent University, Research Unit	11:45	Decomposition of PFAS at water/non-thermal plasma interface *Angela Violi* (1) University of Michigan		
12:00	Methane decomposition in low-pressure, large-area glow discharge *Shurik Yatom* Princeton Plasma Physics Laboratory	12:00	Plasma Degradation of Surfactant Molecules at the Gas-Liquid Interface *Jisu Jeon* University of Michigan	12:00	Plasma-enhanced atomic layer deposition of two-dimensional transition metal dichalcogenides for nanoelectronics (invited) *Ageeth Bol* Department of Chemistry, University of Michigan, Ann Arbor, USA
12:15	Spatial distribution measurement of H atom density, $CH/C_2/H_2$ vibrational/rotational temperatures, and electron temperature for microwave plasma-activated diamond growth *Shota Abe* (1) PPPL, (2) University of California, Berkeley	12:15	Pulsed Plasma Treatment of Per- and Polyfluoroalkyl Substances (PFAS): Exploring the Roles of Oxidative Species *Samuel Babalola* Clarkson University		
12:00	Lunch				

Monday 16th June					
Track: A		Track: B		Track: C	
Session: Diagnostics 2 (Main Hall)		**Session: Bio 1 (Main Hall)**		**Session: Semiconductor Proc. 2 - Coatings 2 (Main Hall)**	
13:30	Measurement of atomic oxygen densities using TALIF and SEA in a micro cavity array reactor for catalysis *Marc Böke* (1) Ruhr-University Bochum, (2) (1) Ruhr-University Bochum, (3) Sandia National Laboratories	13:30	Antimicrobial properties of surgical sutures decorated with PtAu/Pd nanoparticles prepared by sputtering on liquids (invited) *Elidiane Rangel* (1) UNESP, (2) USCS, (3) UFSCAR, (4) MACLE-CVL, UAR CNRS, (5) ICMN, Université d'Orléans, CNRS, (6) GREMI, Université d'Orléans, CNRS	13:30	Controlled Layer Removal in Plasma Pseudo-Atomic Layer Etching *Maryam Khaji* Michigan University
13:45	Singlet delta oxygen production by RF and ns-plasmas: An electrical study *Jean-Philippe Comtois* (1) Polytechnique Montréal, (2) Université Paris-Saclay			13:45	Ionization Dynamics in Capacitively Coupled Discharge Biased with Tailored Voltage Waveform: Role of Secondary Electrons *Syed Zulqarnain* (1)North Carolina State University - Nuclear Engineering (2) EHT Semi, Seattle, WA
14:00	Tunable diode laser absorption spectroscopy of all four $Ar^*(3p^54s)$ states in a pulsed-operated single-filament dielectric barrier discharge at atmospheric pressure *Levin Krös* (1) INP Greifswald, (2) Ruhr-University Bochum, (3) Rostock University	14:00	Photo-surface dielectric barrier discharge: A promising and sustainable system for fungal control in peanuts *Pushparaj Gandhi Tadavarthi* Indian Institute of Technology Tirupati	14:00	Fragmentation of valence electronic states of C_3HF_5 studied by photoelectron photoion coincidence (PEPICO) techniques *Trung Nguyen TRAN* (1) Center for Low-temperature Plasma Science, Nagoya University, Japan, (2) UVSOR Synchrotron Facility, Japan
14:15	2D Raman temperature imaging in a microwave air plasma *Peter Buckley* Maastricht University	14:15	Cold atmospheric plasma treatment of chronic wounds—investigation of the effects of reactive oxygen and nitrogen species on fibrosis-related cellular signaling pathways *Juliette Letellier-Bao* (1) Polytechnique Montreal (2) McGill University	14:15	Oriented nanostructured ZnO coatings deposited by Solution Precursor Plasma Spraying *Mathieu Tartarin* (1) Institut de Recherches sur les Céramiques (IRCER) (2) Laboratoire de physique de Clermont (LPC)
14:30	Impact of Environmental Conditions on the Chemistry in Laser ablation plumes *Sivanandan Harilal* Pacific Northwest National Lab., NC State Univ., Univ Arizona, Univ Minnesota, Virginia Commonwealth Univ., LBNL	14:30	Evaluation of Plasma Effect on the Inner Wall of a Tracheal Stent *Konstantin Kostov* (1) São Paulo State University - UNESP, (2) University of São Paulo - USP, (3) INP-Greifswald, (4) Adib Jatene Foundation - FAJ	14:30	Atmospheric Pressure Cold DBD Plasma Jet-Enhanced CVD for Titanium Dioxide Thin Films *Shayan Bayki* Indian Institute of Technology Bombay
14:45	High-Sensitivity Time-Resolved Electric Field Measurements at Sub-Torr Pressures Using Homodyne E-FISH *Grayson LaCombe* University of Minnesota	14:45	Plasma molecular introduction into plant cells: Differences with animal cells *Masafumi Jinno* (1) Ehime University, (2) Pearl Kogyo Co. Ltd.	14:45	Plasma-Modified Micropatterned Fluoropolymers for Biomanufacturing Applications *Ahmed Mahmoud* (1) McGill University (2) Saint-Gobain Ceramics & Plastics Inc.
15:00	Empowering Optical Diagnostics with Image-Based Spectral Analysis via Multi-Objective Supervised Learning *Sanghoo Park* KAIST	15:00	Evaluating the potential synergy between atmospheric non-thermal plasma to modulate and antibiotics in resistant microbes *Asim Bhatti* (1) Department of Biochemistry, Molecular Biology and Biophysics, (2) BioTechnology Institute, University of Minnesota	15:00	Mesoporous Rutile-Rich TiO2 Coatings Engineered by Plasma Electrolytic Oxidation for Enhanced Mechanical Performance *Asif Ali* (1) Dept. of Applied Physics, Ghent University (2) Dept. Materials, Textile and Chemical Engineering., Ghent University
15:15	Model and PIC simulation of the ion collection by Langmuir probes *Julian Held* (1) University of Minnesota, (2) Princeton Plasma Physics Laboratory, (3) TU Eindhoven	15:15	Is platelet activation by non-thermal plasma driven by lipid oxidation? *Kristian Wende* (1) INP Greifswald, (2) Greifswald University Medical Center, (3) Rostock University Medical Center	15:15	Atmospheric Pressure Plasma Deposition of Corrosion Protective Coatings on Magnesium Alloys *Daphne Pappas* (1) Plasmatreat USA, (2) Oak Ridge National Laboratory

Monday 16th June			
Track: A		Track: B	Track: C
15:30	Break		
16:00	Poster: Poster Session 1 (Main Hall)		

