ICPIG XXXV
Egmond aan Zee
2023

July 9th – 14th, 2023

Hotel Zuiderduin, Egmond aan Zee,

The Netherlands.

www.icpig2023.com

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TU/e

Contents

1 Introduction

The International Conference on Phenomena in Ionized Gases (ICPIG), now in its XXXV edition, since 1953 has been a forum for the discussion of nearly all fields of plasma science, covering modelling and experiments, from the fundamentals of elementary processes, basic data and discharge physics (including transport and interaction with walls), to applications. Topics include plasma processing of surfaces and particles, high pressure and thermal plasma processing, development of radiation sources, plasma medicine, atmospheric and stellar plasmas, environmental protection and pollution control, plasma aerodynamics, and non-thermal plasmas in fusion devices.

In response to the Covid crisis, and to stay in an interchanging schedule with the ESCAMPIG, ICPIG XXXV has been postponed from July 2021 to July 2023. We are looking forward to resuming direct scientific exchange in a pleasant atmosphere.

General and topical invited talks have been suggested and selected by the International Scientific Committee. The ISC also elected the winner of the von Engel and Franklin prize. The 36 selected talks have been selected by the ISC from the 125 abstracts whose authors applied for it; criteria were the scientific impact and a proper representation of participating nations. Other abstracts are presented as posters. The special session has been organised by the Local Organising Committee.

1.1 von Engel and Franklin prize

The 2023 winner of the von Engel and Franklin prize is: Jean-Pierre Boeuf of Université P. Sabatier in Toulouse, France Being elected by ICPIG's international scientific committee, he will deliver his prize-lecture at the ICPIG. The 'von Engel and Franklin Prize' was established in 1998. It is sponsored by the 'Hans von Engel and Gordon Francis Fund' and is administered by the Board of Physical Sciences, University of Oxford. The prize is named in honour of two distinguished colleagues who had a major role in ICPIG and its community since the first meeting in 1953.

The prize is awarded every two years to an individual for work in the field of physics and technology of plasmas and ionized gases, as covered by ICPIG meetings. The selection is conducted by the International Scientific Committee, based either on long-standing and important contributions to the field, or an outstanding achievement giving rise to a new field, or both.

1.2 Venue

The conference will take place at Hotel Zuiderduin www.zuiderduin.nl/en/ in Egmond aan Zee, 100 meter from the sand beach along the coast of Holland. Egmond is an old fishermen's village with many restaurants, pubs and hotels, and well visited in the summer. Therefore we strongly recommend to reserve hotel rooms well in advance. Air and land travel would approach Amsterdam airport or Amsterdam station. From there it is about an hour by public transport to the venue.

1.3 Conference Topics

T1 Elementary processes and fundamental data

T2 Thermodynamics and transport phenomena

T3 Plasma wall interactions, electrode and surface effects

T4 Collective and nonlinear phenomena

T5 Modeling and simulation techniques

T6 Plasma diagnostic methods

T7 Astrophysical, geophysical and other natural plasmas

T8 Low pressure plasmas

T9 High frequency and pulsed discharges

T10 Non-equilibrium plasmas and microplasmas at high pressures

T11 Plasmas in/with liquids

T12 Thermal plasmas

T13 Complex and dusty plasmas, ion-ion plasmas, mixed phase plasmas

T14 Plasma created by external sources of ionization

T15 Plasma processing of surfaces and particles

T16 High pressure and thermal plasma processing

T17 Medical, biological, environmental and aeronautical applications

T18 Plasma power and pulsed power technology, particle and radiation sources

T19 Other applications

1.4 Information for Presenters

Selected orals are 20 minutes (16 min + 4 min questions), topical invited orals and special session invited orals are 30 minutes (25 min + 5 min questions), general invited orals are 45 minutes (40 min + 5 min questions) and the von Engel and Franklin prize is 60 minutes (55 min + 5 min questions). Orals will be presented from a modern Windows laptop, including Office 365 and Adobe Reader. Please upload your presentation to the laptop in the lecture hall well in advance of your scheduled presentation block.

Posterboards will be 1.25 meter high and 1.00 meter wide. Posters can be mounted before a poster session and should be removed in time before the next poster session.

2 Committees

2.1 Local Organizing Committee

Ute Ebert (chair), Centre for Mathematics and Computer Science (CWI) Amsterdam and Eindhoven University of Technology

Sander Nijdam (co-chair), Eindhoven University of Technology

Jannis Teunissen Centre for Mathematics and Computer Science (CWI) Amsterdam

Jan van Dijk Eindhoven University of Technology

Job Beckers Eindhoven University of Technology

Baohong Guo Centre for Mathematics and Computer Science (CWI) Amsterdam

Hemaditya Malla Centre for Mathematics and Computer Science (CWI) Amsterdam

Nada Mitrovic Centre for Mathematics and Computer Science (CWI) Amsterdam

Conference organisation supported by:
Ms. Inge Sanders -Conferences department of the Eindhoven University of Technology

2.2 International Scientific Committee

Masaharu Shiratani (Chair) Japan

Igor Adamovich Usa

N. Yu. Babaeva Russia

Christine Charles Australia

Gilles Cartry France

Uwe Czarnetzki Germany

Giorgio Dilecce Italy

Francisco J. Gordillo Vázquez Spain

Jon Tomas Guðmundsson Iceland

Sander Nijdam The Netherlands

Deborah O'Connell Ireland

Joanna Pawlat Poland

Marija Radmilovic Radjenovic Serbia

Tlekkabul Ramazanov Kazakhstan

3 Sponsors

ICPIG XXXV is sponsored by:

4 Program

4.1 Program table

Mon, Jul 10			Tue, Jul 11			Wed, Jul 12			Thu, Jul 13			Fri, Jul 14		
09:00	Registration		09:00	**Tue1-1 Kenji Ishikawa**		09:00	Wed1A-1 Chng	Wed2B-1 Benilov	09:00	**Thu1-1 Zdenko Machala**		09:00	Fri1A-1 González-	Fri1B-1 Gómez-
09:20	Opening					09:30	Wed1A-2 Limburg	Wed2B-2 Gonçalves				09:30	Fri1A-2 Ramazanov	Fri1B-2 Reuter
09:45	**Mon1-1 Annemie Bogaerts**		09:45	**Tue1-2 Achim von Keudell**		09:50	Wed1A-3 Leduc	Wed2B-3 Wang	10:30	**Thu1-2 Pascal Chabert**		09:50	Fri1A-3 Adamovich	Fri1B-3 Miyazaki
						10:10	Wed1A-4 Herrmann	Wed2B-4 Dias				10:10	Fri1A-4 Gablier	Fri1B-4 Meyer
10:30	Coffee break		10:30	Coffee break		10:30	Coffee break		10:30	Coffee break		10:30	Coffee break	
11:00	Mon2A-1 Stamate	Mon2B-1 Choe	11:00	Tue2A-1 Takashima	Tue2B-1 Laurita	11:00	Wed3A-1 Skočić	Wed3B-1 Brault	11:00	Thu2A-1 Takeda	Thu2B-1 Michau	11:00	**von Engel and Franklin prize lecture: Jean-Pierre Boeuf**	
11:30	Mon2A-2 Vialetto	Mon2B-2 Chiu	11:30	Tue2A-2 Martini	Tue2B-2 Orel	11:30	Wed3A-2 Khan	Wed3B-2 Poli	11:30	Thu2A-2 Gerakis	Thu2B-2 Donders			
11:50	Mon2A-3 Guerra	Mon2B-3 Kutasi	11:50	Tue2A-3 Saito	Tue2B-3 Wagenaars	11:50	Wed3A-3 Wubs	Wed3B-3 Litch	11:50	Thu2A-3 Pajdarová	Thu2B-3 Peláez			
12:10	Mon2A-4 Shen	Mon2B-4 Walker	12:10	Tue2A-4 Toyoda	Tue2B-4 Agus	12:10	Wed3A-4 Lepikhin	Wed3B-4 Wang	12:10	Thu2A-4 Kumagai	Thu2B-4 Bruggeman	12:00 - 12:30	Poster Prizes + Closing ceremony	
12:30	Diversity session	Lunch	12:30	Data Session	COST PlAgri Lunch	12:30 - 18:00	Excursion		12:30	Lunch		12:30 - 13:00	Bus transport to railway	
13:45	Poster session P1		13:45	Poster session P2					13:45	Poster session P3				
15:45	Short coffee break		15:45	Short coffee break					15:45	Short coffee break				
16:00	Mon3A-1 Bhattacharje	Mon3B-1 Sobota	16:00	Tue3-1 Atsushi Komuro					16:00	Thu3A-1 Takahashi	Thu3B-1 Ussenov			
16:30	Mon3A-2 Shinoda	Mon3B-2 Robert	16:30	Tue3-2 Anne Bourdon					16:30	Thu3A-2 Cvelbar	Thu3B-2 Lazzaroni			
17:00	Mon3A-3 Taccogna	Mon3B-3 Jinno	17:00	Tue3-3 Mark van de Kerkhof					17:00 - 19:00	Poster session P4				
17:30	Mon3A-4 Ritchie	Mon3B-4 Garrigues	17:30 - 18:00	Tue3-4 Carmen Guerra-Garcia										
18:00 - 18:30	Mon3A-5 Engeln	Mon3B-5 Luque												
19:00 - 21:30	Welcome reception								19:30 - 22:30	Conference dinner				

