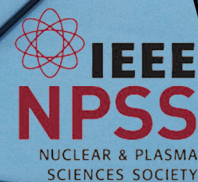


Abstract E-Booklet

ICOPS 2021



ICOPS 2021

ALL TIMES IN PACIFIC DAY TIME (PDT)

ADD 3 HOURS FOR EST

ADD 8 HOURS FOR LONDON

ADD 15 HOURS FOR SINGAPORE

SUNDAY SEPTEMBER 12, 2021	MONDAY SEPTEMBER 13, 2021	TUESDAY SEPTEMBER 14, 2021	WEDNESDAY SEPTEMBER 15, 2021	THURSDAY SEPTEMBER 16, 2021
8:30 - 9:00 Welcome Address	8:45 - 9:00 2020 IEEE Marie Sklodowska-Curie Award Presentation	8:45 - 9:00 2021 PSAC Award Presentation	8:30 - 9:00 Award Presentations: TPS Best Paper, Alexoff, Best Student Paper	MINI-COURSE Plasma Spectroscopy: <i>The Full Spectrum from X-rays to Radio Waves</i> 8:15-8:30 – Welcome 8:30-9:30 – Lecture 1 9:30-10:30 – Lecture 2 10:30-11:30 – Lecture 3 11:30-11:45 – Break 11:45-12:45 – Lecture 4 12:45-13:45 – Lecture 5 13:45-14:15 – Break 14:15-15:15 – Lecture 6 15:15-16:15 – Lecture 7 16:15-17:15 – Lecture 8 17:15-17:30 – Break 17:30-18:30 – Lecture 9 18:30-19:30 – Lecture 10
9:00 - 10:00 Plenary 1	9:00 - 10:00 Plenary 3 IEEE Marie Sklodowska-Curie Award	9:00 - 10:00 Plenary 5 PSAC Award	9:00 - 10:00 Plenary 7	
BREAK 10:00 - 10:15	BREAK 10:00 - 10:15	BREAK 10:00 - 10:15	BREAK 10:00 - 10:15	
10:15 - 12:15	10:15 - 12:15 Invited Talks: 3I-A, 3I-B, 3I-C, 3I-D	10:15 - 11:30 Contributed Talks: 5O-A, 5O-B, 5O-C, 5O-D, 5O-E	10:15 - 11:30 Contributed Talks: 7O-A, 7O-B, 7O-C, 7O-D, 7O-E, 7O-F	
Invited Talks: 1I-A, 1I-B		11:30 - 13:00 Session 5P: Posters 5P-A, 5P-B, 5P-C, 5P-D, 5P-E, 5P-F, 5P-G	11:30 - 13:00 Session 7P: Posters 7P-A, 7P-B, 7P-C, 7P-D, 7P-E, 7P-F	
Contributed Talks: 10-A, 10-B, 10-C, 10-D, 10-E, 10-F				
BREAK 12:15 - 15:00	BREAK 12:15 - 13:00	BREAK 13:00 - 13:30	BREAK 13:00 - 13:30	
	13:00 - 15:00 Exhibitors Interactive Career Fair	13:30 - 15:00 Exhibitors Career Fair Interviews	13:30 - 15:00 Exhibitors Career Fair Interviews	
15:00 - 16:00 Plenary 2	15:00 - 16:00 Plenary 4	15:00 - 16:00 Plenary 6	15:00 - 16:00 Plenary 8	
BREAK 16:00 - 16:15	BREAK 16:00 - 16:15	BREAK 16:00 - 16:15	BREAK 16:00 - 16:15	
16:15 - 18:15	16:15 - 17:30 Contributed Talks: 4O-A, 4O-B, 4O-C, 4O-D, 4O-E, 4O-F	16:15 - 18:15 Invited Talks: 6I-A, 6I-B, 6I-C, 6I-D	16:15 - 18:00 Contributed Talks: 8O-A, 8O-B, 8O-C, 8O-D, 8O-E, 8O-F	
Invited Talks: 2I-A, 2I-B				
Contributed Talks: 2O-A, 2O-B, 2O-C, 2O-D, 2O-E, 2O-F				
18:15 - 19:45 Women in Engineering	17:30 - 19:00 Session 4P: Posters 4P-A, 4P-B, 4P-C, 4P-D, 4P-E	18:15 - 19:45 Young Professionals	18:00 - 19:30 Exploring the Universe from Nevada	



