

Hakone 2026 -Program (v05)

Paper	Authors	Title
Session 1	Chair: R. Brandenburg	
Invited-I1	A. Bourdon	Modeling and simulation of atmospheric pressure low-temperature plasmas
O1-1	H. Höft, C. Flores, K.-D. Weltmann, M. M. Becker	Analysis of Spatio-Temporal Ignition Patterns in Sinusoidal-Driven Dielectric Barrier Discharges in a Multi-Filament Arrangement
O1-2	Eliot Collard, Antoine Belinger, Nicolas Gherardi, Nicolas Naudé, Simon Dap, Hubert Caquineau	Revisiting the memory effect in diffuse Nitrogen DBD using a fluid modeling approach
Session 2	Chair: N. Osawa	
O1-3	Fumiyoshi Tochikubo, Takuto Nozawa, Yusuke Nakagawa	Numerical Study of Filamentary Dielectric Barrier Discharges in Dry Air: Effects of Simulation Parameters and Model Dimensionality
O1-4	Julie Haton, Robin De Meyer, Antoine Belinger, Nicolas Naudé, Luc Stafford	On the Memory Effect and Discharge Characteristics of a Diffuse Dielectric Barrier Discharge in Various N ₂ /O ₂ Mixtures
O1-5	L. Krös, H. Höft, M. Stankov, D. Loffhagen, J. H. van Helden, R. Brandenburg	Tunable diode laser absorption spectroscopy on a single-filament dielectric barrier discharge in argon at atmospheric pressure
O1-6	Jakub Kelar, Michal Pazderka, David Brodnansky, Martin Karkus, Sebastian Dahle, Zlata Kelar Tucekova	Surface Engineering of Heterogeneous Bio-based Materials: Utilizing a Proprietary Hybrid Surface-to-Volume Dual-Frequency Discharge.
O1-7	Alexander Quack, Lennard Buck, Kerstin Sgonina, Jan Benedikt	Influence of Differently Sized Dielectric Beads on Plasma Properties in Plasma Catalysis
Session 3	Chair: N. Naude	
Invited-I2	Atsushi Komuro	Physicochemical dynamics of atmospheric pressure streamer discharges: Numerical modeling and electric field measurement in DBDs
O2-1	Jean-Baptiste Billeau, Denis V. Seletskiy, Svetlana Starikovskaia, Stephan Reuter	Defining the influence of electrical pulse parameters on atmospheric pressure plasma jet chemistry
O2-2	Alexander Schicke, Amira Noura, Sebastian Burhenn, Steffen Schüttler, Marc Böke, Judith Golda	The impact of metastable atoms on Penning dissociation of CO ₂ in an atmospheric plasma jet

O2-3	Mohamed G. Elsheikh, Richard Sydora, Amina Hussien and Ahmad Hamdan	Pulsed nanosecond discharge at heptane-water interface: influence of ambient pressure on bubble dynamics, interfacial instability, and emulsification efficiency
Session 4	Chair: L. Stafford	
O2-4	Michel Moisan	Reproducible plasma columns sustained by EM field with a linearly decreasing axial electron density that depends solely on the gas pressure, field frequency and tube radius
O2-5	Philipp Wirth, Máté Vass, Thomas Mussenbrock	Global Chemistry Modeling of Biogas Conversion in Surface Dielectric Barrier Discharges with Vortex-Induced Mixing
O2-6	Valentina Riazantceva, Lyes Sebih, Ahmad Hamdan, Emile Carbone, Zhang Chen, Shuhui Sun	Relative Humidity Role in Discharge Mode Probability for Nanosecond Plasmas with a Confined Water Droplet
O2-7	Dante Filice, Sylvain Coulombe	Pulsed RF Excitation in CO ₂ -CH ₄ Mixtures: Electrical Characteristics of Power Modulation
O2-8	Sander Nijdam, Wouter Meekes	Streamer diagnostics using a flexible fast pulse source
Session 5	Chair: A. Bourdon	
Invited-I3	Katharina Stapelmann, Jonathan E. Thomas, Kristina Pattison, Suneel Kumar, Francois Berthiaume, and Vandana Miller	Plasma endpoint detection for wound healing
O3-1	Joanna Pawlat, Agnieszka Mazur – Lesz, Elżbieta Grządka, Piotr Terebun, Dawid Zarzeczny, Michał Kwiatkowski, Agnieszka Starek – Wójcicka, Irena Malinowska, Magdalena Mnichowska-Polanowska, Monika Machoy	The influence of cold plasma on dental prosthetic materials
O3-2	Adrien Gady, Gérard Bauville, Joël Lemaire, Pascal Jeanney, Michel Heninger, João Santos Sousa, Stéphane Pasquiers, Antoine Pallandre	Synthesis of early life's buildings blocks using non thermal plasmas in microfluidic structures
O3-3	Tomoyuki Murakami and Ippei Saito	Numerical Modeling of Physiochemical Reactions Induced by Plasma Stimulation
Session 6	Chair: M. J. Kushner	
O3-4	Dingxin Liu, Mingyan Zhang, Zifeng Wang, Jishen Zhang, Li Guo	On the critical role of O ₂ NOOH for plasma-induced water activation
O3-5	Emily M. Hong, Zhenyu Ma, Justin French, Herek L. Clack	Non-thermal Plasma Inactivation of Airborne DNA Virus at Different AC Frequencies