General Invited Topical Invited Selected Special Session

4.2 Detailed program including social program

Sun, Jul 9

15:00 - 18:00 Registration

Chance to register for the conference. There will be limited transportation arranged between Heiloo railway station and the conference venue. More updates on this will follow later. Hotel check-in is possible from 15:00 on the day of arrival.

Mon, Jul 10

09:00 - 09:20 Registration

Session: Mon1

09:20 - 09:45 Opening

Opening of the conference

09:45 - 10:30 Mon1-1 General Invited: **Annemie Bogaerts** (T17)
University of Antwerp, Belgium.
CO_2 conversion and N_2 fixation into value-added chemicals and fuels

10:30 - 11:00 Coffee break

Session: Mon2A

11:00 - 11:30 Mon2A-1 Topical Invited: **Eugen Stamate** (T3)
Technical University of Denmark, Denmark.
Three-dimensional plasma sheath lenses: concept and applications

11:30 - 11:50 Mon2A-2 Selected: **Luca Vialetto** (T3)
University of Kiel, Germany.
Multiscale plasma-surface model applied to reactive magnetron sputtering

11:50 - 12:10 Mon2A-3 Selected: **Vasco Guerra** (T3)
IPFN, IST, Universidade de Lisboa, Portugal.
Atomic wall recombination in oxygen-containing plasmas

12:10 - 12:30 Mon2A-4 Selected: **Qinghao Shen** (T5)
Dutch Institute for Fundamental Energy Research, Netherlands.
Non-thermal chemical dissociation of CO_2: a modelling approach

Session: Mon2B

11:00 - 11:30 Mon2B-1 Topical Invited: **Wonho Choe** (T11)
Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic Of.
Electric wind and water surface stabilization under impingement of an atmospheric pressure plasma jet

11:30 - 11:50 Mon2B-2 Selected: **Pohsien Chiu** (T11)
Department of Mechanical Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan.
DBD-Streamer Mode Transition of Atmospheric-Pressure Plasma Jet Applied on Water with Changed Distance and AC Power

11:50 - 12:10 Mon2B-3 Selected: **Kinga Kutasi** (T11)
Wigner Research Centre for Physics, Hungary.
Surface-wave microwave discharge in contact with liquids

12:10 - 12:30 Mon2B-4 Selected: **Roxanne Walker** (T11)
University of Michigan, United States of America.
Plasma Discharge Modifications Over a Rough Dielectric Liquid Surface

12:30 - 13:45 Lunch

12:30 - 13:15 Diversity session

This session highlights aspects of diversity related policy at the Eindhoven University of Technology and should serve as a basis for discussion on diversity policies. More details will follow later. **Lunch will be available in the event room**.

13:45 - 15:45 Poster session P1

Poster titles and abstracts on page 18.

Note that poster abstracts without accompanying registration are not included at this moment. If your abstract is missing and you have registered before May 25, 2023 then please send an email to Sander Nijdam.

15:45 - 16:00 Short coffee break

Session: Mon3A

16:00 - 16:30 Mon3A-1 Topical Invited: **Sudeep Bhattacharjee** (T10)
Indian Institute of Technology (IIT) - Kanpur, India.
Potential fluctuation dynamics in cold atmospheric pressure microplasmas

16:30 - 17:00 Mon3A-2 Topical Invited: **Kazunori Shinoda** (T15)
Hitachi, Ltd., Japan.
Selective atomic layer etching of thin films using cyclic plasma exposure and infrared irradiation

17:00 - 17:30 Mon3A-3 Topical Invited: **Francesco Taccogna** (T3)
CNR, Italy.
Role of electron-induced secondary electron emission from the walls in RF breakdown

17:30 - 18:00 Mon3A-4 Topical Invited: **Grant Ritchie** (T8)
University of Oxford, United Kingdom.
High resolution spectroscopy of simple molecular plasmas

18:00 - 18:30 Mon3A-5 Topical Invited: **Richard Engeln** ()
, The Netherlands.
TBD

Session: Mon3B

16:00 - 16:30 Mon3B-1 Topical Invited: **Ana Sobota** (T10)
Eindhoven University of Technology, Netherlands.
The interaction of non-thermal atmospheric pressure plasmas with substrates

16:30 - 17:00 Mon3B-2 Topical Invited: **Eric Robert** (T17)
GREMI, CNRS/Université d'Orléans, France.
Plasma electrode DBD for low power, large surface applications

17:00 - 17:30 Mon3B-3 Topical Invited: **Masafumi Jinno** (T17)
Ehime University, Japan.
Spontaneous external molecular/gene introduction with random genome integration free by complex stimuli generated by plasma and its applications

17:30 - 18:00 Mon3B-4 Topical Invited: **Laurent Garrigues** (T5)
Laplace/CNRS-Universite de Toulouse, France.
Low temperature plasmas modeling using the Sparse-PIC algorithm

18:00 - 18:30 Mon3B-5 Topical Invited: **Alejandro Luque** (T5)
Instituto de Astrofísica de Andalucía (IAA-CSIC), Spain.
Towards coarse-grained models for extensive streamer coronas in thunderclouds

19:00 - 21:30 Welcome reception

A welcome reception is organized, including a buffet.

Tue, Jul 11

Session: Tue1

09:00 - 09:45 Tue1-1 General Invited: **Kenji Ishikawa** (T15)
Nagoya University, Japan.
Frontiers of Plasma Etching Technology for Advanced Semiconductor Devices

09:45 - 10:30 Tue1-2 General Invited: **Achim von Keudell** (T8)
Ruhr University Bochum, Germany.
Transport from target to substrate in High Power Impulse Magnetron Sputtering Plasmas

10:30 - 11:00 Coffee break

Session: Tue2A

11:00 - 11:30 Tue2A-1 Topical Invited: **Keisuke Takashima** (T9)
Tohoku University, Japan.
Generation of Vibrationally Excited Nitrogen in a DC-Superimposed Repetitive Nanosecond Pulse Discharge

11:30 - 11:50 Tue2A-2 Selected: **Luca Matteo Martini** (T9)
University of Trento, Italy.
Spectroscopic investigation of the time evolution of CO_2 dissociation in a nanosecond plasma-discharge.