Sunday, 12 September	
8:30am	Welcome Address: Prof. Alla Safronova
9am	Plenary 1 Chaired by: Prof. Ling-Hsiao Lyu
9am	DEVELOPMENT OF ELECTRODELESS RF PLASMA PROPULSION FOR SMALL SATELLITES » Dr. Umair Siddiqui
10am	Break
10:15am	1I-A: (Invited) Fusion Chaired by: Prof. Farhat Beg
10:15am 1I-A-01	DEVELOPING A PLATFORM TO ENABLE PARAMETER SCALING STUDIES IN MAGNETIZED LINER INERTIAL FUSION EXPERIMENTS » Dr. Matthew Gomez , Dr. Stephen Slutz, Dr. Christopher Jennings, Dr. Matthew Weis, Mr. Derek Lamppa, Dr. Adam Harvey-Thompson, Dr. Matthias Geissel, Dr. Thomas Awe, Dr. Gordon Chandler, Dr. Allen Crabtree, Dr. Jeff Fein, Dr. Stephanie Hansen, Dr. Eric Harding, Dr. William Lewis, Dr. Michael Mangan, Dr. Daniel Ruiz, Dr. Ian Smith, Dr. David Yager-Elorriaga, Dr. David Ampleford, Dr. Kris Beckwith
10:45am 1I-A-02	DEEP LEARNING ENABLED ASSESSMENT OF MAGNETIC CONFINEMENT IN MAGNETIZED LINER INERTIAL FUSION » Dr. William Lewis , Dr. Patrick Knapp, Dr. Stephen Slutz, Dr. Paul Schmit, Dr. Gordon Chandler, Dr. Matthew Gomez, Dr. Adam Harvey-Thompson, Dr. Michael Mangan, Dr. David Ampleford, Dr. Kris Beckwith

11:15am 1I-A-03	FUEL TARGET IMPLOSION UNIFORMITY IN HEAVY ION INERTIAL FUSION » Prof. Shigeo Kawata , Dr. Hiroki Nakamura, Dr. Ken Uchibori, Prof. Alexander Ogoyski
11:45am 1I-A-04	MAGNETOHYDRODYNAMIC SIMULATIONS OF MAGNETO-RAYLEIGH-TAYLOR INSTABILITY MITIGATION AND ENERGY TRANSPORT IN MULTI-SPECIES GAS-PUFF Z-PINCHES » Dr. Jeff Narkis , Dr. Fabio Conti, Prof. Farhat Beg
10:15am	1I-B: (Invited) Space Plasmas, Partially Ionized Plasmas, and Basic Phenomena Chaired by: Dr. Amanda Loveless
10:15am 1I-B-01	INTERNAL GRAVITY WAVES IN THE EARTH'S IONOSPHERE » Prof. Amar Misra , Dr. Debjani Chatterjee, Mr. Animesh Roy, Prof. Tamaz Kaladze
10:45am 1I-B-02	MICROPLASMA FORMATION AROUND A MICROSTRUCTURED SURFACE » Prof. Yangyang Fu , Dr. Huihui Wang, Dr. Bocong Zheng, Prof. Peng Zhang, Prof. Qi Hua Fan, Prof. Xinxin Wang, Prof. John P. Verboncoeur
11:15am 1I-B-03	STREAMER SELF-FOCUSING IN EXTERNAL LONGITUDINAL MAGNETIC FIELD » Dr. Andrey Starikovskiy , Prof. Nikolay Aleksandrov, Dr. Mikhail Shneider
11:45am 1I-B-04	STABLE AND UNSTABLE SOLUTIONS OF THE Mag Noh PROBLEM » Dr. Andrey Beresnyak , Dr. Alexander Velikovich, Dr. John Giuliani, Dr. Arati Dasgupta
10:15am	1O-A: Dusty Plasmas & Partially Ionized Plasmas Chaired by: Prof. Truell Hyde
10:15am 1O-A-01	ION TEMPERATURE RELAXATION IN STRONGLY-COUPLED BINARY IONIC MIXTURES » Dr. Luciano Silvestri , Dr. R. Tucker Sprenkle, Dr. Michael Murillo, Prof. Scott Bergeson