O3-6	Mohamed Khalaf, Anna Zahoranová, Matej Klas, Stanislav Kyzek, Petra Šrámková, Pavol Ďurina, Monika Stupavská, Dušan Kováčik, Veronika Medvecká	Effect of Glow, After-glow Plasma, and Plasma-Activated Water on Radish Seeds
O3-7	H. D. Stryczewska, K. Ebihara, O. Boiko, G. Komarzyniec, S. Aoqui, F. Mitsugi	Applications of Plasma in Agriculture: Results of Polish-Japanese cooperation
Session 7	Chair: H. Stryczewska	
Invited-I4	Stephan Reuter	Control and diagnostic-based tailoring of plasma reactivity in health, environment, and agriculture
O4-1	Ahmed I. Haroun, Jordan Figueiredo, Bassam Dally, Deanna A. Lacoste	Characterization of H ₂ O ₂ Production in an Undiluted O ₂ -H ₂ O DBD Reactor
O4-2	Stephane Simon, Laura Cacot, David Brassard, Jason R. Tavares, Frédéric Sirois, Stephan Reuter	Electrical control of plasma chemistry: Tuning reactive species production in atmospheric DBDs
O4-3	Pierre-Luc Girard-Lauriault, Avishek Banerjee, Saif Marji, Owen Armstrong, Gabriela Baez-Zaldivar	Formation of Higher-Order Products from Liquid Organic Feedstocks in a Micro-second-Pulsed Gas-over-Liquid Dielectric Barrier Discharge
O4-4	Laura Cacot, Stéphane Simon, Alexandre Lapointe, David Brassard, Emilie Bédard, Jason R. Tavares, Stephan Reuter	Plasma-liquid interactions for hydroponics farms: a multi-phase diagnostic framework for reactor scale-up
Session 8	Chair: E. Carbone	
Invited-I5	François Reniers	New perspectives of dielectric barrier discharges for the deposition of thin films
O5-1	Léo Prévost-Notelet, Kevin Delcourt, Robin De Meyer, Houari Sahraoui, Luc Stafford	Accelerating the development of thin film deposition using an atmospheric pressure plasma torch through advanced optical diagnostics and digital twins
O5-2	Sarah Hekking, Robin De Meyer, Charles Moderie, Antoine Goullet, Agnes Granier, Clément Maheu, Mireille Richard-Plouet, Luc Stafford	Plasma-surface effects in dielectric barrier discharges: investigating diffuse, filamentary and hybrid discharge modes for material processing
O5-3	Alessandro Patelli, Riccardo Fiorotto, Ehsan Shakerinasab, Alessandro Andreetto	Impact on surfaces of dual frequency pulsed+RF plasma jet in open air