11:50 - 12:10 Tue2A-3 Selected: **Atsushi Saito** (T15)
AGC Inc., Japan.
Propagation of radicals and carbon particles in CH_4 plasma at atmospheric pressure

12:10 - 12:30 Tue2A-4 Selected: **Hirotaka Toyoda** (T9)
Nagoya University, Japan.
Time-dependent measurement of ion composition in a capacitively-coupled $Ar/C_4F_8/O_2$ power-modulated VHF plasma

Session: Tue2B

11:00 - 11:30 Tue2B-1 Topical Invited: **Romolo Laurita** (T19)
Alma Mater Studiorum - University of Bologna, Italy.
On the potential use of plasma for food processing

11:30 - 11:50 Tue2B-2 Selected: **Inna Orel** (T17)
GREMI, Université d'Orléans, France.
Synergetic effect of carbon monoxide (CO) and cold atmospheric Helium/CO_2 MHz and kHz plasmas on bacterial disinfection for biomedical applications

11:50 - 12:10 Tue2B-3 Selected: **Erik Wagenaars** (T9)
York Plasma Institute, University of York, United Kingdom.
Formation of O and H radicals in an atmospheric-pressure nanosecond pulsed discharge in helium with admixtures of water vapour

12:10 - 12:30 Tue2B-4 Selected: **Rita Agus** (T17)
EPFL (Swiss Plasma Center), École polytechnique fédérale de Lausanne, Switzerland.
Plasma-treated water inactivation mechanisms of Escherichia coli

12:30 - 13:45 Lunch

12:30 - 12:45 COST PlAgri

COST Action: CA19110 - Plasma applications for smart and sustainable agriculture

12:30 - 13:45 Workshop on Input data for Low-Temperature Plasma Science

This lunch event aims to bring together ICPIG participants with an interest in input data creation and dissemination. It will feature a demonstration of the new version of the LXCat database and a discussion on the path towards full-chemistry databases. **Lunch will be available in the event room**.

13:45 - 15:45 Poster session P2

Poster titles and abstracts on page 21.

Note that poster abstracts without accompanying registration are not included at this moment. If your abstract is missing and you have registered before May 25, 2023 then please send an email to Sander Nijdam.

15:45 - 16:00 Short coffee break

Session: Tue3

16:00 - 16:30 Tue3-1 Special Session Invited: **Atsushi Komuro** (T5)
The University of Tokyo, Japan.
Simulation of the chemical reaction induced by a streamer discharge and its validation study

16:30 - 17:00 Tue3-2 Special Session Invited: **Anne Bourdon** (T10)
LPP, France.
Why are 2D axisymmetric ionization waves generated in a simple point-to-plane geometry in atmospheric pressure air still studied?

17:00 - 17:30 Tue3-3 Special Session Invited: **Mark van de Kerkhof** (T14)
ASML, Netherlands.
EUV-induced Hydrogen Plasma: Pulsed Mode Generation and Consequences in Lithographic Scanner

17:30 - 18:00 Tue3-4 Special Session Invited: **Carmen Guerra-Garcia** (T10)
Massachusetts Institute of Technology, United States of America.
Two-Way Coupling of Plasma-Assisted Combustion

Wed, Jul 12

Session: Wed1A

09:00 - 09:30 Wed1A-1 Topical Invited: **Tat Loon Chng** (T6)
National University of Singapore, Singapore.
Recent Developments in the Electric Field-Induced Second Harmonic Generation (EFISH) Method for Non-Equilibrium Plasmas

09:30 - 09:50 Wed1A-2 Selected: **Anne Limburg** (T6)
Eindhoven University of Technology, Netherlands.
E-FISH data analysis for electric field measurements on single channel streamers

09:50 - 10:10 Wed1A-3 Selected: **Alexandre Leduc** (T6)
LPP, France.
Collisional Radiative Model as plasma diagnostic for Hall-effect thrusters

10:10 - 10:30 Wed1A-4 Selected: **Anja Herrmann** (T6)
DIFFER, Netherlands.
Determining the dependency of radical density on position by dual thermocouple radical probe

Session: Wed2B

09:00 - 09:30 Wed2B-1 Topical Invited: **Mikhail Benilov** (T5)
Universidade da Madeira, Portugal.
Is there a place for good math in gas discharge science? A personal view

09:30 - 09:50 Wed2B-2 Selected: **Duarte Gonçalves** (T5)
LPGP, University Paris-Saclay & IPFN, Instituto Superior Técnico, France.
Coupled reactive-flow simulation of plasma jets

09:50 - 10:10 Wed2B-3 Selected: **Zhen Wang** (T5)
Centrum Wiskunde & Informatica (CWI), Amsterdam, The Netherlands, Netherlands.
Quantitative modeling of streamer discharge branching in air and experimental validation

10:10 - 10:30 Wed2B-4 Selected: **Tiago Cunha Dias** (T5)
Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Lisboa, Portugal.
Assessment of time-locality assumptions on the modelling of nanosecond-pulsed discharges

10:30 - 11:00 Coffee break

Session: Wed3A

11:00 - 11:30 Wed3A-1 Topical Invited: **Miloš Skočić** (T6)
Faculty of Physics University of Belgrade, Serbia.
Measurement of plasma parameters at the very beginning of the laser induced breakdown

11:30 - 11:50 Wed3A-2 Selected: **Waseem Khan** (T6)
Masaryk University, Czech Republic.
Fluorescence (TALIF) Measurement of Ground State Atomic Nitrogen Concentration in an Argon RF Plasma Pencil measured using a Picosecond Laser.

11:50 - 12:10 Wed3A-3 Selected: **Jente Wubs** (T6)
Leibniz Institute for Plasma Science and Technology (INP), Germany.
Comparison between THz absorption spectroscopy and ps-TALIF measurements of atomic oxygen densities

12:10 - 12:30 Wed3A-4 Selected: **Nikita Lepikhin** (T6)
Ruhr University Bochum, Germany.
Anomalous $N_2^+(B^2\Sigma_u^+)$ population in APPJ in nitrogen

Session: Wed3B

11:00 - 11:30 Wed3B-1 Topical Invited: **Pascal Brault** (T5)
GREMI CNRS - University of Orleans, France.
Molecular dynamics simulations: A virtual microscope for studying plasma processes

11:30 - 11:50 Wed3B-2 Selected: **Davide Poli** (T5)
Universidad Carlos III de Madrid, Spain.
Fluid vs kinetic simulation of the Penning discharge

11:50 - 12:10 Wed3B-3 Selected: **Evan Litch** (T15)
University of Michigan, United States of America.
Redeposition in High Aspect Ratio Plasma Etching

12:10 - 12:30 Wed3B-4 Selected: **YaZhen Wang** (T10)
Xi'an Jiaotong University, China.
Modelling the role of the leftover charged species on the subsequent discharges

12:35 - 12:45 Group photo

12:45 - 18:00 Excursion to *De Zaanse Schans*

The excursion will take you to Zaanse Schans, a water-rich landscape below sea level, where daily life and crafts of the 18th and 19th centuries are brought to life, with windmills, workshops, wooden houses and barns. In the different workshops you can see how wooden shoes were made, or barrels, cloth, cheese and alike, you can visit historic windmills grinding grain or sawing wood or pumping water, or you can go for a hike through the historic settlement or through nature. There is also a museum showing the local processing of goods that Dutch ships brought from overseas; the museum also shows an original painting of Claude Monet who was excited about the landscape. There are many more choices during your visit of 3.5 hours. The busses will leave at 13:00, and be back around 18:00. Lunch packages will be provided for the bus ride.

Thu, Jul 13

Session: Thu1

09:00 - 09:45 Thu1-1 General Invited: **Zdenko Machala** (T11)
Comenius University in Bratislava, Slovakia.
Transport of Reactive Species from Plasma Discharges into Water Determines the Plasma-Activated Water Properties and Applications

09:45 - 10:30 Thu1-2 General Invited: **Pascal Chabert** (T8)
LPP, CNRS, Ecole Polytechnique, France.
Recent challenges in electric (plasma) propulsion

10:30 - 11:00 Coffee break

Session: Thu2A

11:00 - 11:30 Thu2A-1 Topical Invited: **Keigo Takeda** (T6)
Meijo University, Japan.
Spectroscopic diagnostics of surface reactions of atomic species in non-thermal plasma

11:30 - 11:50 Thu2A-2 Selected: **Alexandros Gerakis** (T6)
Luxembourg Institute of Science & Technology, Luxembourg.
Single shot, non-resonant, four-wave mixing laser diagnostics of heavy species in low temperature plasmas.