Tuesday 17th June					
Track: A		Track: B		Track: C	
Session: Thermal 1 (Main Hall)		**Session: Surfaces 1 (Main Hall)**		**Session: Conversion 1 (Main Hall)**	
08:30	Thermal plasma generation for innovative applications (invited) *Manabu Tanaka* Kyushu University	08:30	Ion energy distributions from the impact of an atmospheric dielectric barrier discharge plasma jet on surfaces *Achim von Keudell* EPII, Ruhr University Bochum, Germany	08:30	Towards a chemical understanding of decomposition and molecular-weight growth in a non-thermal plasma operating in siloxane *N Hansen* (1) Sandia National Laboratories, (2) University of Southern California
		08:45	Is the electron kinetics of all plasma surface interactions nonlocal? *Uwe Kortshagen* University of Minnesota	08:45	Study of Gas Phase Chemistry in Chemical Vapor Deposition Reactors for Diamond Growth *Mikhail Mokrov* (1) Princeton Plasma Physics Laboratory, (2) Princeton University, (3) Cubic Carbon Ceramics, (4) School of Science, RMIT University
9:00	Theoretical evaluation of turbulent heat transfer for arc plasma in SF_6 flow *Masaya Shigeta* Tohoku University	09:00	Fundamentals of plasma-surface interactions in sustainable plasma applications (invited) *Judith Golda* Bochum University	09:00	Temperature-Dependent Selectivity between Plasma and Homogeneous Reaction Chemistry of Methane DBD Plasmas *Ibukunoluwa Akintola* (1) University of Notre Dame, (2) Princeton Plasma Physics Laboratory, (3) University of Notre Dame
9:15	Particle simulation of metal transfer using inertia force in gas metal arc welding *Hisaya Komen* (1) Osaka University, (2) Kobe Steel , Ltd.			09:15	Non-thermal Plasma Conversion of Methane to Methanol with Water and Heterogenous Catalysts *Roxanne Walker* (1) National Renewable Energy Laboratory (NREL)
09:30	Break				
Session: Thermal 2 (Main Hall)		**Session: Surfaces 2 (Main Hall)**		**Session: Conversion 2 (Main Hall)**	
10:00	Effect of copper metal vapour on the properties of microarcs in air-copper mixtures at atmospheric pressure *Margarita Baeva* (1) INP Greifswald, (2) Rostock University	10:00	Plasma-dielectric interaction: surface modification, surface charge evolution and surface flashover strength enhancement *Guan-Jun ZhangBo Zhang* Xi'an Jiaotong University	10:00	Kinetic and thermodynamic insights into plasma-based gas conversion (invited) *Ramses Snoeckx* Empa
10:15	Temperature and Density Measurements of Lithium Vapor of Nanoparticle Precursors in Multiphase AC Arc *Takayuki Watanabe* (1) Kyushu University, (2) Panasonic	10:15	Scaling of unsaturated bonds and radicals in bioactive films with plasma parameters *Lenka Zajíčková* (1) CEITEC, (2) Masaryk University		
10:30	Arc physics in hydrogen plasma reduction of iron ore *Anthony Murphy* (1) CSIRO	10:30	Mechanism of the sulfonation by plasma-sulfuric acid interactions *Siqi Deng* (1) Institute of Science Tokyo (2) Iwate University (3) Oita University (4) Nagoya University (5) Pusan National University	10:30	A Combined Experimental and Numerical Modelling study in a Hydrogen/Methane Microwave Plasma for rapid Scale-up of Methane Plasma Pyrolysis *Dirk van den Bekerom* (1) TNO, (2) Maastricht University, (3) DEMCON , (4) Sitech Services
10:45	Experimental investigation into the reduction of MnO using a thermal hydrogen plasma *Trygve Aarnæs* SINTEF Industry	10:45	The role of different supports for low temperature plasma assisted CO_2 methanation *Yunxia Yang* CSIRO	10:45	Microwave methane plasma pyrolysis and catalysis for the generation of turquoise hydrogen and solid carbon *Siebe Dijcks* Minnesota University

Tuesday 17th June					
Track: A		Track: B		Track: C	
11:15	Conversion of CH_4 and CO_2 to value-added products *Hye Young Ko* Jeju National University	11:15	Site-selective Desorption of CO from Pt under Low-Temperature Plasma Exposure *Lorenzo Mangolini* University of California Riverside	11:00	Performance improvement as a battery material of carbon black synthesized through thermal plasma-based methane pyrolysis *Hyeokjun KANG* (1) Jeju National University, (2) Electric Energy Research Center, (3) Institue for Nuclear Science and Technology, (4) ENCLION Inc
11:30	Highly-Controlled Thermofluid Fields by Multi-Flange Installation in Tandem Modulated Induction Thermal Plasmas for High-Rate Nanoparticle Synthesis *Yasunori Tanaka* (1)Kanazawa University, (2) Nisshin Seifun Group, Inc.	11:15	Surface chemistry at a plasma-surface interface for N_2 fixation *Steijn Vervloedt* Ruhr University Bochum	11:15	Effect of background gas on carbon nucleation in non-thermal plasma *Sankhadeep Basu* Michigan State University
11:45	Mesoplasma rejuvenation of waste aluminium alloy powders for additive manufacturing *Makoto Kambara* (1) Osaka Univ., (2) Shimane Inst. Technol., (3) Takeuchi Electric. Co., (4) Alloyed Ltd., (5) Brunel Univ. London	11:45	Identification of in-situ nitridation during plasma catalytic ammonia synthesis in N_2/H_2 mixtures *Christopher Kondratowicz* (1-2) Princeton University, (3) PPPL	11:30	Investigation of the formation of Carbonaceous Nanoparticles in a Ar-CH4 RF Plasma through On-Line Particle Separation *I. Burak Sen* Middle East Technical University
12:00	Accelerated Thermal Plasma Process for Stabilizing Polyacrylonitrile (PAN)-Based Carbon Fibers *Taki Aissou* Université de Sherbrooke	12:00	Low-Temperature Hydrogen Plasma Reduction of Hematite Thin Films *Binit Singh* Department of Mechanical Engineering, University of Minnesota-Twin Cities, Minneapolis	11:45	Mechanistic studies of CO2 plasma-assisted polyethylene degradation *Leonid Sheps* Sandia National Laboratories
12:00	Lunch				
Session: Modelling 1 (Main Hall)		**Session: Surfaces 3 - Non equilibrium 3 (Main Hall)**		**Session: Conversion 3 (Main Hall)**	
13:30	Modelling plasmas for sustainable gas conversion (invited) *Pedro Viegas* (1) Universidade de Lisboa, (2) Maastricht University, (3) Stanford University	13:30	Evaluation of etching rates for reactive ion etching (RIE) and atomic-layer etching (ALE): beam experiments, atomic-scale simulation, and machine learning *Satoshi Hamaguchi* Osaka University	13:30	Integrated Approach to CO_2 Conversion: Catalyst Analysis, Plasma Reactor Setup, and Predictive Modelling *Dwi Rasy Mujiyanti* Chung Yuan Christian University
		13:45	Generation and decay of SiCl radicals in a pulsed inductively coupled plasma with a pulsed bias voltage *V S Santosh K Kondeti* Princeton Plasma Physics Laboratory	13:45	Modeling of CO_2 conversion in non-thermal plasma for high conversion and energy efficiency *Shinsuke Mori* Institute of Science Tokyo
14:00	Boosting the NO_x production in microwave air plasma: A synergy of chemistry and vibrational kinetics *Qinghao Shen* (1) DIFFER, (2) Maastricht University, (3) The University of Liverpool, (4) Eindhoven University of Technology.	14:00	Film deposition on pin-backed glass dielectrics of pin-to-plate dielectric barrier discharges in Ar-hexamethyldisilane *Lars Bröcker* (1) TU Braunschweig, (2) INP Greifswald	14:00	Arc plasma for CO_2 conversion: Comparing various quenching methods *Annemie Bogaerts* Antwerp University
14:15	Self-consistent modeling of microwave plasma in air for nitrogen fixation *Matthias Albrechts* University of Antwerp	14:15	Measurement of 2D Electric field in a skin sample under plasma jet exposure *Bo Zhang* (1) Xi'an Jiaotong Univerisity	14:15	Electrochemical Plasma-Activated CO_2 Reduction at a Plasma-Water Interface *Julia Simon* Yale University
14:30	Mathematical analysis to clarify how reaction networks grow in plasmas *Tomoyuki Murakami* Seikei University	14:30	Electric Field and Charge Density Measurements in the Atmospheric Pressure RF Plasma Jet *Uwe Czarnetzki* (1) Ruhr-University Bochum, (2) Wigner Research Center	14:30	Plasma-derived atomic hydrogen promotes CO_2 methanation at low temperature through the Eley-Rideal mechanism *Dae-Yeong Kim* Science Tokyo