Session 9	Chair: F. Tochikubo	
O5-4	Oleksandr Boiko, Grzegorz Komarzyniec, Michał Aftyka, Marta Dziuba-Kozieł, Grzegorz Kozieł, Michał S. Gęca, Fumiaki Mitsugi, Henryka D. Stryczewska	The influence of key operating parameters of the three-electrode gliding arc reactor on the NO _x production efficiency
O5-5	Yiwei Jiang, Theo van de Ven, Jacopo Profili	Plasma-Enhanced Siloxane Coating of Carboxymethylated Cellulose Films for Improved Hydrophobicity and Moisture Barrier Performance
O5-6	Laura Cacot, Arghavan Yazdanpanah, Robin De Meyer, Heliam Klein, Mariam El Rachidi, Myrtil L. Kahn, Richard Clergereaux, Nicolas Naudé, Luc Stafford	Aerosol-Assisted Thin Film Deposition in a Dielectric Barrier Discharge: Effect of the Precursor on the Deposition Mechanisms
O5-7	Jordan Figueiredo, Bassam Dally, Deanna Lacoste	In-flight reduction of iron oxides from various sources by hydrogen plasma
Session 10	Chair: J. Profili	
O6-1	F. Massines, A. Perdrau, A. Najah, B. Plujat, H. Glenat, S. Eichendorff, Y. Gorand, E. Bèche, N.Barros	An innovative process to synthesize gold/polymer nanocomposite thin films in a dielectric barrier discharge
O6-2	Richard Krumpolec, Monika Stupavská, Tereza Rybová, František Zelenák, Mirko Černák	Surface Activation and Nitrogen-Based Functionalisation of Porous Materials by a Novel Linear Atmospheric-Pressure DCSBD Plasma Jet
O6-3	Yusuke Nakagawa, Yusei Takano, Fumiyoshi Tochikubo	Anisotropic Hydrophilization of Resins Using Atomic Oxygen Produced by Laser Photolysis of O ₃
O6-4	Jeremy Pothier, James McGettrick, Gaétan Laroche and Jacopo Profili	Enhancing the Durability of PECVD Antifog Coatings for Mining Inspections
O6-5	Lyes Sebih, Emile Carbone, Ahmad Hamdan	Mechanisms of anisotropic silver growth in pulsed plasma–liquid discharges: Interfacial confinement and oxidative etching
Session 11	Chair: K. Stapelmann	
O6-6	B. Sadeghi, L. Kuijpers, V.M. Fischer, C.F.A.M. van Deursen, W.E.N. van Harskamp, C.F. Lopez-Camara, W.A. Bongers, P.C. Thüne, M.C.M. van de Sanden	Microwave Plasma Methane Pyrolysis: carbon collection and quality analysis
O6-7	Xingyu Chen, Jiaqi Tang, Mauritius C.M. van de Sanden	Quantifying Atomic Oxygen Flux in an Atmospheric-Pressure Microwave Induced Plasma Decapsulation System

O6-8	Ronny Brandenburg, Jafet Ortiz Valverde, Hamed Mahdikia, Rüdiger Hink, Jan Hummel, Dirk Uhrlandt	On the Characterization of Gliding Arc Discharges in Carbon Dioxide Containing Gases at Atmospheric Pressure
O6-9	Troy Allen	Etalon Spectrometry: Principles and Applications for High-Resolution Plasma Diagnostics
Session 12	Chair: S. Coulombe	
Invited-I6	Tom Huiskamp, Chiel Ton, Mohsen Mortazavi, Bas Dekker, Guus Pemen	The scalability of streamer discharge generation for industrial air purification
O7-1	Clay Davis, Thomas Holsen, Selma Mededovic Thagard	The role of bubble hydrodynamics in plasma-based PFAS treatment
O7-2	Prisca Stephanie Kandjo Ngoubeyou, Dunpin Hong, Hervé Rabat, Benoit Cagnon, Béatrice Vallee, Olivier Aubry	Non-thermal plasma-Fe functionalized activated carbon coupling for PFOA removal in water
O7-3	Jesus Diaz Alcala, Tanubhav Srivastava, Yuanchang Xu, John Foster	Characterization of an atmospheric coaxial streamer discharge plasma reactor for PFAS degradation
Session 13	Chair: N. Gherardi	
O7-4	Jisu Jeon, Tiago C. Dias, Stephen Olson, Xuefei Qiu, Selma Mededovic Thagard, Mark J. Kushner	PFOA Plasma Degradation in Water: Long-Time-Scale Modeling Investigation
O7-5	Koichi Sasaki, Tsukasa Yamakawa, Yoshinobu Inagaki	Synthesis of ammonia using atmospheric-pressure nitrogen and water vapor plasmas
O7-6	Marc Böke, Henrik van Impel, Yue Cheng, David Steuer, Volker Schulz-von der Gathen, Judith Golda	Characteristics of a Micro-cavity Plasma Array for Gas Conversion
O7-7	Catherine Batiot-Dupeyrat, Samy Bouacem, Thomas Orrière, Deborah De Masi, Paul Hazemann	Plasma and Plasma-catalysis coupling for hydrogen production from H ₂ S decomposition
O7-8	Carlo van Melis, Tom Huiskamp, Wilfred Hoebe	Plasma-driven upgrading of hydrocarbons with CO ₂
O7-9	A. Hecimovic, R. Antunes, C. Kranig, A. Meindl, U. Fantz	The role of bubble hydrodynamics in plasma-based PFAS treatment
Posters		
P01	Sander Nijdam, Jianan Wang, Jordin Janssen, Lucia Svandova, Ayush Kumar	Update on “Bottled Lightning” project
P02	Koichi Sasaki, Raio Torihama, Yoshinobu Inagaki	Anomalous lifetime of hydrogen TALIF in a stainless-steel chamber equipped with atmospheric-pressure hydrogen-argon mixture plasma: possible contribution of impurities