11:50 - 12:10 Thu2A-3 Selected: **Andrea Dagmar Pajdarová** (T6)
University of West Bohemia, Czech Republic.
Cavity ring-down spectroscopy in HiPIMS discharge during the sputtering of the titanium target

12:10 - 12:30 Thu2A-4 Selected: **Shinya Kumagai** (T17)
Meijo University, Japan.
Plasma-on-Chip: A Microdevice for Direct Plasma Exposure of Cultured Cells

Session: Thu2B

11:00 - 11:30 Thu2B-1 Topical Invited: **Armelle Michau** (T13)
LSPM CNRS, France.
Particle formation and dusty plasma effect in non-equilibrium discharges

11:30 - 11:50 Thu2B-2 Selected: **Tim Donders** (T13)
Eindhoven University of Technology, Netherlands.
Decay of additional electron density released by laser-induced photodetachment as a diagnostic tool for dust particle size in a low-pressure nanodusty plasma

11:50 - 12:10 Thu2B-3 Selected: **Ramón Peláez** (T13)
CSIC, Spain.
Monitoring the carbonaceous interstellar dust analogues growth in cold plasmas by light scattering

12:10 - 12:30 Thu2B-4 Selected: **Peter Bruggeman** (T11)
University of Minnesota, United States of America.
A Model of Plasma-Enabled Gold Nanoparticle Synthesis in Microdroplets

12:30 - 13:45 Lunch

13:45 - 15:45 Poster session P3

Poster titles and abstracts on page 25.

Note that poster abstracts without accompanying registration are not included at this moment. If your abstract is missing and you have registered before May 25, 2023 then please send an email to Sander Nijdam.

15:45 - 16:00 Short coffee break

Session: Thu3A

16:00 - 16:30 Thu3A-1 Topical Invited: **Kazunori Takahashi** (T8)
Tohoku University, Japan.
Fundamental studies and applications of magnetic nozzle plasma

16:30 - 17:00 Thu3A-2 Topical Invited: **Uros Cvelbar** (T8)
Jozef Stefan Institute, Slovenia.
Plasmas for nano and facilitating next generation energy storage

Session: Thu3B

16:00 - 16:30 Thu3B-1 Topical Invited: **Yerbolat Ussenov** (T10)
Princeton University, United States of America.
Dynamics of microdischarges in a volume DBD under airflow

16:30 - 17:00 Thu3B-2 Topical Invited: **Claudia Lazzaroni** (T15)
USPN - LSPM CNRS UPR3407, France.
Micro Hollow Cathode Discharges in Ar/N_2 for boron nitride PECVD

17:00 - 19:00 Poster session P4

Poster titles and abstracts on page 29.

Note that poster abstracts without accompanying registration are not included at this moment. If your abstract is missing and you have registered before May 25, 2023 then please send an email to Sander Nijdam.

19:30 - 22:30 Conference dinner

Conference dinner on the beach.

Fri, Jul 14

Session: Fri1A

09:00 - 09:30 Fri1A-1 Topical Invited: **Olmo González-Magaña** (T1)
UNAM, Mexico.
Photodetachment of negative ions drifting in the Townsend Avalanche: Experimental and numerical study in O_2 and N_2O.

09:30 - 09:50 Fri1A-2 Selected: **Tlekkabul Ramazanov** (T1)
Al-Farabi Kazakh National University, IASIT, Kazakhstan.
Scattering and transport properties of dense plasmas

09:50 - 10:10 Fri1A-3 Selected: **Igor Adamovich** (T1)
Ohio State University, United States of America.
Semiclassical Analytic Model of Nonadiabatic Energy Transfer in Atomic Collisions

10:10 - 10:30 Fri1A-4 Selected: **Renaud Gablier** (T10)
Laboratoire EM2C, CentraleSupélec - CNRS, Université Paris-Saclay, France.
Effect of hydrodynamic regimes on the cumulative heating induced by NRP discharges in plasma-assisted combustion

Session: Fri1B

09:00 - 09:30 Fri1B-1 Topical Invited: **Ana Gómez-Ramírez** (T17)
Universidad de Sevilla, Spain.
On the role of reaction mechanisms and metal catalysts during the plasma-assisted ammonia synthesis

09:30 - 09:50 Fri1B-2 Selected: **Stephan Reuter** (T11)
Polytechnique Montreal, Canada.
Coupling of a microfluidic device with a reference cold plasma jet

09:50 - 10:10 Fri1B-3 Selected: **Toshiaki Miyazaki** (T11)
Hokkaido University, Japan.
Control of self-organized luminous pattern formation in atmospheric-pressure dc glow discharge

10:10 - 10:30 Fri1B-4 Selected: **Mackenzie Meyer** (T11)
University of Michigan, United States of America.
Modelling of PFAS Removal From Water by Plasma Treatment: C3F8 as a Surrogate

10:30 - 11:00 Coffee break

Session: Fri2

11:00 - 12:00 Fri2-1 von Engel and Franklin prize lecture: **Jean-Pierre Boeuf** (T1)
CNRS, University of Toulouse, France.
Nonlinearity and complexity of low-temperature plasmas. Self-organized filaments, striations, and spokes

12:00 - 12:30 Poster Prizes + Closing ceremony

Poster prize award ceremony and closing session of the conference.

4.3 Posters

Note that poster abstracts without accompanying registration are not included at this moment. If your abstract is missing and you have registered before May 25, 2023 then please send an email to Sander Nijdam.

4.3.1 Poster session P1, Mon, Jul 10, 13:45 - 15:45

Jaime de Urquiijo (T1)
Universidad Nacional Autónoma de México, Mexico.
Effective ionisation and three-body attachment swarm coefficients in H_2O-dry air gas mixtures

Rui Manuel Santos Almeida (T1)
Universidade da Madeira, Portugal.
Validating Townsend criterion for the ignition of volume electrical discharges

Codrina Ionita-Schrittwieser (T3)
University of Innsbruck, Austria.
Diamond-coated probes for diagnostics in hot and hazardous plasmas

Roman W. Schrittwieser (T4)
University of Innsbruck, Austria.
Space charge structures on gridded coaxial cylinders

Shu Zhang (T5)
Laboratoire de Physique des Plasmas (LPP), CNRS, École polytechnique, Institut Polytechnique de Paris, France.
Drift-Diffusion models for RF-CCPs at intermediate pressure: estimating transport coefficients

Jesper Janssen (T5)
Plasma Matters B.V., Netherlands.
Modelling radiation using PLASIMO

Richard Christian Bergmayr (T5)
Max Planck Institute for Plasma Physics, Germany.
Corona modelling for ro-vibrationally resolved spectra analysis in low-temperature hydrogen plasmas

Anatole Berger (T5)
CNRS, Ecole Polytechnique, France.
Multi-fluid modeling of a weakly-ionized confined plasma: ion-neutral collision term

Karim Saber (T5)
Materials and Renewable Energies Laboratory, Physics Department, Ibn Zohr University, Morocco.
Effect of multi-tip reactor parameters on energy efficiency using the electrical model equivalent to corona discharge

Nicolas Lequette (T5)
LPP, France.
Comparison of 1D particle-in-cell simulations with Langmuir probe measurements of a low-pressure inductively-coupled discharge

Federico Petronio (T5)
LPP Ecole Polytechnique - SAFRAN, France.
Two-dimensional electrostatic instabilities in Hall thrusters

Felix Smits (T5)
Leiden University, Netherlands.
Flow and microwave design of the Topological Reactor

Tomas Hoder (T6)
Masaryk University, Czech Republic.
Theoretical and experimental analysis of 2p states kinetics in barrier discharge in argon

Yuya Yamashita (T6)
Tokyo Institute of Technology, Japan.
Diagnosis of spatial distribution of electron temperature and electron density of argon inductively coupled plasma by tomographic optical emission spectroscopic measurement

Benjamin Esteves (T6)
CNRS, Sorbonne Université, Université Paris-Saclay, Observatoire de Paris, ?Ecole polytechnique, Institut polytechnique de Paris, France.
Development of optical diagnostics to study neutral species in low-pressure iodine plasmas: application within a gridded thruster.