Continued from **Sunday, 12 September**

- 10:30am **MODELING ION FLUX COEFFICIENT IN HIGH ION CONCENTRATED DUSTY PLASMAS USING LANGEVIN DYNAMICS SIMULATIONS**
1O-A-02
» [Mr. Vikram Suresh](#), Prof. RANGANATHAN GOPALAKRISHNAN
- 10:45am **COMPUTATION OF THERMAL CONDUCTIVITY IN TWO-DIMENSIONAL COMPLEX PLASMAS**
1O-A-03
» [Dr. Aamir Shahzad](#), Mr. Aadil Mahboob, Dr. Alina Manzoor, Dr. Muhammad Kashif, Prof. Maogang He
- 11am **FRACTIONAL LAPLACIAN SPECTRAL APPROACH TO ANOMALOUS DIFFUSION IN DUSTY PLASMA**
1O-A-04
» [Dr. Evdokiya Kostadinova](#), Dr. Joshua Padgett, Dr. Constanze Liaw, Prof. Lorin Matthews, Prof. Truell Hyde
- 11:15am **DUST ACOUSTIC WAVES IN WEAKLY COUPLED DUSTY PLASMAS**
1O-A-05
» [Dr. Aamir Shahzad](#), Ms. Zammar Ahmad, Dr. Alina Manzoor, Dr. Muhammad Kashif, Prof. Maogang He
- 11:30am **USING DUST GRAINS TO MEASURE PLASMA CONDITIONS WITH A CHANGING NUMBER DENSITY**
1O-A-06
» [Ms. Alexandria Mendoza](#), Prof. Lorin Matthews, Prof. Truell Hyde, Dr. Khandaker Ashrafi
- 11:45am **EASII-JET – NON-EQUILIBRIUM ELECTRODELESS ATMOSPHERIC SECONDARY INDUCED IONIZATION PLASMA JET**
1O-A-07
» [Dr. Sylvain Iseni](#), Dr. Alibi Baitukha, Dr. Nelly Bonifaci, Dr. Cecile Pichard, Dr. Ahmed Khacef
- 12pm **P3I: A SIMULATION CODE FOR PLASMA IMMERSION ION IMPLANTATION (PIII) DOSE PREDICTION**
1O-A-08
» [Mrs. Tahreem Yousaf](#)

10:15am **10-B: Plasma, Ion, and Electron Sources**
Chaired by: Dr. Stuart Jackson