P03	Miloud Mohamed Mahdi Boussa, Lyes Sebih, Ahmad Hamdan	Experimental and numerical investigation of nanosecond discharges in air gap with hemispherical dielectric layer
P04	Julien Lauzé	Space and Phase Resolved Optical Emission Spectroscopy of Pulse-RF Plasma
P05	Francisco Javier Morales Calero, Antoine Durocher-Jean, Fatima Khazem, Luc Stafford.	Hyperspectral Imaging for 2D spectroscopic characterization of atmospheric pressure Ar–CO ₂ plasmas
P06	Alex Bessin, Antoine Belinger, Simon DAP, Nicolas Naudé, Nicolas Gherardi	A dual-zone discharge cell for probing memory effects in atmospheric pressure diffuse DBDs
P07	Léo Prévost-Nottelet, Kevin Delcourt, Antoine Durocher-Jean, Robin De Meyer, Houari Sahraoui, Luc Stafford	Optical and hyperspectral characterization of the plume of an atmospheric plasma torch for organosilicon thin film deposition
P08	X. Mallet , A. Belinger , N. Gherardi , N. Naudé, S. Dap	Influence of gas residence time on breakdown characteristics in CO ₂ Atmospheric Pressure Townsend Discharges
P09	Jean-Philippe Comtois, J. Santos Sousa, F. Sirois, I. Korolov, T. Bolles, D. Seletskiy, T. Mussenbrock, S. Reuter	Molecular excitation in plasma jets powered by ns-pulse sustain
P10	Théo Sillaire, Amina Hussein, Ahmad Hamdan	Nanosecond discharge in heptane-water emulsion: influence of droplet distribution on the discharge characteristics
P11	Yujiro Kanda, Kei Takahashi, Soushi Hirota, Naoki Osawa	Investigation of Charged Particle Desorption Characteristics from Barrier Surfaces: Capable and Incapable of Generating APTD in Air
P12	Naoki Higashi	A multi-fluid Euler–Poisson scheme with discrete conservation of total energy
P13	Shinobu Ono, Yujiro Kanda, Naoki Osawa	Investigation of Temporal Evolution in Surface Potential during Atmospheric Pressure Townsend Discharge in Air: Effects of Applied Voltage Waveform
P14	Julien Trahan, Jean-Baptiste Billeau, Alexandre Lapointe, Jean-Philippe Comtois, Stephan Reuter	Modeling and Characterization of Low Flow Plasma Actuators
P15	Christina Strilets, Abdulhakeem O. Yusuf, Nicholas F. Beier, Audren Dorval, Ahmad Hamdan, Richard Sydora, Amina Hussein	Laser-Driven X-rays for Imaging Pulsed Discharges in Liquids
P16	Nicholas Stine, Jitlekha Tubsuri, Christopher M. Sales, Alexander Fridman	Minimization of Hazardous By-products During the Destruction of Hydrofluoro-carbon Contaminated Oils via Liquid Injection Incineration Catalyzed by Non-thermal Gliding Arc
P17	Alessandro Patelli, Mattia Negrisola, Alberto Miotto, Giulia Tomei, Riccardo Fiorotto, Ehsan Sha-kerinasab,	Low temperature degradative desorption of perfluorooctanoic acid (PFOA) from granular activated carbon (GAC) induced by atmospheric plasma