Tuesday 17th June					
Track: A		Track: B		Track: C	
14:45	Simulation of Argon-Hydrogen arc plasma torch: non-LTE vs LTE model *Jyothikrishna Perambadur* (1) IRCER, CNRS UMR 7315, Limoges, France, (2) Université Clermont Auvergne, CNRS, Laboratoire de Physique de Clermont, Clermont-Ferrand, France	14:45	Micro-second pulse and RF coupling in an APPJ *Alessandro Patelli* (1) Padova University, (2) Toulouse University	14:45	From CO2 dissociation to dry reforming of methane in microwave discharges: Importance of the chemical kinetics in the afterglow. *Lex Kuijpers* (1) DIFFER, (2) EIRES, Eindhoven University of Technology
15:00	Investigating the Plasma Flow in the First Vacuum Stage of an ICP-MS System *Javad Mostaghimi* University of Toronto	15:00	How ozone seems to influence the gas breakdown voltage in diffuse dielectric barrier discharges operated in air? *Raphaël Robert* (1) Toulouse University, (2) Montréal University	15:00	Engineering Ni-Co bimetallic interfaces for ambient plasma-catalytic CO2 hydrogenation to methanol *Yaolin Wang* Liverpool University
15:15	Finite Impedance of Voltage Sources Driving Atmospheric Pressure Plasma Jets *Mark Kushner* University of Michigan	15:15	Non-equilibrium Plasma Chemistry *Dirk Hegemann* Empa	15:15	Catalyst-free oxalate production in water from CO2 discharge: Modelling perspectives *Jungmi Hong* (1)University of Sydney, (2) Xi'an Jiaotong University and (3) CSIRO
15:30	Break				
16:00	Poster: Poster Session 2 (Main Hall)				

Wednesday 18th June					
Track: A		Track: B		Track: C	
Session: Synthesis 1 (Main Hall)		**Session: Environmental 1 (Main Hall)**		**Session: Conversion 4 (Main Hall)**	
08:30	Nanomanufacturing with Low-Temperature Plasmas (invited) *Rebecca Anthony* Michigan State	08:30	Electron Upconversion for Electron Catalysis in Nonthermal Plasma Gas-Liquid Reactors: A New Solution for PFAS Degradation *Kimberley Christopher* Florida State Univeristy	08:30	NH_3 cracking with warm plasma: advantages and limitations *Igor Fedirchyk* University of Antwerp
		08:45	Optimizing Large-Scale Plasma Decomposition of PFOS *Shanshan Qing* (1) Institute of Science Tokyo, (2) Kumamoto University, (3) Harbin Institute of Technology	08:45	Optimizing Packed-Bed Configurations for H_2 Production in Plasma Reactors *Mateo Ruiz-Martín* (1) Instituto de Ciencia de Materiales de Sevilla (2) Universidad de Sevilla
9:00	Synthesis of gold/polymer thin films in atmospheric-pressure dielectric barrier discharges *Francoise Massines* CNRS PROMES	09:00	Recent advances on plasma-based water treatment for the degradation of perfluoroalkyl substances (invited) *Ester Marotta* University of Padova	09:00	Zirconium Oxide Carrier Catalysts for Plasma-Catalytic Ammonia Decomposition *Michał Młotek* Warsaw University of Technology
9:15	Plasma-assisted oxidation of binder-mixed micron iron particles and their field emission applications *Supriya More* (1) Ghent University, (2) Pune University, (3) Mons University			09:15	Preliminary Characterization of NO_x Abatement by Atmospheric Pressure Dielectric-Barrier Discharge Plasma *Yicheng Zhang* (1) University of Massachusetts Lowell, (2) Stony Brook University
09:30	Break 5				
Session: Synthesis 2 (Main Hall)		**Session: Environmental 2 (Main Hall)**		**Session: Conversion 5 (Main Hall)**	
10:00	Metal-doped DLC coating by PE-CVD *Héliam KLEIN* (1)CNRS (2) Toulouse University (3) Montréal University (4) University Bourgogne	10:00	Water remediation of toxic bisphenol chemicals by cold atmospheric pressure plasmas *Uroš Cvelbar* (1) Jozef Stefan Institute, (2) National Institute of Biology, (3) York Plasma Institute	10:00	Atmospheric pressure plasmas and their application for Nitrogen fixation (invited) *XinPei Lu* HuaZhong University of Science and Technology
10:15	Continuous Synthesis of High-entropy Alloy Nanoparticles by RF Inductive Coupled Plasma Jet (ICPJ) *Ziqi Tang* (1)NRC Canada, Ottawa, Canada (2)Department of Mechanical Engineering, University of Ottawa, Ottawa, Canada	10:15	Organic wastewater purification from bacteria and viruses by cold atmospheric plasmas *Aleksandra Lavrikova* EPFL		
10:30	Optimization of Control Parameter of Different Modulation Cycles in Tandem Modulated Induction Thermal Plasmas for Nanoparticle Synthesis by Machine Learning Technique *Rio Okano* (1) Kanazawa University, (2) Nisshin Seifun Group Inc	10:30	Degradation of neonicotinoid imidacloprid in aqueous solution by a dielectric barrier discharge configured plasma-ozonation synergy *Paul Kaweesa* University of Pretoria	10:30	Maximizing nitrogen fixation using bipolar pulsed spark discharge *Hyun-Ha KIM* AIST
10:45	Atmospheric pressure plasma in contact with liquid for controlled synthesis and structural tailoring of doped and multi-metal perovskite oxides *Natalie Tarasenka* (1) University of Strathclyde, (2) Queen's University Belfast	10:45	Hydrofluorocarbons (HFCs) Destruction through Liquid Injection Incineration Catalyzed by Non-thermal Gliding Arc Plasma *Jinjie He* Drexel University	10:45	NOx formation via microwave air plasma and down-stream catalyst *Jonas Gans* (1) DIFFER, (2) BASF SE, (3) HTE GmbH, (4) Eindhoven University of Technology
11:00	Plasma-Enabled Green Approaches for Hybrid Nanocarbon Designs *Neelakandan Marath Santhosh* (1) Jožef Stefan Institute, (2) Jožef Stefan International Postgraduate School	11:00	Atmospheric pressure plasma improves greenhouse gas adsorption of Metal-Organic Frameworks *Joo Young Park* (1) KIMS	11:00	Evidence of nanoparticle catalyst reorganization and enhanced NH_3 yield with a ns-pulsed tube-to-plane DBD in N_2:H_2 *Philip Cimento* (1) McGill University

Wednesday 18th June					
Track: A		Track: B		Track: C	
11:15	Arc discharge in methane with a molten metal anode for synthesis of SWCNTs *Stanislav Musikhin* Princeton Plasma Physics Laboratory	11:15	Stability of Metal-Organic Frameworks in non-thermal Atmospheric Plasma *Jan Benedikt* (1) IEAP, Kiel University, (2) IIC, Kiel University, (3) KiNSIS, Kiel University	11:15	Plasma Catalysis of Ammonia in “Hybrid” ns Pulse / RF Discharge *Matthew Berry* (1) The Ohio State University
11:30	Plasma growth and functionalization of carbon nanotubes *Larissa Solano de Almeida*	11:30	Hydrogen Extraction from Plastic Waste via Atmospheric-Pressure Dielectric Barrier Discharge Plasma *Andrew Boules* (1) University of Massachusetts Lowell, (2) US Army Combat Capabilities Development Command Soldier Center	11:30	Model and experiment comparison of RONS production with an atmospheric pressure plasma as a function of gas temperature *Conner Robinson* (1) North Carolina State University
11:45	Synthesis of LiN_5 by Nonequilibrium Nitrogen Plasma is Thermodynamically Feasible *Elijah Thimsen* WashU	11:45	Experimental and thermodynamic limits of dissociative metal oxide reduction using microwave hydrogen plasma *Sachin Kumar* Minnesota University	11:45	Experimental platform for the study of gliding discharges: determination of plasma densities and temperatures from Ar 4p-4s transitions *Ester Kriz* (1) Université de Montréal, (2) McGill University
12:00	Excursion				