- 10:15am **NEW SCALING LAW OF 3D TOPOLOGICAL SEMIMETAL IN FIELD EMISSION**
1O-B-01
» [Mr. Wei Jie Chan](#), Dr. Yee Sin Ang, Prof. Ricky ANG
- 10:30am **AN EXACT QUANTUM THEORY FOR PHOTOEMISSION FROM DIELECTRIC COATED METAL SURFACES UNDER A dc BIAS**
1O-B-02
» [Mr. Yang Zhou](#), Prof. Peng Zhang
- 10:45am **ELECTRONICALLY TUNABLE NEGATIVE ELECTRON AFFINITY SILICON PHOTOEMITTERS**
1O-B-03
» [Mr. Hyun Uk Chae](#), Mr. Ragib Ahsan, Dr. Rehan Kapadia
- 11am **THE MICHELLE CODE: ADVANCED EMISSION, MULTIPLE DESIGN ENVIRONMENT IMPLEMENTATIONS, AND HIGH ENERGY APPLICATIONS**
1O-B-04
» [Dr. John Petillo](#), Mr. Aaron Jensen, Dr. David Chernin, Dr. Serguei Ovtchinnikov, Dr. Vadim Jabotinski, Dr. Eric Nelson, Dr. George Stantchev, Dr. Simon Cooke, Dr. Alexander Vlasov, Dr. Ben Held, Dr. Adam Bruss
- 11:15am **END-TO-END SIMULATION OF A FOLDED WAVEGUIDE TRAVELING WAVE TUBE USING IMPEDANCE MATRICES AND COMPASS**
1O-B-05
» [Mr. Aaron Jensen](#), Dr. Serguei Ovtchinnikov, Dr. John Petillo, Dr. Alexander Vlasov, Dr. Igor Chernyavskiy
- 11:30am **COMPARATIVE STUDIES OF ELECTRON RESISTIVE AND CONDUCTION MODELS FOR CAPILLARY DISCHARGES APPLICATIONS**
1O-B-06
» [Dr. Abdou Diaw](#), Dr. Stephen Coleman, Dr. Nathan Cook, Dr. Jon Edelen, Dr. Eddie Hansen, Dr. Petros Tzeferacos
- 11:45am **KINETIC MODELING OF SURFACE WAVES AND SOLITONS IN BEAM NEUTRALIZATION**
1O-B-07
» [Mr. Nakul Nuwal](#), Prof. Deborah Levin, Dr. Igor Kaganovich

10:15am **10-C: Matter Under Extreme Conditions, Plasma Material Interactions, and Particle Acceleration with Lasers and Beams**
Chaired by: Dr. Arianna Gleason



Continued from **Sunday, 12 September**

- 10:15am
10-C-01 **EXPERIMENTAL MEASUREMENT OF COMPRESSION AND ACCELERATION ON METAL RODS DRIVEN BY INTENSE CURRENT**
» [Mr. Aidan Klemmer](#), Mr. Seth Kreher, Dr. Bruno Bauer, Dr. Trevor Hutchinson, Dr. Thomas Awe, Dr. Daniel Dolan, Dr. Brian Hutsel, Ms. Maren Hatch, Dr. Kevin Yates
- 10:30am
10-C-02 **COMPOSITION AND OPTICAL PROPERTIES OF WARM DENSE GERMANIUM PLASMA**
» [Dr. Gennady Miloshevsky](#)
- 10:45am
10-C-03 **SIMULATION OF PHASE CHANGE AND SPLASHING MOTION OF BERYLLIUM MELT IN FUSION REACTOR**
» [Mr. Cheng Zhang](#), Dr. Gennady Miloshevsky
- 11am
10-C-04 **INFLUENCE OF THE TUNGSTEN SURFACE CHEMICAL STATE ON THE AMMONIA FORMATION USING LOW-PRESSURE N₂-H₂ PLASMAS**
» [Dr. Rodrigo Antunes](#), Mr. Roland Steiner, Mr. Kunal Soni, Dr. Laurent Marot, Dr. Carlos Romero-Muñiz, Prof. Ernst Meyer
- 11:15am
10-C-05 **APOLLON FACILITY SHORT FOCAL LENGTH AREA COMMISSIONING**
» [Dr. Konstantin Burdonov](#), Ms. Alice Fazzini, Dr. Pierre Forestier-Colleoni, Dr. Livia Lancia, Mr. Vincent Lelasseux, Dr. Frederic Perez, Dr. Julien Fuchs, Dr. Tiberio Ceccotti, Dr. Fabien Quere, Dr. Adrien Leblanc, Dr. Sergey Pikuz

10:15am **10-D: Laser Produced Plasmas**
Chaired by: Dr. Max Karasik

- 10:15am
10-D-01 **LONG-DURATION X-RAY SOURCE DEVELOPMENT FOR X-RAY DIFFRACTION AT THE NATIONAL IGNITION FACILITY**
» [Dr. Kalpani Werellapatha](#)