	S.M.Wahaj Ejaz, Enzo Menna, Ester Marotta	
P18	Sara Benmoussa, Guillaume de Lafontaine, Jacopo Profili	Effects of Non-thermal Plasma Treatment on Seed Germination Physiology in Native Plant species of Eastern Quebec
P19	Patryk Ludera, Maxence Lévesque, Michel Ouellet, Jacopo Profili	Degradation of Methylene Blue in Water Using Cold Atmospheric Plasma
P20	Roxanne Thomas , Juliette Letellier-Bao, Dante Filice, Lisa Hermans, Annemie Bogaerts, Daria C. Boffito, Sylvain Coulombe, Thomas Gervais, Stephan Reuter	Decoupling Plasma-Induced Redox Chemistry in liquids via Space-Resolved Microfluidics for Oncology applications
P21	Juliette Letellier-Bao, Roxanne Thomas, Lisa Hermans, Derek Rosenzweig, Thomas Gervais, Daria Boffito, Sylvain Coulombe, Annemie Bogaerts, Stephan Reuter	Combining microfluidics with cold physical plasma as a new theragnostic platform for personalized cancer redox therapy
P22	Elène Bizeray, Antoine Belinger, Simon Dap , Nicolas Gherardi, Luc Stafford , Fiorenza Fanelli, Nicolas Naudé	An aerosol-assisted dielectric barrier discharge process for nanocomposite thin film deposition in N ₂
P23	Kevin Delcourt, Léo Prévost-Notelet, Robin De Meyer, Houari Sahraoui, Luc Stafford	Towards a data-driven Digital Twin for plasma-enhanced thin film deposition: combining neural networks, hybrid modeling and AI-assisted experimentation
P24	Zoé Michon, Léo Prévost-Nottelet, Alexis Paillet, Myrtil L. Kahn, Richard Clergereaux, Luc Stafford	Impact of temperature in surface treatment of ZnO nanoparticles by a low power blown arc plasma jet
P25	Isaac Triplett, Pierre-Luc Girard-Lauriault, Ahmad Hamdan	Investigation of the Products Resulting from the Application of a Streamer Discharge to a Liquid-Liquid Interface Containing Metal Salts with a Wide Range of Reduction Potentials
P26	Shin-ichi Aoqui, Hiroharu Kawasaki, Tamiko Ohshima, Satoshi Takeichi, Masaaki Yamazato, Akihiro Ikeda	Investigation of surface phenomena caused by argon plasma on powder target
P27	C. Moderie, N. Naudé , R. Martel, L. Stafford	Defect Formation in Graphene via Localized and Global Energy Deposition in Filamentary and Diffuse Dielectric Barrier Discharges
P28	Marie Brabant, Jehan Waeytens, François Reniers	Modulation of Localized PMMA Coatings by Carrier Gas in AP-PACVD
P29	Angel E. Pardo, Matej Klas, Petra Ličková, Veronika Medvecká, Štefan Matejčík	Degradation of Pesticide by Atmospheric Pressure Non-Thermal Plasma and Plasma-Activated Water

P30	Elio Eid, Ahmad Hamdan	Influence of plasma treatment conditions on the production of reactive species in water and on the modification of its surface tension
P31	Chenxing Liu, Dan Sun, Shuai Zhang and Eoin Chunningham	Microplasma-assisted synthesis of AuNPs/Keratin nanocomposites
P32	Juliette Zveny, Antoine Remy, Amélie Bourgeois, Teo Serra, Anne Botteaux, Jacques Devière, Arnaud Lemmers, Alain Dechambre, Antoine Nonclercq and François Reniers	Impact of water-filled biofilm in plasma decontamination of endoscopes
P33	Gebremedhin Gebremariam Gebremical, Junior Bernardo Molina Hernandez, Silvia Tappi, Luigi Ragni, Clemencia Chaves Lopez, Massimiliano Rinaldi and Pietro Rocculi	Effects of Cold Atmospheric Plasma on Microbial Inactivation, and Quality Chang-es of Mechanically Fluidized Maize Flour