Thursday 19th June			
Track: A		Track: B	Track: C
Plenary Session: Plenary PCA (Main Hall)			
08:30	Adventures in Plasma Chemistry *David Graves* Princeton University		
09:30	Break		
Plenary Session: Plenary 2 (Main Hall)			
10:00	Sustainable plasma technologies revolutionising biomedicine *Marcela Bilek* University of Sydney, Australia		
Plenary Session: Plenary 3 (Main Hall)			
11:00	Pulsed Power Agriculture; Design of Pulsed Power Generator and Its Applications in Agriculture and Food Processing *Koichi Takaki* Iwate University		
12:00	Lunch		
Plenary Session: Plenary 4 (Main Hall)			
13:30	Understanding a 'in principle rather old gas discharge': Plasma diagnostics on barrier discharges *Ronny Brandenburg* INP Greifswald, Rostock University		
Plenary Session: Plenary 5 (Main Hall)			
14:30	Pyrolysis of methane by thermal plasma: a 25-year journey and start of an industrial transition *Laurent FULCHERI* (1) MINES Paris, (2) MONOLITH		
15:30	Break		
16:00	Poster: Poster Session 3 (Main Hall)		
19:00	Conference Dinner		

Friday 20th June					
Track: A		Track: B		Track: C	
Session: Synthesis 3 - Combustion 1 (Main Hall)		**Session: Bio 2 (Main Hall)**		**Session: Conversion 6 - Environmental 3 (Main Hall)**	
08:30	Nanoscale Operando Plasma Transmission Electron Microscopy for Iron Oxide Reduction *Jae Hyun Nam* UMN	08:30	How much is “enough”? – strategies to monitor plasma-bio interactions for plasma endpoint detection (invited) *Katharina Stapelmann* (1) NC State University, (2) Drexel University, (3) Rutgers University	08:30	Numerical Modeling of n-Hexane Hydropyrolysis with an Optimized Kinetic Mechanism in a Rotating Gliding Arc Reactor *Subin Choi* (1) Korea Institute of Machinery and Materials, (2) Hongik University
08:45	Process optimization of iron oxide (in-flight) reduction in a high-performance microwave argon-hydrogen plasma torch *Jonas Thiel* Ruhr University Bochum			08:45	Ammonia decomposition for hydrogen production by plasma catalysis using cobalt-based catalyst *Hubert Ronduda* (1) Warsaw University of Technology
09:00	The Role of Plasma-Assisted Combustion in the Era of Decarbonization (invited) *Carmen Guerra Garcia* Massachusetts Institute of Technology	9:00	Exposure Time-Dependent Dynamic Effects of Non-Thermal Plasma *Gagana Karkada* (1)Drexel University, (2) North Carolina State University	09:00	Experimental Investigation of Thermal Steam Plasma-assisted Entrained Flow Gasification of Torrefied Wood in a Pilot-Scale Gasifier *Jonas Brandstetter* (1) Technical University of Munich
		9:15	Non-invasive Physical Plasma (NIPP) for Cancer Prevention: From Preclinical Insights to Clinical Application *Martin Weiss* (1) University Tübingen, (2) Division of Plasma Medicine, (3) University of Bochum, (4) NMI Reutlingen	09:15	Nonthermal Plasma Catalytic CO_2-H_2O-biochar Conversion for Acetic Acid Synthesis *Linghan Xia* Xi’an Jiaotong University
09:30	Break				
Session: Combustion 2 (Main Hall)		**Session: Liquids 2 (Main Hall)**		**Session: Conversion 7 (Main Hall)**	
10:00	Heated Supersonic Plasma Flow Reactor for Spectroscopic Studies of Plasma Chemistry and Plasma Assisted Combustion *Li-Te Ting* The Ohio State University	10:00	Tracing plasma-produced reactive species in a skin-mimetic environment for skin plasma patch treatment *Juyeon Choi* (1) Korea Institute of Materials Science, (2) Pusan Nat’l University, (3) Kwangwoon University, (4) Korea Advanced Institute of Science and Technology	10:00	Performance Assessment of a Flexible 2D Gliding Arc Plasmatron Technology for CO_2-free Methane Reforming into Hydrogen and Valuable By-Products *Pierre Mathieu* (1) University of Mons, (2) Ghent University, (3) Materia Nova research Center
10:15	CH4 conversion in nanosecond pulsed plasma: Is it pyrolysis? *Stijn Van Rompaey* (1) University of Antwerp, (2) Ghent University	10:15	Advancements in Plasma-Activated Liquids: System Development, Characterization, and Biomedical Applications *Cristiane Yumi Koga-Ito* (1) São Paulo State University, (2) Technological Institute of Aeronautics	10:15	Characterization of a gliding arc using H_2/Ar and H_2/N_2 gas mixtures *Seongil Choi* Korea Institute of Machinery and Materials
10:30	Low-Temperature Plasma-Assisted Combustion Kinetics of Methanol *Nicholas Tsolas* Auburn University	10:30	Relating plasma-activated water chemistry to antimicrobial effectiveness by pairing EPR spectroscopy and single-cell IFC *Brayden Myers* (1) Swiss Plasma Center	10:30	Role of sheath layer in nonthermal plasma catalysis *Xiaolei Fan* The University of Manchester
10:45	Manipulating plasma thermal-chemical instability for efficient combustion and gas conversion *Hongtao Zhong* (1) Michigan State University, (2) Princeton University, (3) Princeton Plasma Physics Laboratory	10:45	Specificity of copper-dimethylphenantroline assay for detection of H_2O_2 in cell-culture mixtures treated by plasma *Petr Lukes* Institute of Plasma Physics of the CAS	10:45	The ‘combustion plasma’ for energy conversion: From fundamental research to application *Shuai Zhang* Institute of Electrical Engineering, Chinese Academy of Sciences

Friday 20th June					
Track: A		Track: B		Track: C	
11:00	A Novel Approach to Enhance Biogas/Air Combustion properties in an Inverse Diffusion Flame using Rotating Gliding Arc Plasma *Ram Mohan Pathak* Indian Institute of Science, Bangalore, India-560012	11:00	Reactive Species Transfer and Generation in Plasma-Liquid Systems (invited) *Stephan Reuter* (1) Polytechnique Montréal	11:00	Scaling-up of Reverse Vortex Flow Gliding Arc Discharge. *Mobish Shaji* (1) Drexel University
11:15	Some elements on the influence of DC-gliding arc on H_2 combustion in scramjet *Ancelin Rocamora* (1-3) ONERA, (4) Laboratoire EM2C CNRS-CentraleSupélec			11:15	High-Frequency Multi-Spark Reactor for Gas Processing *Yves Creyghton* TNO
11:30	Prediction of Emission Spectra Captured by an Embedded Miniature Spectrometer in a Hypersonic Re-entry CubeSat *Marien Simeni Simeni* (1) ME department University of Minnesota, (2) AEM department University of Minnesota	11:30	Production of hydroxyl radical and hydrogen peroxide by different types of plasma in contact with water *Nozomi Takeuchi* Science Tokyo	11:30	Pulsed electrical discharges in chemical processes intensification. (invited) *Anton Nikiforov* (1) Gent University
11:45	2D Axisymmetric Modeling of Streamer, Nanosecond Glow, and Nanosecond Spark Plasma at Ammonia-Air Flame Conditions *Suo Yang* (1) University of Minnesota, (2) National Renewable Energy Laboratory	11:45	Tuning the plasma-activated water by controlling the transport of reactive species from cold plasma into water bulk and aerosols *Zdenko Machala* Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava, Slovakia		
12:00	General Assembly				