- 10:30am
10-D-02 **OPTIMIZED CONTINUUM X-RAY EMISSION FROM LASER-GENERATED PLASMA**
» [Dr. Andrew Krygier](#), Dr. Gregory Kemp, Dr. Federica Coppari, Dr. Dan Thorn, Dr. Dave Bradley, Dr. Alex Do, Dr. Jon Eggert, Dr. Warren Hsing, Dr. Shahab Khan, Dr. Christine Krauland, Dr. Otto Landen, Dr. Mike MacDonald, Dr. Jim McNaney, Dr. Hye-Sook Park, Dr. Bruce Remington, Dr. Michael Rubery, Dr. Marilyn Schneider, Dr. Hong Sio, Prof. Yuan Ping
- 10:45am
10-D-03 **3-D PIC SIMULATION OF THE SELF-COMPRESSION OF A SUB-TW LASER PULSE IN A DENSE GAS TARGET**
» [Mr. Dang Khoa Tran](#), Prof. Ming-Wei Lin, Dr. Yao-Li Liu, Prof. Shih-Hung Chen, Prof. Shao-Wei Chou
- 11am
10-D-04 **CHARACTERIZATION OF SHORT-PULSE LASER PRODUCED FAST ELECTRONS BY USING 3-D HYBRID PARTICLE-IN-CELL SIMULATIONS**
» [Mr. lei Chen](#), Prof. Hiroshi Sawada, Dr. Tyler Daykin, Prof. Farhat Beg, Prof. Hui Chen, Prof. Anthony Link, Prof. Gerald Williams, Prof. Yuan Ping, Prof. Harry McLean
- 11:15am
10-D-05 **MEASUREMENT OF HEATING DEPTH OF HIGHLY-IONIZED COPPER FROM RELATIVISTICALLY-INTENSE LASER PULSES**
» [Mr. Nicholas Beier](#), Ms. Hunter Allison, Mx. Yasmeen Musthafa, Prof. Franklin Dollar, Dr. Lan Gao, Dr. Brian Kraus, Dr. Kenneth Hill, Dr. Reed Hollinger, Mr. Ryan Nedbailo, Dr. Vyacheslav Shlyaptsev, Dr. Huanyu Song, Dr. Shoujun Wang, Dr. Jorge Rocca, Dr. Kirk Flippo, Dr. Stephanie Hansen, Dr. Ronnie Shepherd, Mr. Vigneshvar Senthilkumaran, Prof. Amina Hussein
- 11:30am
10-D-06 **NONLINEAR LASER-DIELECTRIC OPTICAL MEDIA INTERACTION MODELING AND CHARACTERIZATION**
» [Dr. Ted Jones](#), Dr. Yu-hsin Chen, Dr. Bahman Hafizi, Dr. Luke Johnson, Dr. Daniel Gordon, Mr. J. Ryan Peterson

10:15am **10-E: Medical and Biological Applications I**
Chaired by: Prof. Dawei Liu

- 10:15am
10-E-01 **EVALUATION OF PLASMA-ACTIVATED PLASMID DNA DELIVERY TO SKIN**
» [Mr. Edwin Oshin](#), Prof. Chunqi Jiang, Dr. Richard Heller



