

program of the 2 day workshop: "Plasma Science & Entrepreneurship"

Program Morning 02 November 2020

09.00	Welcome & Opening by Chair(s) Achim von Keudell and Guus Pemen & Program Director Hugo de Haan	
9.20-9.50	Keynote Erik C. Neyts , <i>PLASMANT, University of Antwerp, Belgium</i> , "New chemistry at the plasma-catalyst interface: From atomic scale simulations to general insight"	
	Plasma Conversion CO2 Moderator: Achim von Keudell	
9.50-10.10	Vasco Guerra , <i>Universidade de Lisboa, Portugal</i> , "Vibrational kinetics in CO2 plasmas: checks and balances"	
10.10-10.30	Xin Tu , <i>University of Liverpool, UK</i> , "Plasma-enhanced Catalysis: An Emerging Technology for CO2 Conversion"	
10.30-10.50	Floran Peeters , <i>Differ, Eindhoven, The Netherlands</i> , "Sustainable chemistry using electricity: the potential for plasma"	
10.50-11.10	G.J. van Rooij , <i>Maastricht University, The Netherlands</i> , "Electrification and circularity - a plasma chemistry perspective"	
11.10-11.30	Coffee Break	
	Plasma Conversion, Plasma Catalysis Moderator: Guus Pemen	Plasma and Polymers Moderator: Thierry Belmonte
11.30-11.50	Ante Hecimovic , <i>Max-Planck-Institut für Plasmaphysik, Garching, Germany</i> , "Microwave plasmas for CO2 conversion into value added chemicals and fuels"	Dirk Hegemann , <i>Empa, Switzerland</i> , "Plasma Polymerization of HMDSO – Mechanism, Versatility and Application"
11.50-12.10	Lucia Daniela Pietanza , <i>CNR ISTP, Bari, Italy</i> , "Self-consistent vibrational and electron kinetics in CO2 plasma discharges"	Gerrit Wulf , <i>Fraunhofer IFAM, Germany</i> , "Co-polymerization of organic and siloxane mixtures using atmospheric pressure plasma to prevent plasticizer leaching from PVC"
12.10-12.30	Yue Liu , <i>Brandenburg University of Technology Cottbus-Senftenberg, Germany</i> , "Investigations of He/O2 micro atmospheric pressure plasma jets based on a hybrid model" (postdoctoral of Thomas Mussenbrock)	Francisco J. Aparicio , <i>Universidad de Sevilla, Spain</i> , "Encapsulation of perovskite solar cells with ultrathin plasma polymers for moisture protection and water resistance"
12.30-12.50	Chloé Fromentin (PhD-student), <i>Universidade de Lisboa, Portugal</i> , "Kinetic mechanisms in CO2-O2 plasmas: Development of a reaction mechanism"	Sandra Gaiser , <i>Empa, Switzerland</i> , "Formation of functional surfaces by means of plasma processing of low vapor pressure liquids"
12.50-14.00	Lunch	

Program Afternoon 02 November 2020

	Plasma Conversion Moderator: Xin Tu	Nanoparticles Moderator: Ante Hecimovic
14.00-14.20	Anton Nikiforov , <i>Department of Applied Physics, Ghent University, Belgium</i> , “Nitrogen fixation in conditions of non-thermal electrical Nitrogen fixation in conditions of non-thermal electrical discharges”	Nikolay Britun , <i>Nagoya University, Japan</i> , “Overview of the ground state particle imaging in pulsed sputtering discharges”
14.20-14.40	Judith Golda , <i>Ruhr-University Bochum</i> , “Energy balance tailoring in atmospheric pressure plasma discharges”	Jan Benedikt , <i>Kiel University, Kiel, Germany</i> , “Atmospheric pressure plasmas for controlled generation of passivated silicon nanocrystals”
14.40-15.00	Thomas Gries , <i>CNRS, Université de Lorraine, Nancy, France</i> , “Enhanced photocatalytic properties of nanostructured metal oxide films by plasma afterglow treatments”	Thierry Belmonte , <i>univ-lorraine, France</i> , “Nanoparticles and thermodynamics: From prediction to illusion”
15.00-15.20	Tomas Hoder , <i>Masaryk University, Brno, Czech Republic</i> , “New insights into barrier discharges”	Dominique Debarnot , <i>CNRS, Le Mans Université, France</i> , “Affinity and distribution of metal nanoparticles within plasma polymer matrices”
15.20-15.50	Coffee Break	