2.2 Poster presentations

Poster Session 1

Topic 4. Plasma diagnostics

(P1.4.1) *Modified State Enhanced Actinometry for Measuring Atomic Oxygen Density in a Micro-Scaled Atmospheric Pressure Plasma Jet*
Kittawat Poonsawat, Erik Wagenaars
University of York

(P1.4.2) *Optical Study of CH_4 Decomposition in an Atmospheric-Pressure ns-Discharge*
Pierre Mathieu, Michael K. T. Mo, Rony Snyders, Masaru Hori, Nikolay Britun
(1) University of Mons, (2) Nagoya University, (3) Materia Nova research Center

(P1.4.3) *Formation of stable species in a coaxial DBD with short residence times in argon-tetramethylsilane: comparing experiment and 1d-t fluid modeling*
Lars Bröcker, Nickolas Steppan, Claus-Peter Klages, Markus M. Becker, Marjan Stankov, Detlef Loffhagen
(1) TU Braunschweig, (2) INP Greifswald

(P1.4.4) *Insights into Air-Carbon Ablation Chemical Kinetics from Spontaneous Raman Scattering Experiments*
Davide Del Cont-Bernard, John-Paul Heinzen, Thomas E. Schwartzentruber, Marien Simeni Simeni
(1) Minnesota University

(P1.4.5) *In-situ measurements of nitric oxide (NO) decomposition in a helium radio frequency (RF) atmospheric pressure plasma jet*
Shubham Dongarwar, Aditya Bhan, Peter Bruggeman
University of Minnesota

(P1.4.6) *Imaging of Radial and Axial Profiles During the Formation of Atmospheric Pressure Nanosecond Pulsed Discharges in Ar, N_2 and Air*
Griffin Trayner, Jianan Wang, Davide Del Cont-Bernard, Peter Bruggeman, Marien Simeni
University of Minnesota

(P1.4.7) *A comparision of discharge-averaged electrical diagnostics to local spectroscopic measurements in the gliding discharge*
Ester Kriz, Sylvain Coulombe, Luc Stafford
(1) Université de Montréal, (2) McGill University

(P1.4.8) *Characterization of an Argon-Sulfur Microwave Plasma Column at Reduced Pressure by Optical Imaging and Emission Spectroscopy*
Charles Moderie, Antoine Durocher-Jean, Richard Martel, Luc Stafford
Université de Montréal

(P1.4.9) *Comprehensive Characterization of a Helium Atmospheric Pressure Plasma Jet Using Langmuir Double Probe Diagnostics and Fluid Modeling*
Angus McCarter, Thomas Gilmore, Anshu Verma
Chase House, City Junction Business Park, Dublin 17, D17 AK63, Ireland

(P1.4.10) *Electric Fields Measurements in Surface Ionization Waves through Picosecond E-FISH in a Reflection Geometry*
Colin Wadsworth, Grayson LaCombe, Jianan Wang , Davide Del Cont-Benard , Marien Simeni Simeni
(1) University of Minnesota

Topic 6. Plasma in and in contact with liquids

(P1.6.1) *Probing plasma-liquid temperature with Raman spectroscopy*
Killian MacFeely, Christopher Rich, Collin Clay, Peter Bruggeman, Renee Frontiera

(1) University of Minnesota Twin Cities

(P1.6.2) *Classification method of multi-phase atmospheric pressure plasma applications*
Alexander Alfred Zyla
Technische Universität Dresden

(P1.6.3) *Sustainable ammonia production via non-thermal plasma in liquid*
Yuchuan Wang, Nan Zhou, Jianfei Guo, Leilei Dai, Juer Liu, Kirk Cobb, Roger Ruan
University of Minnesota

(P1.6.4) *Simulation of Chemical Reaction Kinetics, and Diffusive and Electrostatic Mass Transport in Plasma-Treated Water*
Matthew Wright, Tomoyuki Murakami, Timo Gans, Deborah O'Connell
(1) Dublin City University, (2) Seikei University

(P1.6.5) *The roles of neutral species and photons in plasma treatment of PFAS*
CHIAGOZIE CHUKWUKWUTE, Maria J. Herrera Quesada, Logan Byrom, Katharina Stapelmann, Arthur Dogariu, Selma Mededovic
(1) Clarkson University, (2) North Carolina State University, (3) Texas A&M University

(P1.6.6) *In-situ aqueous PAA synthesis through plasma technology*
Prashant Prashant, Wilfred Hoeben, Tom Huiskamp, Guus Pemen
Eindhoven University of Technology

(P1.6.7) *Investigation of mass transfer in plasma-based ozonation of organic micropollutants using phenol as a model compound.*
Paul Kaweesa, Michael Daramola, Samuel Iwarere
University of Pretoria

(P1.6.8) *Plasma Activated Water Generation in Pin-to-Plate Gas Phase DBD-based Plasma Source for Enhanced Biochemical Activity*
Shikha Pandey, Ram Prakash
Department of Physics, Indian Institute of Technology Jodhpur, Jodhpur, Rajasthan 342030, India

(P1.6.9) *Enhanced Degradation of Perfluorooctanoic Acid (PFOA) Using Sequential Plasma and UV/H_2O_2 Processes*
Xuefei Qiu, Thomas Holsen, Selma Thagard
(1) Clarkson University

(P1.6.10) *Plasma-induced oxidation in micro-droplets: Quantifying H2O2 and OH fluxes and transport limitations*
Dongxuan Xu, Tanubhav Srivastava, Peter Bruggeman
University of Minnesota

(P1.6.11) *Non-thermal plasma-liquid interaction in imine macrocycle synthesis.*
Patrycja Roszkowska, Rintaro Takahata, Hitoshi Muneoka, Kazuo Terashima, Tsuyohito Ito
The University of Tokyo

(P1.6.12) *Plasma Falling Liquid Film Reactor to Study PFAS Decomposition*
Zilun Xiang, Aditya Bhan, Peter Bruggeman
University of Minnesota

(P1.6.13) *Time Resolved Plasma Characterization by Optical Emissions in a Nanosecond Pulsed Plasma Gas-Liquid Discharge using Burst Mode*
Radha Krishna Murthy Bulusu, Robert Wandell, Shurik Yatom, Bruce Locke
(1) Florida State University, FAMU-FSU College of Engineering (2) Princeton Plasma Physics Laboratory

(P1.6.14) *Nanosecond Discharge with Droplet: Production of silver Nanomaterials*
Lyes Sebih, Emile Carbone, Ahmad Hamdan
(1) Montreal University, (2) Institut national de la recherche scientifique

(P1.6.15) *Investigation of return stroke in spark discharge in water using Gaussian processes*
Audren Dorval, Constance Latreille, Luc Stafford, Ahmad Hamdan
(1) Université de Montréal

(P1.6.16) *Plasma–activated water as a disinfectant agent for fresh produce: the role of hydrogen peroxide and nitrite on the quality and preservation of fresh–cut lettuce*
Juan Camilo Chamorro, Leandro Prevosto, Gabriela Denoya
(1) Electric Discharges Group, Universidad Tecnológica Nacional, (2) CONICET

Topic 8. Plasmas for semiconductor processing

(P1.8.1) *Surface treatment of metals using an atmospheric pressure plasma jet for cleaning, oxidation, reduction and thin film deposition*
Dhia BENSALEM, Ryan Robinson, Daphne Pappas, Magnus Buske
Plasmatreat