Continued from **Sunday, 12 September**

- 10:30am
1O-E-02 **TREATMENT OF BIOFILMS BY ATMOSPHERIC PRESSURE RF PLASMA JETS: TOUCHING AND REMOTE**
» [Dr. SANJANA KERKETTA](#), Prof. Mark Kushner, Dr. Gaurav Nayak, Mr. Sahil Mahajan, Dr. Fujun Wang, Mr. Reed Jacobson, Prof. Mikael Elias, Prof. Michael McAlpine, Prof. Ryan Hunter, Prof. Peter J. Bruggeman
- 10:45am
1O-E-03 **COLD PLASMA AND ELECTRIC FIELD INDUCED CHANGE IN ELECTRIC PROPERTIES OF CANCER CELLS IN VITRO**
» [Mr. Edwin Oshin](#), Prof. Chunqi Jiang, Dr. Siqi Guo, Dr. Ruben Biancatelli, Dr. John Catravas
- 11am
1O-E-04 **COLD PLASMA FOR SARS-CoV-2 INACTIVATION**
» [Prof. Zhitong Chen](#)
- 11:15am
1O-E-05 **THE PERIODIC CELLULAR BEHAVIORS UNDER THE PHYSICAL EFFECTS OF PLASMA MEDICINE**
» [Dr. Li Lin](#), Dr. Dayun Yan, Dr. Luis Martinez, Ms. Yi Liu, Prof. Michael Keidar
- 11:30am
1O-E-06 **LIFETIME AND BACTERICIDAL EFFECT OF PLASMA ACTIVATED MEDIUM BY DI-ELECTRIC BARRIER DISCHARGE MICROPLASMA IN AIR**
» [Mr. Ahmad Guji Yahaya](#), Mr. Tomohiro Okuyama, Dr. Jaroslav Kristof, Dr. Blajan Marius Gabriel, Prof. Kazuo Shimizu
- 11:45am
1O-E-07 **PLASMA CHEMICAL POLYMERS TREATMENT IN PRODUCTION OF BIOCOMPATIBLE MATERIALS FOR CELL CULTURING**
» [Prof. Tatiana Vasilieva](#), Dr. Tatiana Shikova, Dr. Elena Nikolskaya, Dr. Nikita Yabbarov, Ms. Maria Sokol, Ms. Maria Mollaeva, Ms. Margarita Fomicheva
- 12pm
1O-E-08 **MECHANISMS OF PHYSICAL PLASMA-INCUCED BLOOD COAGUALTION: WHAT HAPPENS AT THE TREATMENT-INTERFACE?**
» [Dr. Sander Bekeschus](#), Mr. Broder Poschkamp, Prof. Thomas von Woedtke, Prof. Klaus-Dieter Weltmann, Prof. Stephan Kersting, Dr. Julia van der Linde

10:15am **1O-F: X-ray and Optical Diagnostics I**

Chaired by: Dr. Lan Gao

- 10:15am
1O-F-01 **EXPERIMENTAL INVESTIGATION AND MHD MODELLING OF THE MAGNETIC FIELD RADIAL DISTRIBUTION AND PLASMA DYNAMICS ALONG THE COLUMN OF A GAS-PUFF Z-PINCH**
» [Dr. Tal Queller](#), Dr. Eyal Kroupp, Prof. Yitzhak Maron, Dr. Varun Tangri, Dr. Arati Dasgupta, Dr. Alexander Velikovich, Dr. John Giuliani
- 10:30am
1O-F-02 **WIRE, HYBRID, AND LASER-CUT X-PINCH EMISSION STUDIES FOR TALBOT-LAU X-RAY DEFLECTOMETRY**
» [Dr. Pia Valdivia](#), Dr. Gilbert Collins IV, Dr. Fabio Conti, Prof. Farhat Beg
- 10:45am
1O-F-03 **ELECTRIC FIELD PROFILE MEASUREMENT ALONG PROBING LASER PATH BASED ON ELECTRIC FIELD-INDUCED SECOND-HARMONIC GENERATION**
» [Mr. Shin Nakamura](#), Dr. Masahiro Sato, Prof. Takashi Fujii, Prof. Akiko Kumada, Dr. Yuji Oishi
- 11am
1O-F-04 **MEASURING DYNAMIC DENSITY GRADIENTS IN WARM DENSE MATTER WITH 1 μm SPATIAL RESOLUTION**
» [Mr. Cameron Allen](#), Dr. Thomas White, Dr. Tilo Doepfner, Dr. Markus Schoelmerich, Dr. Laurent Divol, Dr. Andreas Kemp, Dr. Otto Landen, Prof. Yuan Ping, Dr. Matthew Oliver, Dr. Wolfgang Theobald
- 11:15am
1O-F-05 **HIGH-RESOLUTION BETATRON X-RAY IMAGING OF POROSITY EVOLUTION IN ADDITIVELY MANUFACTURED ALLOYS**
» [Mr. Vigneshvar Senthilkumaran](#), Mr. Alvaro Arce-Borkent, Mr. Tait Richards, Mr. Zhounan Li, Mr. Shayan Meschian, Dr. Mike Lipsett, Prof. Steven Knudsen, Dr. Sylvain Fourmaux, Dr. Le Zhou, Dr. John Moore, Prof. Amina Hussein
- 11:30am
1O-F-06 **CALIBRATION OF ELECTRIC FIELD MEASURED VIA LASER-INDUCED FLUORESCENCE-DIP SPECTROSCOPY**
» [Dr. Christopher Durot](#), Prof. John Foster
- 12:15pm **Break**