Koichi Sasaki (T6)
Hokkaido University, Japan.
Estimation of vibrational temperatures of CO_2 in dielectric barrier discharges by deep ultraviolet absorption spectroscopy

Dejan Dojić (T6)
University of Belgrade, Serbia.
Absorption properties of Laser Induced Plasma

Francisco J Gordillo-Vázquez (T6)
IAA-CSIC, Spain.
Corona discharges in thunderclouds as detected from space by ASIM: Types, properties, and worldwide geographical distributions

Yusuke Nakagawa (T10)
Tokyo Metropolitan University, Japan.
Behavior of atomic oxygen in pulsed barrier discharge under sub-atmospheric pressure He/O_2 mixture

Jion Ogaki (T10)
Tokyo Metropolitan University, Japan.
Density measurement of atomic oxygen in pulsed discharges formed under sub-atmospheric pressure pure oxygen

Deepika Behmani (T10)
Indian Institute of Technology Kanpur, India.
Electric field fluctuations in a cold micro-plasma jet under different flow modes

Maria Mitrou (T10)
Laboratory of Subatomic Physics and Cosmology, University Grenoble Alpes, France.
Cylindrical SDBD of well-defined expansion area for standardized studies

Alexandra Brisset (T10)
CNRS, France.
Electron density and temperature in a diffuse nanosecond pulse discharge in air at atmospheric pressure

Victor Lafaurie (T10)
LPP, France.
Nanosecond Surface Dielectric Barrier Discharge: Experimental study of high-pressure streamer to filament transition with varying gas composition

Sukma Wahyu Fitriani (T10)
Kochi University of Technology, Japan.
Optical emission spectroscopy of photoemission-induced atmospheric pressure DC gas discharge

Corentin Bajon (T10)
Laplace - Université de Toulouse Paul Sabatier, France.
Study of Townsend Dielectric Barrier Discharge in CO_2

Oleksandr Galmiz (T11)
Comenius University Bratislava, Slovakia.
Quantification of chemical species produced by the Surface Dielectric Barrier Discharge with liquid electrodes

Olivera Jovanović (T11)
Institute of Physics Belgrade, Serbia.
The influence of non-thermal Ar plasma jet on physicochemical properties of treated liquid

Zimu Yang (T11)
University of Michigan, United States of America.
Spatially resolved spectra in an atmospheric pressure DC glow plasma emission with liquid anode

Kseniia Leonova (T15)
ChIPS, University of Mons, Belgium.
Influence of target heating on the growth of Nb coatings during hot magnetron sputtering

Alice Remigy (T15)
LSPM, France.
Investigation of gas flow pattern in a Micro-Hollow Cathode Discharge-based deposition reactor using planar Laser Induced Fluorescence.

Sushanta Barman (T15)
Indian Institute of Technology Kanpur, India.
Controlled guiding and focusing of intense plasma ion beams by micro-glass capillaries beyond the self-focusing limit

Kizuku Ikeda (T15)
Kyushu University, Japan.
Effects of Ne mixing on plasma enhanced chemical vapor deposition of a-C:H films using CH_4/Ar/Ne capacitively coupled discharges

Sagi Orazbayev (T15)
Al-Farabi Kazakh National University, Kazakhstan.
Superhydrophobic surfaces production by PECVD method

Lucie Janů (T15)
CEITEC, Brno University of Technology, Czech Republic.
Improve adhesion of electrospun nanofibers to plasma-treated polypropylene textile

Mitsuaki Maeyama (T15)
Saitama University, Japan.
Effects of electrode geometries and materials on a water purification using the ball lightning discharge

Murugesh Munaswamy (T15)
Hokkaido University, Japan, Japan.
Challenges in obtaining uniform distribution of core shell Tin nano-particles using dc magnetron sputtering plasma

Tamiko Ohshima (T15)
National Institute of Technology, Sasebo College, Japan.
Plasma processing of Al-doped zinc oxide thin films using powder targets

Chang Hyun Cho (T16)
Korea Institute of Fusion Energy, Korea, Republic Of.
Development of atmospheric pressure microwave plasma generator with gas preheating structure for dry reforming system.

Yasumasa Mori (T17)
Meijo University, Japan.
Nitric oxide radicals penetrates into fibroblast cells to promote proliferation

Pasquale Isabelli (T17)
Alma Mater Studiorum, Italy.
Cold plasma systems for bioaerosol decontamination: comparison between a Rotating Dielectric Barrier Discharge plasma source and a commercial device

Aysegul Uygun Oksuz (T17)
Suleyman Demirel University, Turkey.
Determination of antibacterial effectiveness rate of plasma activated physiological saline (PAIS) solution (0.9% NaCl)

Ramavtar Jangra (T17)
Indian Institute of Technology Jodhpur, India.
Deactivation efficiency analysis of airborne microorganisms using a Dielectric Barrier Discharge (DBD) based plasma system

Roxanne Walker (T17)
University of Michigan, United States of America.
Nonthermal Plasma Interactions with Microplastics in a Polymer-Water Matrix

Richard Cimerman (T17)
Comenius University in Bratislava, Faculty of mathematics, physics and informatics, Slovakia.
Nonthermal plasma regeneration and repetitive use of deactivated catalysts

Leonardo Zampieri (T17)
Università degli Studi di Milano-Bicocca, Italy.
Combining diagnostics for characterizing antibacterial effect of a cold atmospheric plasma source

Kunihiro Kamataki (T19)
Kyushu University, Japan.
Prediction of plasma process conditions via machine learning

4.3.2 Poster session P2, Tue, Jul 11, 13:45 - 15:45

Andrei Smolyakov (T1)
University of Saskatchewan, Canada.
ExB heating and transport in magnetized plasmas with ionization and charge-exchange effects

Thierry Dufour (T1)
Sorbonne Université, France.
Triggering self-organization of guided streamers in a cold plasma jet

Jaime de Urquijo (T2)
Universidad Nacional Autónoma de México, Mexico.
Measurement of the flux drift velocity of electrons in THF-H_2O mixtures

Gilles Cartry (T3)
Aix-Marseille Université, France.
Correlation between the negative ion surface production efficiency and the surface work function in low pressure hydrogen plasmas

Jiansyun Lai (T3)
Kyushu university, Japan.
Effects of lower discharge frequency on ion energy distribution function in dual frequency plasma studied by particle-in-cell/Monte Carlo method

Andrei Smolyakov (T4)
University of Saskatchewan, Canada.
Plasma acceleration in the magnetic nozzle

Xiaoran Li (T5)
Xi'an Jiaotong University, China.
Particle-in-cell modelling of positive streamers in CO_2: the role of photoionization

Kevin Michael Rettig (T5)
scia Systems GmbH, Germany.
Modeling the extraction of a focused broad ion beam from an inductively coupled plasma source.