(P1.8.2) *Scaling of neutral, ion and photon fluxes in pulsed inductively coupled plasmas formed in Ar/O2 mixtures*
Andrew R. Gibson, Theo Carpenter, Michel Osca Engelbrecht, Christopher P. Ridgers
University of York

(P1.8.3) *3d etching of silicon and glass by plasma sheath tailoring*
E. Jüngling, G. Gutierrez, M. Böke, Achim von Keudell
EPII, Ruhr University Bochum, Germany

(P1.8.4) *Ionization Dynamics in Capacitively Coupled Discharge Biased with Tailored Voltage Waveform: Role of Secondary Electrons*
Syed Zulqarnain, Nafisa Tabassum, Banks Peete, Timothy Ziemba, James Prager, Paul Melnik, Josh Perry, Steven Shannon, Amanda Lietz
(1) North Carolina State University - Nuclear Engineering (2) EHT Semi, Seattle, WA

(P1.8.5) *Oxygen radical density enhancement in radio-frequency plasmas via microwave-excited plasma gas activation*
Hyung-Gu Kang, Gunsu Yun
(1) Pohang University of Science and Technology

Topic 9. Plasma deposition of functional coatings

(P1.9.1) *Highly hydrophobic and durable plasma coatings to replace PFAS*
Dirk Hegemann, Patrick Rupper, Martin Amberg
Empa

(P1.9.2) *Multi-Walled Carbon Nanotube Filter for Activating Effector T-cells*
Gemma Di Placido, Audrey Glory, Lynn Hein, Philip Wong, Sylvain Coulombe
McGill University

(P1.9.3) *Immersion infrared reflection-absorption spectroscopy studies on diamond-like carbon surfaces. III. Post-growth modifications of a-C*
Vitaly Raev, Antje Jung, Ralf Bandorf, Holger Gerdes, Claus-Peter Klages
(1) Institute for Surface Technology (IOT) Technische Universität Braunschweig, 38108 Braunschweig, Germany, (2) Fraunhofer Institute for Surface En

(P1.9.4) *Merging Plasma Sputtering Deposition and Acoustic Wave Activation for the Deposition of Materials*
Mateo Ruiz-Martín, Helen Reichel, Aurelio García-Valenzuela, Victor Rico-Gavira, Guillermo Regodon, Rafael Álvarez, Ana Borrás, Ana Gómez-Ramírez, Alberto Palmero, Agustín R. González-Elipe, Manuel Oliva-Ramírez
(1) Instituto de Ciencia de Materiales de Sevilla (2) Universidad de Sevilla

(P1.9.5) *Effect of nitrogen doping of DLC film on application as biomaterial*
Karine Coan, Cesar Antônio Junior, Elaine Oliveira, Luciana Rosisno
Fatec Sorocaba

(P1.9.6) *Plasma deposited organic coatings on MWCNT for dispersion in polyurethane*
Simon Blais, Saad Rabbani, Pierre-Luc Girard-Lauriault
(1) McGill University

(P1.9.7) *Optical emission analysis during Laser Joining using decomposition and recombination on hydrogenated amorphous carbon films*
Karyu Hase, Chihiro Nara, Yuko Aono, Yuki Hirata, Naoto Ohtake, Hiroki Akasaka
Science Tokyo

(P1.9.8) *Plasma Engineering of Surface Properties by 3D nanostructures*
Janez Zavasnik, Neelakandan M. Santhosh, Uroš Cvelbar
Jozef Stefan Institute

(P1.9.9) *Kinetics of trapped radicals formation and recombination in amine plasma polymers*
Beáta Beliančínová, Lucie Janů, Vinicius Tadeu Santana, David Nečas, Lenka Zajíčková
(1) Plasma Tech., CEITEC BUT, (2) Mag.-Opt. and THz Spec., CEITEC BUT, (3) Dept. Con. Mat. Phys., MUNI

Topic 12. Plasma medicine and agriculture

(P1.12.1) *Enhancing Pyrazolopyrimidinone Cytotoxicity against Glioblastoma using Cold Atmospheric Plasma (CAP)*
Ciara McEvoy, John Stephens, James Curtin, Gemma Kinsella
(1) Maynooth University, (2) Technological University Dublin

(P1.12.2) *Non-Thermal Plasma as a Therapy Alternative for Oral Herpes Simplex Virus Type 1 Infection*
Julia Sutter, Jonathan Thomas, Donald Hall, Stephen Jennings, Katharina Stapelmann, Brian Wigdahl, Fred Krebs, Vandana Miller
Drexel University College of Medicine

(P1.12.3) *Low Temperature Atmospheric Pressure Plasma as an Adjunct for the Treatment of Chemotherapy-induced Oral Mucositis*
Aline da Graça Sampaio, Noala Vicensoto Moreira Milhan, Felllype do Nascimento, Konstantin Georgiev Kostov, Cristiane Yumi Koga-Ito
(1), (2) São Paulo State University

(P1.12.4) *Non-invasive physical plasma (NIPP) activates STING pathway in triple negative breast cancer and is associated with increased host immune response*
Guilin Wang, Marcel Arholdt, Martin Weiss
(1) University of Tübingen, (2) NMI Natural and Medical Science Institute

(P1.12.5) *Effectiveness of Active Air Ions and Hydroxyl Radicals in the Eradication of ESKAPE Bacteria Using Non-Equilibrium Atmospheric Cold Plasma*
Ramavtar Jangra, Kiran Ahlawat, Ram Prakash
Indian Institute of Technology Jodhpur

(P1.12.6) *Cold plasma-enhanced endotherapy: A preclinical breakthrough for bile duct cancer treatment*
Thierry DUFOUR, Manon SOULIER, Korentin GERAUD, Laura FOUASSIER, Marine CAMUS
Sorbonne Université

(P1.12.7) *Investigating the Roles of Chlorine and Peroxynitrite Chemistry in APPJ-enabled Bacteria Inactivation*
Jianan Wang, Mitchell Penningroth, Ryan Hunter, Peter Bruggeman
Minnesota University

(P1.12.8) *The Impact of Plasma Activated Seawater on Postharvest Sea Grapes*
Ngan Kim DO, Minh Anh Ngoc TRAN, Trung Thanh NGUYEN, Ha An Quoc THAN, Thien Huu PHAM
Institute of Applied Materials Science, Vietnam Academy of Science and Technology, Ho Chi Minh City, Vietnam

(P1.12.9) *Evolution of ONOOH and O2NOOH in water treated with humid air plasma: detection, model and bactericidal effects*

Yuhang Du, Reed Jacobson, Mikael Elias, Peter Bruggeman
(1) Jiangnang University, (2) Minnesota University

(P1.12.10) *Numerical modeling of selective cell death induction by plasma-induced reactive species*
Ippei Saito, Tomoyuki Murakami
Seikei University

(P1.12.11) *Impact of plasma discharge pressure on implant surface properties*
Hyungyu Lee, Ara Jung, Heejin Kim, Bomi Gweon, Hyun Jeong Jeon, Sanghoo Park
(1) Kwangwoon University, (2) Sejong University, (3) The Catholic University, (4) Plasmapp Co., Ltd, (5) KAIST

Topic 13. Plasmas for environmental applications

(P1.13.1) *Nonthermal Plasma Treatment of Solid Adsorbents for CO2 Capture*
Robyn Iannitto, Keun Su Kim, Christopher Kingston, Dean Ruth, Mark Plunkett, Liliana Gaburici, Ramzi Aoun , Kourosh Zanganeh, Ali Asgarian
(1) NRC, (2) NRCan