Continued from Sunday, 12 September	
3pm	Plenary 2 Chaired by: Prof. Ricky ANG
3pm	GENERATIONS OF NONLINEAR WAVES IN MAGNETIZED PLASMAS AND THEIR APPLICATIONS TO THE LONG-TERM UNSOLVED PROBLEMS IN SPACE PHYSICS AND ASTROPHYSICS » Prof. Ling-Hsiao Lyu
4pm	Break
4:15pm	2I-A: (Invited) Nonequilibrium Plasma Applications, Plasma Thrusters, Medical and Biological Applications Chaired by: Prof. Michael Keidar
4:15pm 2I-A-01	AIR PLASMA JET FOR NO_x FORMATION COUPLED WITH HETEROGENEOUS CATALYSIS » Prof. Xuekai Pei
4:45pm 2I-A-02	SPARSE GRID APPROACH TO ACCELERATE PARTICLE-IN-CELL TECHNIQUE: APPLICATION TO THE HALL THRUSTER E×B INSTABILITY » Dr. Laurent Garrigues , Mr. Marc Chung-To-Sang, Dr. Gwenael Fubiani, Mr. Clement Guillet, Dr. Fabrice Deluzet, Prof. Jacek Narski
5:15pm 2I-A-03	LOW TEMPERATURE PLASMA SOURCES FOR EFFECTIVE INACTIVATION OF PATHOGENIC MICROBIAL AEROSOLS » Prof. Dawei Liu
5:45pm 2I-A-04	SIMULTANEOUS QUANTIFICATION OF ATOMIC O AND MOLECULAR O₃ IN NON-THERMAL O₂-MIXED PLASMAS » Dr. Qing Xiong , Dr. Junjie Qiao, Mr. Zhan Shu, Mr. Chuanqi Wang, Mr. Yijia Song
4:15pm	2I-B: (Invited) Plasma, Ion and Electron Sources & Optical and X-ray Diagnostics Chaired by: Dr. Mark Johnston