Program Afternoon 02 November 2020 continued

	Plasma and Liquids Moderator: Anton Nikoforov	Plasma Sources and Diagnostics Moderator: Jan Benedikt
15.50-16.10	Milan Simek , <i>Institute of Plasma Physics of the Czech Academy of Sciences, Prague, Czech Republic</i> , “High time- and spatial-resolution studies of nanosecond discharges in liquid water”	Svetlana Starikovskaia , <i>Laboratory of Plasma Physics (CNRS), Palaiseau, France</i> , “Nanosecond discharges, from 0.001 to 10 eV/molecule: applications and diagnostics”
16.10-16.30	Daan Schram , <i>Eindhoven University technology, The Netherlands</i> , “The effectivity of plasma creation and radicals to activate water”	Moritz Oberberg , <i>Ruhr University Bochum, Germany</i> , “In-situ real-time plasma diagnostics: The Multipole Resonance Probe for control of plasma surface processes”
16.30-16.50	Fiorenza Fanelli , <i>Institute of Nanotechnology (NANOTEC), National Research Council (CNR), Italy</i> , “Atmospheric pressure plasma surface modification of polymer foams for water remediation”	Luca Matteo Martini , <i>University of Trento, Italy</i> , “Advances in optical diagnostics in non-equilibrium discharge plasmas”
16:50-17:00	Break	

17.00-17.20	Laura Chauvet , <i>Ruhr Universität Bochum, Germany</i> , “Water chemistry induced by nanosecond pulsed plasmas”	Jeroen van Oorschot , <i>Eindhoven University of Technology, The Netherlands</i> , “Development of a flexible pulse shape solid-state-Marx generator for PAW generation”
17.20-17.40	Gérard Henrion , <i>Université de Lorraine, CNRS, Nancy, France</i> , “Playing with the current waveform: a way to improve the efficiency of the plasma electrolytic oxidation (PEO) process”	Wolfgang Breilmann , <i>Ruhr Uni Bochum, Germany</i> , “High Power Impulse Magnetron Sputtering”
17.40-18.00	David Z. Pai <i>Institut Pprime, Université de Poitiers, France</i> “Futuroscope Chasseneuil, France In-situ Raman spectroscopy of plasma-activated water for applications in nanomaterials synthesis”	Andrey Kaziev , <i>National Research Nuclear University Moscow, Russia</i> , “Plasma surface engineering for applications in dental industry”
18.00-18.30	<i>ISC Steering Committee Meeting</i>	