(P1.13.2) *State of Knowledge on Cold Plasma Technology for PFAS Degradation*
Leila Alidokht, Yue Sun, Mariana Lanzarini Lopes
University of Massachusetts Amherst

(P1.13.3) *Numerical investigation of NO reduction in an RF He plasma at atmospheric pressure in a confined geometry*
Tao Zhu, Margarita Baeva, Florian Sigeneger, Shubham Dongarwar, Peter Bruggeman
(1) INP Greifswald, (2) Minnesota University

(P1.13.4) *Optimizing Ammonia Decomposition for Enhanced Hydrogen Production: A Comparative Study of Carrier Gases*
S Marin-Meana, A Megías-Sánchez, M Ruiz-Martin, J Cotrino, A González-Elipe, M Oliva-Ramírez, MC Garcia, A Gómez-Ramírez
(1) Instituto de Ciencia de Materiales de Sevilla (SPAIN), (2) Universidad de Sevilla (SPAIN), (3) Universidad de Córdoba (SPAIN)

(P1.13.5) *MOBILE PLASMA UNIT FOR TOXIC ORGANIC WASTE DESTRUCTION*
G. Paskalov, A. Mosse
(1) Plasma Microsystems LLC, Los Angeles, California, USA (2) Heat and Mass Transfer Institute., Minsk, 220072, Belarus.

(P1.13.6) *Plasma-Enhanced PFOA Degradation with Persulfate Activation*
Behrad Farzinfar, Thomas Holsen, Selma Mededovic Thagard
(1) and (2) Clarkson University

(P1.13.7) *Development of an Enhanced Bioreactor Cell for Coupling of Gas-Liquid Plasma Chemical Reactors with Bioreactors.*
Erin Petkus, Cesar Rodriguez, Radha Bulus, Bruce Locke
(1) FAMU-FSU College of Engineering, (2) FSU College of Medicine

Poster Session 2

Topic 1. Fundamentals of plasma-surface interactions

(P2.1.1) *Influence of molecular and turbulent diffusion on CO_2 conversion in thermal plasma reactors*
Helder Van Poyer, Ivan Tsonev, Stein Maerivoet, Matthias Albrechts, Annemie Bogaerts
PLASMANT

(P2.1.2) *Nitrogenation of linear and branched alkanes by ambient-pressure dielectric-barrier post-discharges: Where goes the nitrogen?*
Meret Leonie Betz, Vitaly Raev, Dina Schmitz, Stefan Schulz, Claus-Peter Klages
(1) TU Braunschweig, Institute for Surface Technology, (2) TU Braunschweig, Institute of Organic Chemistry

(P2.1.3) *Chemical Kinetics of Plasma-Activated Water: Role of Bulk and Interface Reactions*
Punith N, Lakshminarayana Rao
Indian Institute of Science

(P2.1.4) *Understanding Plasma-Surface Interactions for Enhanced Titanium Thin Film Deposition at Low Temperatures*
Prawal Agarwal, Mruthunjaya Uddi, Devon Jensen
Advanced Cooling Technologies, Inc.

(P2.1.5) *Tuning surface morphology and stoichiometry by microplasma generated reactive oxygen species and short pulsed laser irradiation*
Sascha Chur, Robin Minke, Volker Schulz-von der Gathen, Marc Böke, Judith Golda
Ruhr-University Bochum, Germany

(P2.1.6) *Opportunities for Operando DRIFTS and Complementary Techniques in Advancing Non-Thermal Plasma Catalysis*
Stefano Dell'Orco, Noemi Leick, Jeffrey Alleman, Susan Habas, Calvin Mukarakate
National Renewable Energy Laboratory

(P2.1.7) *Tailoring N_2 DBD for Controlled Monolayer Graphene Film Processing*
Charles Moderie, Nicolas Naudé, Richard Martel, Luc Stafford
(1) Université de Montréal (2) Université de Toulouse

(P2.1.8) *Comparison Study of Sliding and Water Electrode Discharges for Organic Pollutant Degradation*
Zinat Ara Nisha, Mikel Douangdara, Olga Pakhomova, Chunqi Jiang
(1)Frank Reidy Research Centre for Bioelectric, (2)Electrical and Computer Engineering, Old Dominion University Norfolk

(P2.1.9) *Thermal Plasma Pyrolysis of Hydrocarbon Gas to Produce Hydrogen*
V. Messerle, A. Mosse, G. Paskalov, A. Ustimenko
(1) Plasma Microsystems LLC, Los Angeles, California, USA (2) Heat and Mass Transfer Institute., Minsk, 220072, Belarus.

(P2.1.10) *Packed bed reactor for in situ study of the catalyst surface during plasma assisted catalysis*
Sophia Gershman, Vashanti Storr, Maria Carreon
(1) Princeton Plasma Physics Laboratory, (2) University of Ar

(P2.1.11) *Insight into plasma polymerization with a significant contribution of etching to the deposition process*
Martina Janůšová, David Nečas, Paula Navascués, Dirk Hegemann, Stevan Gavranović, Lenka Zajíčková
(1) CEITEC, (2) EMPA, (3) Brno University of Technology, (4) Masaryk University

Topic 2. Fundamentals and applications of thermal plasma

(P2.2.1) *Modelling of micro-discharges in metal vapor of zinc for applications in explosion protection*
Aleksandar Jovanović, Margarita Baeva, Ralf Methling, Dominik Bratek, Niklas Schüler, Carsten Uber, Dirk Uhrlandt
(1) INP Greifswald (2) PTB Braunschweig

(P2.2.2) *Transport Properties of Water-Air Mixture System*
Makoto Sugimoto, Yosuke Kishimoto, Honatsu Sorai, Manabu Tanaka, Takayuki Watanabe, Masaya Shigeta
Tohoku University

(P2.2.3) *Numerical Study of Plasma Torch Performance Using LTE-Assumption*
Byeongryun Jeon, Hansol Kwon, Yeon Woo Yoo, Do Hyun Kim, Youngjin Park, Yong-jin Kang, Sunghun Lee, June Kee Min, Hunkwan Park
Korea Institute of Materials Science

(P2.2.4) *Development of a pilot scale thermal plasma reactor for research on in-situ plasma dynamics and thermal distribution*
Roar Jensen, Robert Fritzsch, Trygve Aarnæs, Anders H. Hansen, Håkon Sagberg, Halvor Dalaker
Plasma dynamics, thermal plasma torch, testing reactor, industrial scale

(P2.2.5) *Development of H_2-based arc reactor for plasma refinery process*
Hongjae Kang
KIMM (Korea Institute of Machinery and Materials)

(P2.2.6) *Synthesis of Graphene Nanoflakes by Methane Pyrolysis in Thermal Plasma*
Gwangbeom Yang, Yong Hee Lee, Jeong-Hwan Oh, Sooseok Choi
(1) Jeju National University, (2) Jeju National University, (3) Jeju National University, (4) Enclion Inc.

(P2.2.7) *Visualization of Thermal Plasma Jet Induced Turbulence Using Spatial-Frequency-Resolved Schlieren Sensor*
Yuito Yamada, Yuki Inada, Makoto Sugimoto, Joe Yoshikawa, Manabu Tanaka, Masaya Shigeta
(1) Tohoku University, (2) Saitama University, (3) Industrial Technology Institute, Miyagi Prefectural Government, (4) Kyushu University

(P2.2.8) *Synthesis of Iron Nitride Nanoparticles using DC Thermal Plasma*
Seong-Pyo Kang, Han Jun Lee, Tae-Hee Kim, Se Jin Oh
Wonkwang University

(P2.2.9) *Influence of Metal Catalysts on Synthesis of Low-Diameter Single-Walled Carbon Nanotubes by DC Thermal Plasma Process*
Seong-Pyo Kang, Han Jun Lee, Se Jin Oh, Tae-Hee Kim
Wonkwang Unversity

(P2.2.10) *Boron Nitride Nanotubes Using Ammonia by Triple Thermal Plasma*
Seunghyeon Kim, Yong Hee Lee, Jeong-Hwan Oh, Sooseok Choi
(1) Jeju National University, (2) Jeju National University, (3) Jeju National University, (4) Enclion Inc.