Bahram Mahdavipour (T5)
University of Iceland, Iceland.
The influence of secondary electron emission on a capacitive chlorine discharge

Hans Höft (T5)
INP Greifswald, Germany.
Investigation of self-pulsing discharges in argon at atmospheric pressure

Carlos Pintassilgo (T5)
IPFN, Portugal.
Effect of the magnetic field on the electron kinetics under AC/DC electric fields

Alejandro Malagón Romero (T5)
Centrum Wiskunde & Informatica (CWI), Netherlands.
A physics-informed neural network to accelerate Montecarlo streamer simulations

Rick Budé (T5)
Eindhoven University of Technology, Netherlands.
ECR simulations on unstructured meshes

Dennis Bouwman (T5)
Centrum Wiskunde & Informatica (CWI), Netherlands.
Estimating the physics of single positive air streamers from measurable parameters

Rutger Bell (T6)
Eindhoven University of Technology, Netherlands.
Surface charge deposition on dielectric surfaces using an X-ray ionizer

In Je Kang (T6)
Korea Institute of Fusion Energy, Korea, Republic Of.
Measurement of enthalpy probe on plasma temperature in atmospheric pressure microwave plasma jet for CO_2 reforming system

Jean-Paul Booth (T6)
CNRS, France.
Oxygen atom TALIF : temperature dependence of fluorescence quenching

Waseem Khan (T6)
Masaryk University, Czech Republic.
Fluorescence (LIF) measurement of atomic antimony concentration in a planar dielectric barrier discharge.

Quentin Delavière–Delion (T8)
Laplace - Université de Toulouse Paul Sabatier - CNRS - INPT, France.
Experimental observation of the coupling of low frequency instabilities at different scales in a Hall thruster

Vasco Guerra (T8)
IPFN, IST, Universidade de Lisboa, Portugal.
Development of a reaction mechanism for CO_2-N_2 plasmas

Charlie Kniebe-Evans (T8)
University of Oxford, United Kingdom.
Investigating the spatial distribution of nitrogen plasma species using saturated cavity ring-down spectroscopy

Anda Abola (T9)
Institute of Atomic Physics and Spectroscopy, University of Latvia, Latvia.
Self-modulation in arsenic high-frequency electrodeless lamps

Swaminathan Prasanna (T9)
Universite Paris Sorbonne Nord, France.
Evidence of a significant N-atom metastable population by ns-TALIF in pulsed N_2 microwave plasma

Denis Eremin (T9)
Ruhr University Bochum, Germany.
The electron power absorption mechanism due to the sheath motion in a microwave-driven plasmaline discharge

María C García (T9)
Universidad de Córdoba, Spain.
Generating non-filamented argon plasma columns at atmospheric pressure using a surfatron consuming low 2.45 GHz microwave power

Ryo Ono (T10)
The University of Tokyo, Japan.
Quantitative measurements of the effects of OH, O, and O_3 on surface treatments of polymers using VUV photodissociation method

Sebastian Wilczek (T10)
Ruhr University Bochum, Germany.
Simulation of surface dielectric barrier discharges: Streamer and gas dynamics

Hans Höft (T10)
INP Greifswald, Germany.
Interaction of two single-filament, pulsed-operated dielectric barrier discharges

Rui Manuel Santos Almeida (T10)
Universidade da Madeira, Portugal.
Breakdown characterization in device with dielectric spacer in air at 1 atm

Nikola Skoro (T11)
Institute of Physics Belgrade, Serbia.
Characterization of a plasma system with microwave launcher used for treatment of liquids

Hiroshi Akatsuka (T11)
Tokyo Institute of Technology, Japan.
Velocity change of non-transferred arc jet released into water

Lara Alomari (T11)
PPRIME Institute, France.
Needle-to-liquid DC and AC dielectric barrier discharges in atmospheric air: electrical characteristics and chemical analysis

Kunihiro Kamataki (T13)
Kyushu University, Japan.
Investigation of particle charge and interparticle interaction in a plasma

Guido Klaassen (T13)
Eindhoven University of Technology, Netherlands.
Photodetachtment experiments on Plasma Confined Micro-Particles

Judith van Huijstee (T13)
Eindhoven University of Technology, Netherlands.
Microparticle charge in a spatio-temporal afterglow plasma: influence of an externally applied electric field

Yutaro Nakano (T15)
Kyushu University, Japan.
Sputter epitaxy of atomically flat (ZnO)x(InN)1-x films on sapphire substrates using ZnO(N) buffer layers fabricated by Ar/N_2 discharges

Shinjiro Ono (T15)
Kyushu University, Japan.
Deposition characteristics of cumene plasma CVD for high-speed deposition of high-density a-C:H films

Ryota Narishige (T15)
Kyushu University, Japan.
Pseudomorphic growth of (ZnO)x(InN)1-x films on ZnO substrates by magnetron sputtering using Ar/N_2/O_2 discharges

Iori Nagao (T15)
Kyushu University, Japan.
Control of ion trajectory in high aspect ratio trenches by using amplitude modulated rf discharges

Kazunori Koga (T15)
Kyushu University, Japan.
Coverage control of carbon nanoparticles on substrate using capacitively coupled plasma chemical vapor deposition

Didar Batryshev (T15)
Kazakh-British Technical University, Kazakhstan.
Chondro-like particles in the plasma environment: formation mechanisms and properties

Michihiro Otaka (T15)
Kyushu University, Japan.
Effects of tailored voltage waveform discharges on deposition of hydrogenated amorphous carbon films by CH_4/Ar capacitively coupled plasma

Emilio Martines (T17)
University of Milano-Bicocca, Italy.
Optical emission spectroscopy of a plasma jet for biomedical applications

Anda Abola (T17)
Institute of Atomic Physics and Spectroscopy, University of Latvia, Latvia.
Zeeman AAS - a means to assess mercury pollution in the environment through artefacts of wild birds

Manon Soulier (T17)
Sorbonne Unviersité, Laboratoire de Physique des Plasmas, France.
Investigating the performances of cold plasma endoscopy for cholangiocarcinoma local treatment

Anna Dzimitrowicz (T17)
Wroclaw University of Science and Technology, Poland.
Application of non-thermal plasma for production of antiphytopathogenic plasma-activated liquid

Ana Gómez-Ramírez (T17)
Universidad de Sevilla, Spain.
Unraveling surface effects for improving the germination of barley seeds: from drying to air plasma treatments

Satoshi Uchida (T17)
Tokyo Metropolitan University, Japan.
Permeation characteristics of hydrogen peroxide through biological membranes by applying electric field

Ryo Ono (T17)
The University of Tokyo, Japan.
Treatments of cancer tumors in mice using streamer discharge

Hiromi Alwi Yamamoto (T17)
Meijo University, Japan.
Bactericidal species in electrically-neutral oxygen radical irradiated solution

Ravi Patel (T17)
Eindhoven University of Technology, Netherlands.
Optimizing nanosecond repetitively pulsed discharges for ignition stabilized combustion

Yoshihisa Ikeda (T17)
Ehime University, Japan.
Mechanism of molecular introduction into plant cells using plasma treatment

Filippo Capelli (T19)
Alma Mater Studiorum - University of Bologna, Italy.
Plasma assisted decontamination of food packaging

4.3.3 Poster session P3, Thu, Jul 13, 13:45 - 15:45

Octavio Emmanuel Hernández Alvarez (T1)
Charles University, Czech Republic.
Nuclear-Spin-Changing Collisions Between H_3^+ and H_2 in an Ion Trap Experiment

Jean-Paul Booth (T1)
CNRS, France.
Oxygen atom and ozone kinetics in the afterglow of a pulse-modulated DC discharge in pure O_2: an experimental and modelling study

Miroslava Kassayová (T1)
Charles University, Czech Republic.
Spectroscopy and recombination of H_2D^+ and HD_2^+ ions

Juan Miguel Gil (T1)
Universidad de Las Palmas de Gran Canaria (ULPGC), Spain.
Simulation and characterization of the interaction of fast quasi-monoenergetic ion beams and deuterium-tritium plasma

Stephen Muhl (T3)
Instituo de Investigaciones en Materiales, UNAM, Mexico.
Photothermic Infrared Emission of Sputtering Targets

InSun Park (T3)
Korea Institute of Fusion Energy, Korea, Republic Of.
Development of Simulator for Interaction of Materials and PLasma (SIMPL) in Korea Institute of Fusion Energy

Jon Tomas Gudmundsson (T5)
University of Iceland, Iceland.
On surface effects in a capacitive argon discharges

Borja Bayón Buján (T5)
Universidad Carlos III de Madrid, Spain.
Data-driven Identification of the Breathing Mode governing equations