Program Morning 03 November 2020

	Thermal Plasmas Moderator: Richard Engeln	Plasma Synthesis & Coatings Moderator: Dirk Hegemann
09.00-09.20	Masaya Shigeta , <i>Joining and Welding Research Institute, Japan</i> , "Modelling and Simulation of Turbulent Thermal Plasma Flows for Nanopowder Mass Production"	Mineo Hiramatsu , <i>Meijo University, Japan</i> , "Vertical Graphene Network: Synthesis and Applications"
09.20-09.40	Margarita Baeva , <i>Leibniz Institute for Plasma Science and Technology, Greifswald, Germany</i> , "Arcs of short length between copper electrodes – challenges in their modelling and diagnostics"	Stephane Lucas , <i>Innovative Coating Solutions (ICS) & University of Namur, Namur, Belgium</i> , "Adding advanced functional properties to nanoparticles via low-pressure plasma coating: from battery to paint applications"
09.40-10.00	Anthony Murphy , <i>CSIRO Manufacturing, Australia</i> , "Development of Arc Welding Software for Industrial Use"	Robert Franz , <i>Montanuniversität Leoben, Austria</i> , "Characterisation of plasma and surface modification of multi-element arc cathodes for coating deposition"
10.00-10.20	Yasunori Tanaka , <i>Kanazawa University, Japan</i> , "Numerical approach on high-production rate nanoparticle synthesis in pulse-modulated induction thermal plasmas"	Janith Weerasinghe , <i>Queensland University of Technology, Australia</i> , "Mask Free Copper Plating on Plastics via Micro Plasma Treatment for Flexible Electronic Applications"
10.20-10.50	Coffee Break	
	Film growth Moderator: Gerard Henrion	Plasma Sources Moderator: Svetlana Starikovskaja
10.50-11.10	Kai Nordlund , <i>University of Helsinki, Finland</i> , "Crystal direction effects on sputtering"	Pieter Leenders , <i>Aerox B.V., Vleuten, The Netherlands</i> , "Aerox Cold Plasma Injection Technology for industrial odour control" : plasma technology developments 1995 – 2020."
11.10-11.30	Marko Sturm , <i>University of Twente, Enschede, The Netherlands</i> , "Metal and metal oxide nanofilms exposed to reactive ions and radical species"	Holger Heuermann , <i>University FH Aachen, Heuermann HF-Technik GmbH, Germany</i> , "Benefits of the Combination of a 3kW Microwave Plasma Jet with a Hot S-Parameter Measurement System for Plasma Applications"
11.30-11.50	Ralf Duempelmann , <i>Inolytix Ltd, Switzerland</i> , "Characterization of flat or particulate surfaces by dynamic gas adsorption (IGC)"	Gertjan Koster , <i>University of Twente, The Netherlands</i> , "Pulsed Laser Deposition oxide plasma plume dynamics and thin film characteristics"
11.50-12.10	Keun Su Kim , <i>National Research Council Canada and University of Toronto, Canada</i> , "Origin and reduction of BN impurities in boron nitride nanotube synthesis by high temperature plasma"	Moritz Heintze , <i>TRUMPF, Germany</i> , "Industrialization of Plasma Technology: Requirements for the Power Supplies When Moving to the 100 kW Range"

12.10-12:30	Thierry Czerwiec , <i>Jean Lamour Institute, Université de Lorraine, Nancy, France</i> , “Wetting and evaporation on surfaces modified by plasma based technologies”	Richard Engeln , <i>Eindhoven University of Technology, The Netherlands</i> , “Vibrational kinetics of CO ₂ in non-thermal plasma”
12:30-12:50	Sebastian Mohr , <i>Quantemol Limited, London, UK</i> , “Plasma chemistry data and chemistry set optimisation approach for ALD/ALE modeling”	Milad Rasouli , <i>Kharazmi University, Tehran, Iran</i> , “Plasma as a steroidogenesis inducer agent”
12.50-14.00	Lunch (when no ISC meeting time 02 nd ; 13.00 meeting International Scientific Committee (ISC))	

Program Afternoon 03 November 2020

	Biomedical Plasma Medicine Moderator: Hugo de Haan	
14.00-14.30	Keynote Michael Keidar , <i>The George Washington University, Washington DC</i> , “Adaptive Plasmas and Recent Development in Biomedical Application”	
14.30-14.50	Bernard Nisol , <i>Molecular Plasma Group, Luxembourg</i> , “Grafting of antiviral and antibacterial agents on personal protective equipment using MPG’s cold atmospheric pressure plasma technology”	
14.50-15.10	Abraham Lin , <i>PLASMANT, University of Antwerp, Belgium</i> , “Cancer therapy with non-thermal plasma: modulation of the tumor and tumor microenvironment”	
15.10-15.30	Loic Ledernez , <i>IMTEK, Albert-Ludwigs-University of Freiburg, Germany</i> , “Atmospheric Pressure Plasma Jet for Dentistry”	
15.30-15.50	Stefan G. Mayr , <i>Leibniz Institute of Surface Engineering (IOM), University of Leipzig, Germany</i> , “Energetic particle assisted synthesis of smart materials for biomedical applications”	
15.50-16.10	Guus Pemen , <i>Eindhoven University of Technology, The Netherlands</i> , “Air purification with streamer corona plasma”	
16.10-16.30	Plenary Closure	