(P2.2.11) *Computational Investigation of MCrAlY Coatings Under Different Gas Mixtures in Vacuum Plasma Spray*
Hunkwan Park, Yong-jin Kang, Do Hyun Kim, Hansol Kwon, Youngjin Park, Yeon Woo Yoo, Eungsun Byon
Korea Institute of Materials Science

(P2.2.12) *Ceramic Powder Spheroidization and Hollow Sphere Formation by a Conical RF Plasma Torch*
Ali Ebrahimi, Sina Alavi, Larry Pershin, Javad Mostaghimi
(1) University of Toronto

Topic 3. Fundamentals of non-equilibrium plasma

(P2.3.1) *Characteristics of PT-Driven Plasma Discharge at Atmospheric Pressure*
Prangan Nandy, Md Fahim, Sourav Banerjee, Tanvir Farouk
University of South Carolina

(P2.3.2) *Instability and Striations in Water Vapor discharge*
John Hill, Tanvir Farouk, Rori Pumphrey
(1) University of South Carolina

(P2.3.3) *Interactions of guided ionization waves*
Swati Dahiya, Kevin Youngman, Brian Z Bentz
Sandia National Laboratories

(P2.3.4) *Time-resolved optical emission spectroscopy of an inductively coupled Ar-Cl_2 plasma at low-pressure for Atomic Layer Etching*
Raphaël Robert, Simon Chouteau, Luc Stafford
(1) Université de Montréal

(P2.3.5) *Atmospheric Pressure Non-Thermal Plasma: Comparing Silane and Methane*
Cameron Papson, Sankhadeep Basu, Rebecca Anthony
Michigan State University (MSU)

(P2.3.6) *Sensitivity Analysis of Radiation in Sub-orbital Hypersonic Flows*
Sindhu Manchikanti, Timothy T. Aiken, Iain D. Boyd
CU Boulder

(P2.3.7) *Innovative microreactor designs for plasma-assisted CO_2 methanation*
Jiajia Zhao, Anthony B Murphy, Yunxia Yang
CSIRO

(P2.3.8) *X-ray Radiation in Fast Ionization Wave Driven by Nanosecond Pulses*
Cheng Zhang, Bangdou Huang, Shuai Zhang, Tao Shao
Institute of Electrical Engineering, CAS

Topic 5. Plasma modelling

(P2.5.1) *Insights on The Impact of Pressure on Thermal Arcs: An MHD Approach Up To 10 Bars*
Jad Diab, Vandad Rohani, Enoch Dames, Elliott Wyse, Laurent Fulcheri
(1) Mines Paris, PSL Universty, (2) Monolith Materials

(P2.5.2) *The effect of turbulence on NH_3 conversion: A computational Gliding Arc Plasmatron study*
Stein Maerivoet, Rubén Quiroz Marnef, François Reniers, Annemie Bogaerts
(1) University of Antwerp, (2) Université Libre de Bruxelles

(P2.5.3) *Suspension Plasma Spraying: Improved Modelling of Droplet Fragmentation Under Strong Velocity Gradients*
Anis Chergui, Vincent Rat, Cédric Lebot, Gilles Mariaux, Alain Denoirjean, Benoit Changeux, Olivier Messé
Institute of Research For Ceramics

(P2.5.4) *PPFM: An Object-Oriented C++ Library for Thermodynamic and Transport Properties Calculation*
Alberto Vagnoni, Edoardo Ugolini, Giorgio La Civita, Matteo Gherardi, Emanuele Ghedini
UniversityOfBologna

(P2.5.5) *Insight into energy transfer and NOx synthesis in the afterglow by chemical multi-temperature plasma modelling*
Qinghao Shen, Aleksandr Pikalev, Floran Peeters, Vasco Guerra, Richard van de Sanden
(1) DIFFER, (2) Maastricht University, (3) Universidade de Lisboa, (4) Leyden Jar Company, (5) Eindhoven University of Technology

(P2.5.6) *CFD modelling of a non-LTE helium discharge using reacting flow and ionic wind approaches*
Avinash Maharaj, Samuel Iwarere
(1) UKZN, (2) UP

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(1) Dutch Insitute for Fundametal Energy Research, (2) University of Antwerp, (3) Leiden University, (4) Eindhoven University of Technology

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(1) Drexel University, (2) Bosson Energy

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Northwestern University

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(1) University of Michigan, (2) University of Michigan

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(1)Ghent University, (2) Charles University

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(1) Michigan State University, (2) Fraunhofer USA

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(1) Princeton University, (2) Princeton Plasma Physics Laboratory

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(1) University of Cambridge

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(1)North Carolina State University (2) North Carolina Agricultural and Technical State University (3) California Institute of Technology,

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(1) Max Planck Institute for Plasma Physics

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Aishwarya Belamkar, Lorenzo Mangolini
(1) University of California, Riverside

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RAM MOHAN PATHAK, Lakshminarayana Rao
Centre for Sustainable Technologies, Indian Institute of Science, Bangalore, India-560012

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Science Tokyo

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(1) Department of chemical engineering (2) Department of electrical engineering, Indian institute of technology, Madras, India.

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(1) University of Minnesota Twin Cities (2) Rice University

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Catalytic & Plasma Process Engineering, McGill University

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Princeton Plasma Physics Laboratory

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Maastricht University

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Eva Wolfe, Aditya Bhan, Peter Bruggeman
University of Minnesota-Twin Cities

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(1) Munich University, (2) Luleå University

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Beihang University

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Université Paris-Saclay

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INDIAN INSTITUTE OF SCIENCE, BANGALORE, INDIA

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C. Medchill, C. Hauck, Y. Wang, S. Cronin
University of Southern California

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(1) University of Minnesota

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(1) Nagoya University, (2) Nagoya University Hospital

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Institute of Applied Materials Science, VAST

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(1) University of Alberta, (2) Lacombe Research and Development Centre-Canada

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(1) University of Alberta-Canada, (2) Lacombe Research and Development Centre-Canada

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(1) Ehime University, (2) Pearl Kogyo Co. Ltd.

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Faculty of Mathematics, Physics and Informatics, Comenius University Bratislava, Slovakia

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(1) Polytechnique Montreal, Montreal, QC, Canada, (2) McGill University, Montreal, QC, Canada

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Thomas Weihe, Jan Wallis, Jörg Ehlbeck, Uta Schnabel
Research Division LBD, Leibniz Institute for Plasma Science and Technology, Greifswald, Germany

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Xi'an Jiaotong University

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(1) Hamline University, (2) Department of Health, Minnesota, (3) University of Minnesota

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Department of Chemical Engineering, Wonkwang University, Iksan 54538, Republic of Korea

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Richard Cimerman, Jana Kšanová, Jakub Roubíček, Monika Homolová, Terézia Šumanská, Leonid Satrapinskyy, Karol Hensel
(1) Comenius University, (2) Comenius University

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Ekow Agyekum-Oduro, Sarah Wu
University of Idaho

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Mikaela Surace, Mobish Shaji, Jimmy Murillo-Gelvez, Erich Henzel, Alexander Rabinovich, Alexander Fridman, Erica McKenzie, Gregory Fridman, Christopher Sales
(1) Drexel University, (2) C and J Nyheim Plasma Institute (Drexel University), (3) Temple University, (4) AAPlasma LLC

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