Jan Tungli (T5)
Masaryk University, Czech Republic.
Modelling of magnetron plasma using fluid dynamics

Kevin van 't Veer (T5)
Plasma Matters B.V., Netherlands.
Atmospheric pressure high current diffuse glow-like dielectric barrier discharges in argon

Laurent Garrigues (T5)
Laplace/CNRS-Universite de Toulouse, France.
Benchmark of particle-in-cell simulations of a Penning-type discharge: Preliminary results

Hiroshi Akatsuka (T6)
Tokyo Institute of Technology, Japan.
Spatial distribution of vibrational and rotational temperatures of N_2 ICP by tomographic optical emission spectroscopic measurement

Irene van de Haar (T6)
Eindhoven University of Technology, Netherlands.
A Numerical Algorithm to Restore the Electric Field Distribution from E-FISH Signals

Maria Mitrou (T6)
Laboratory of Subatomic Physics and Cosmology, University Grenoble Alpes, France.
Laser-induced photo-detachment diagnostic for interrogating pulsed ECR-driven plasmas: Application to H- and D- negative ions

Zhan Shu (T6)
Laboratoire de Physique des Plasmas, France.
Time-resolved absolute density of atomic oxygen in the early afterglow of a nanosecond CO_2 plasma

Jesse Laarman (T6)
Eindhoven University of Technology, Netherlands.
Electric field analysis of single channel stable streamers using E-FISH

Lukáš Kusýn (T6)
Masaryk University, Czech Republic.
Spatiotemporally resolved electric field and temperatures in positive streamers

Marion Henkel (T6)
Leibniz-Institut für Plasmaforschung und Technologie e.V. (INP), Germany.
Laser-induced plasma formation in water with up to 600 bar hydrostatic pressure and up to 400 millijoule double-pulse LIBS

Arne Meindl (T6)
Max Planck Institute for Plasma Physics, Germany.
1D TALIF of atomic oxygen in the effluent of a CO_2 microwave discharge

Mina Farahani (T6)
University of West Bohemia, Czech Republic.
Ion and atom fluxes during HiPIMS deposition of NbC from a compound target

Lex Kuijpers (T6)
Eindhoven University of Technology, Netherlands.
Determination of atomic oxygen density and reduced electric field in oxygen-containing plasmas through OES methods

Thomas Maho (T8)
INU Champollion - DPHE, France.
Characterization of a low-pressure microwave plasma in multisource configuration for surface decontamination applications

Guangyu Sun (T8)
Swiss Plasma Center, EPFL, Switzerland.
Improved negative ion source extraction efficiency using highly emissive inverse sheath for NBI heating in fusion

Tiago Cunha Dias (T8)
Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Lisboa, Portugal.
A reaction mechanism for oxygen plasmas

Scott Doyle (T8)
University of Michigan, United States of America.
Structural and Electrical Enhancement of Radial Homogeneity in Wide Aspect Ratio Capacitively Coupled Plasma Processing Sources

Scott Doyle (T8)
University of Michigan, United States of America.
Simulating Transformer Coupling and kHz Pulsing in a Toroidal Wave Heated Remote Plasma Source

Shu Zhang (T9)
Laboratoire de Physique des Plasmas (LPP), CNRS, École polytechnique, Institut Polytechnique de Paris, France.
RF CCPs at intermediate pressure: Dissociation trends in O_2/Ar

Zheng Zhao (T9)
Xi'an Jiaotong University, China.
Streamer discharge instabilities under repetitive nanosecond pulses

Erik Wagenaars (T9)
York Plasma Institute, University of York, United Kingdom.
Effect of pulse repetition frequency on reactive oxygen species production in a pulsed He + H_2O plasma

Jon Tomas Gudmundsson (T9)
University of Iceland, Iceland.
On working gas rarefaction in high power impulse magnetron sputtering

Gita Revalde (T9)
University of Latvia, Latvia.
Investigation of radiation of Hg 198 isotope lamp

Quentin Gutierrez (T9)
Laboratoire de Physique Subatomique et de Cosmologie (CRPMN), France.
Discharge sustained by HF cathode for fluorescent lamp applications

Yihao Guo (T10)
Eindhoven University of Technology, Netherlands.
Stereophotography of streamer discharges in $N_2/O_2/CO_2$ mixtures

Jun Sup Lim (T10)
Plasma Bioscience Research Center (PBRC), Kwangwoon Univ, Korea, Republic Of.
Effect of charge accumulation on the ionized gas propagation in atmospheric pressure plasma jet

Tatsuru Shirafuji (T10)
Osaka Metropolitan University, Japan.
Shape Control of Surface-Launched Plasma Bullets

David Schulenberg (T10)
Ruhr University Bochum, Germany.
On the influence of the gas temperature on electron power absorption in atmospheric pressure micro radio frequency plasma jets

David Prokop (T10)
Masaryk University, Czech Republic.
Spatio-temporal spectroscopic investigation of a nanosecond-pulsed barrier discharge in argon

Piotr Jamroz (T11)
Wroclaw Univeristy of Science and Technology, Poland.
The spectroscopic characteristics of pulse-modulated radio-frequency atmospheric pressure glow microdischarge generated in contact with liquid

Cas van Deursen (T12)
DIFFER, Netherlands.
Effluent nozzles in Reverse-vortex-stabilized microwave plasmas for performance enhancement

Volodymyr Nosenko (T13)
DLR Institute of Materials Physics in Space, Germany.
Two-dimensional complex plasma with active Janus particles

Ramón Peláez (T13)
CSIC, Spain.
Behaviour of interstellar dust analogues under interstellar conditions.

Kazuo Takahashi (T13)
Kyoto Institute of Technology, Japan.
Ion bombardment on microorganism in dusty plasmas

Jong Keun Yang (T15)
Korea Institute of Fusion Energy, Korea, Republic Of.
Plasma-based Lithium recovery process

Jayashree Majumdar (T15)
Indian Institute of Technology, Kanpur, India.
Studies on changes in surface morphology of materials under plasma environment and their potential applications in field emission

Shih-Nan Hsiao (T15)
Nagoya University, Japan.
Atomic layer etching of SiN films with CF_4/H_2 surface modification and H_2/N_2 plasma exposure

Jianyu Feng (T15)
Masaryk University, Czech Republic.
Temperature-friendly remote atmospheric pressure plasma source for plasma activation of materials

Joanna Pawlat (T15)
Lublin University of Technology, Poland.
Nonthermal plasma impact on NaCMC/glauconite suspension properties

Marija Radmilovic-Radjenovic (T17)
Institute of Physics, Serbia And Montenegro.
Application of multi-component fluid model in studies of the origin of skin burns during electrosurgical procedures

Korentin Géraud (T17)
LPP, Sorbonne Université, France.
Cold plasma therapy applied to non-small cell lung cancer: deciphering the relevant plasma parameters to induce antitumor effects

Shinya Kumagai (T17)
Meijo University, Japan.
A plasma-assisted microperfusion culture system for promoted cell growth

Inna Orel (T17)
GREMI, Université d'Orléans, France.
Carboxyhemoglobin creation in hemoglobin solution following treatment by pulsed DBD kHz plasma jet in Ar-CO_2 for plasma medicine applications

Cristina Muja (T17)
I.N.U. J.F. Champollion, University of Toulouse, France.
Sensitivity of Deinococcus radiophilus and Escherichia coli to UVC radiation generated by a plasma lamp combined with phosphors

Yoshihito Yagyu (T17)
National Institute of Technology, Sasebo College, Japan.
Development of a novel plasma device for cancer treatment and irradiation effects on the hepatoblastoma-derived cell, Hep G2

4.3.4 Poster session P4, Thu, Jul 13, 17:00 - 19:00

Daan Boer (T1)
Eindhoven University of Technology, Netherlands.
LXCat 3: A novel data platform for low-temperature plasma physics

Guadalupe Espinosa Vivas (T1)
Universidad de Las palmas de Gran Canaria, Spain.
Microscopic properties of xenon plasmas in a wide range of plasma conditions.

Robert Carman (T1)
Macquarie University, Australia.
Inelastic momentum transfer cross-sections from inelastic differential cross-sections for electron-impact excitation in Helium and in Argon

Rafael Rodriguez (T1)
Universidad de Las Palmas de Gran Canaria, Spain.
Effects of impurities on beam-plasma interaction and hot spots properties in fast ignition nuclear fusion

Yui Okuyama (T2)
National Institute of Technology, Tomakomai College, Japan.
Simulation of negative ion mobility at atmospheric pressure in O_2 by Monte Carlo method using rate coefficients of ion-molecule reactions

Ayesha Nanda (T2)
Indian Institute of Technology Kanpur, India.
Power balance in an anisotropic dipole plasma: thermodynamical insights

Karima Bendib-Kalache (T2)
University of Sciences and Technology HB, Algeria.
Semicollisional transport coefficients for relativistic plasmas

Harry Philpott (T4)
Eindhoven University of Technology, Netherlands.
Hysteresis Effects in Shielded kHz Atmospheric Pressure Plasma Jet

Aleksandr Pikalev (T5)
Dutch Institute for Fundamental Energy Research (DIFFER), Netherlands.
Collisional-radiative model of low-pressure He-O_2 plasma

Luís L. Alves (T5)
IPFN/IST, Portugal.
The LisbOn KInetics simulation tools

Baohong Guo (T5)
Centrum Wiskunde & Informatica (CWI), Netherlands.
Modeling energy efficiency of plasma chemistry by streamers in air

Swati Swagatika Mishra (T5)
Indian Institute of Technology Kanpur, India.
Molecular dynamics simulations of confined microplasmas at cryogenic temperatures

Hemaditya Malla (T5)
Centrum Wiskunde & Informatica, Netherlands.
Double-pulse streamer simulations for varying interpulse times in air

Jannis Teunissen (T5)
Centrum Wiskunde & Informatica (CWI), Netherlands.
Overview of the afivo-streamer and afivo-pic simulation codes

Ilija Simonović (T5)
Institute of Physics Belgrade, University of Belgrade, Serbia.
Axisymmetric streamer model in the AMReX environment

Ataollah Eivazpour Taher (T5)
Universidade da Madeira, Instituto de Plasmas e Fusão Nuclear, Lisboa, Portugal.
On stability of negative corona discharges

Mate Vass (T5)
Ruhr University Bochum / Wigner Research Centre for Physics, Germany.
Determination of the atomic oxygen density distribution in an RF-driven He/O_2 microplasma jet at atmospheric pressure using an efficient 2D hybrid simulation method

Tarek Ben Ben Slimane (T5)
Laboratoire de Physique des Plasmas (LPP), CNRS, Sorbonne Université, Ecole polytechnique, Institut Polytechnique de Paris, France.
Insights on Hall effect thruster using Xe Collisional Radiative Model

Gregory Daly (T5)
University of Exeter, United Kingdom.
Surrogate collisional radiative models for fluorocarbon plasmas from optical diagnostics data using deep autoencoders

Tsanko Vaskov Tsankov (T5)
Ruhr University Bochum, Germany.
First-principles simulation of optical emission spectra for low-pressure argon plasmas and its experimental validation

Laura Chauvet (T6)
Ruhr Universty Bochum, Germany.
Mass spectrometry of an atmospheric pressure plasma jet interacting with a dielectric surface

Laurent Invernizzi (T6)
Laboratoire des Sciences des Procédés et des Matériaux, France.
Challenges of ps-TALIF measurements using a streak camera

Ibrahim Baraze Abdoul Razak (T6)
DPHE / INU Champollion, France.
Experimental characterization of a Kr-Cl DBD lamp for surface irradiance distribution study including simple photon transfer simulation.

Horacio Fernandes (T6)
Instituto de Plasmas e Fusao Nuclear, Portugal.
RF Plasma source characterization for an EM cavity

Toma Sato (T6)
Kyushu university, Japan.
Optical tweezers technique for electric field strength and fluctuation measurements in plasma using a fine particle

Anne Limburg (T6)
Eindhoven University of Technology, Netherlands.
Invasiveness of picosecond and nanosecond laser diagnostics on plasma bullets in nitrogen

Gwenael Fubiani (T8)
CNRS, France.
3D Particle-in-Cell simulation of the $E \times B$ electron drift instability in Hall thrusters

Isabel Tanarro (T8)
CSIC -Consejo Superior de Investigaciones Científicas, Spain.
Relevance of N_2 addition in the ion composition of C_2H_2 glow discharges

Xingyu Chen (T8)
DIFFER, Netherlands.
Experimental Study of the Plasma Enhanced Oxygen Reduction and Permeation of LSM|YSZ|LSM Solid Oxide Electrolyte Cell

Davide Maddaloni (T8)
Universidad Carlos III de Madrid - EP2 research group, Spain.
Experimental investigation of oscillations in a magnetic nozzle

Lucas Fuster (T9)
Laplace / CEA Gramat / Isae-Supaero, France.
Leaky wave discharges in a printed transmission line

Ivan Tsonev (T10)
University of Antwerp, Belgium.
Glow and arc discharges in atmospheric pressure nitrogen

Duarte Gonçalves (T10)
LPGP, University Paris-Saclay & IPFN, Instituto Superior Técnico, France.
Ar(1s5) density modulation by N_2-O_2 shielding of an atmospheric pressure argon plasma jet

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A study on plasma active water from a new hybrid source for tomato growth in hydroponic conditions

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Electrical potential and luminescence distribution measurements of repetitive surface dielectric barrier discharges in N_2 and O_2 mixture gases

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Control strategies for polymerization processes assisted by atmospheric pressure plasma jets

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Influence of plasma instability on gas-phase synthesis of N-graphene in dual-channel microwave plasma torch at atmospheric pressure

Tomoyuki Nonaka (T15)
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Chemical composition and surface morphology of films polymerized by C_4F_8 plasmas in Bosch process

Hisato Yabuta (T15)
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Non-equilibrium nitrogen incorporation into ZnO films by rf-magnetron sputtering: stabilization of amorphous phase and noteworthy local structure in crystalline phase by solid phase crystallization

Yoshiharu Wada (T15)
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Sputter deposition of low resistive 30-nm-thick ZnO:Al films using ZnO seed layers grown via solid-phase crystallization

Takafumi Yunoue (T15)
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Sputter epitaxy of Zn1-xMgxO films on lattice-mismatched sapphire substrates utilizing ZnO(N)/MgO buffer layers fabricated by Ar/N_2 and Ar/O_2 discharges

Yuma Yamamoto (T15)
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Relation between Spatial Distribution of Optical Emission Intensity and SiO_2 Film Property in TEOS-PECVD

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Production of micro-sized metal powder using plasma-gas hybrid atomization system

Marija Radmilovic-Radjenovic (T17)
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Computational Modeling of Microwave Tumor Ablation

Ana Sainz-García (T17)
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Bactericidal activity against Listeria spp using Plasma Activated Water

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Coupling of a non-thermal plasma to a membrane process for the treatment of n-hexane

Etienne Michaux (T17)
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Fractal Dimension of cathode spots in a Vacuum Arc Thruster

Tetsuji Shimizu (T17)
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Albumin aggregation by cold atmospheric plasma between needle electrode and surface of albumin solution

Kiran Ahlawat (T17)
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An efficient Far UV-C (222 nm) krypton chlorine excimer lamp

Takamasa Okumura (T17)
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Measurement of electric field, UV photons, and long-lifetime reactive species generated by atmospheric pressure air plasma for plasma bio applications

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Turbulent skin-friction drag reduction by annular DBD plasma synthetic jet actuator

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Paper sheet disinfection and sterilization by non-thermal atmospheric-pressure plasma

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Stabilize Voltage and Transmit Power by Atmospheric-Pressure Plasma Jet in Streamer Mode