4:15pm 2I-B-01	EXACT ANALYTICAL SOLUTION FOR PULSED LASER INDUCED PHOTOEMISSION FROM BIASED SURFACES » Prof. Peng Zhang , Mr. Yi Luo, Mr. Yang Zhou
4:45pm 2I-B-02	UNIVERSAL SCALING LAW FOR ELECTRON FIELD EMISSION FROM 2D SEMIMETALS » Dr. Yee Sin Ang , Prof. Ricky ANG, Dr. Ching Hua Lee
5:15pm 2I-B-03	IMPROVED LINE-SHAPE PHYSICS FOR PLASMA DIAGNOSTICS » Dr. Thomas Gomez , Dr. Taisuke Nagayama, Dr. Mark Zammit, Dr. Chris Fontes, Dr. Dave Kilcrease, Ms. Patricia Cho, Prof. Igor Bray, Dr. Bart Dunlap, Prof. Michael Montgomery, Prof. Don Winget
5:45pm 2I-B-04	UNDERSTANDING ELECTRODE PLASMA FORMATION ON WIRES AND THIN FOILS VIA VACUUM ULTRAVIOLET SPECTROSCOPY OF DESORBED SURFACE CONTAMINANTS » Mr. Trevor Smith , Dr. Mark Johnston, Dr. Nicholas Jordan, Dr. Michael Cuneo, Dr. George Laity, Prof. Ryan McBride
4:15pm	2O-A: Computational Plasma Physics Chaired by: Dr. De-Qi Wen
4:15pm 2O-A-01	SIMILARITY OF BREATHING OSCILLATIONS IN MAGNETRON DISCHARGES » Dr. Bocong Zheng , Prof. Yangyang Fu, Dr. Keliang Wang, Dr. Thomas Schuelke, Prof. Qi Hua Fan
4:30pm 2O-A-02	RELATIVISTIC TWO-FLUID ELECTRODYNAMICS USING IMPLICIT-EXPLICIT DISCONTINUOUS-GALERKIN METHODS » Mr. Forrest Glines , Dr. Kris Beckwith
4:45pm 2O-A-03	DISTRIBUTIONS OF ACCUMULATED CHARGES IN ATMOSPHERIC PRESSURE OXYGEN DIELECTRIC BARRIER DISCHARGES » Dr. Haruaki Akashi , Dr. Tomokazu Yoshinaga
5pm 2O-A-04	INTENSE LASER RADIATION INTERACTING WITH NANO-STRUCTURED MATTER » Ms. Samah Balouza , Prof. Hartmut Ruhl



Continued from **Sunday, 12 September**

5:15pm
20-A-05 **TWO-DIMENSIONAL FULL-FLUID MOMENT MODEL FOR HALL-EFFECT THRUSTER**

» [Mr. Adnan Mansour](#), Dr. Kentaro Hara

5:30pm
20-A-06 **REAL-TIME ESTIMATION OF DISCHARGE CURRENT OSCILLATIONS USING AN ITERATED EXTENDED KALMAN FILTER**

» [Ms. Christine Greve](#), Dr. Kentaro Hara

5:45pm
20-A-07 **CHARACTERISTICS OF RF HOLLOW CATHODE DISCHARGE: PARTICLE-IN-CELL/MONTE CARLO SIMULATION**

» [Dr. Kallol Bera](#), Dr. Xiaopu Li, Dr. Abhishek Verma, Dr. Sathya Ganta, Dr. Shahid Rauf

4:15pm **20-B: Microwave Plasma Interactions & THz Sources, Radiation and Applications**

Chaired by: Dr. Bengt Eliasson

4:15pm
20-B-01 **RECENT EXPERIMENTS ON THE S-BAND COAXIAL MULTIPACTOR TEST CELL**

» [Mr. Stephen Langellotti](#), Dr. Nicholas Jordan, Prof. Yue Ying Lau, Prof. Ronald Gilgenbach

4:30pm
20-B-02 **MULTILAYER-STRUCTURED DISCHARGED IN PLASMA IONIZATION BREAKDOWN NEAR A DIELECTRIC SURFACE**

» [Dr. De-Qi Wen](#), Prof. Peng Zhang, Mr. Janez Krek, Prof. Yangyang Fu, Prof. John Verboncoeur

4:45pm
20-B-03 **GENERATION OF ELECTRON CYCLOTRON MICROWAVE EMISSIONS IN A MIRROR DISCHARGE**

» [Dr. Bengt Eliasson](#), Dr. Mikhail Viktorov, Dr. David Speirs, Prof. Kevin Ronald, Dr. Dmitri Mansfeld, Prof. Alan Phelps

5pm
20-B-04 **COHERENT THz EMISSION PRODUCED IN PLASMA BY TRANSVERSELY MODULATED COLLIDING LASER BEAMS**

» [Mrs. Evgeniia Volchok](#), Dr. Igor Timofeev, Dr. Vladimir Annenkov, Dr. Evgeny Berendeev

5:15pm
20-B-05 **STUDY OF TWO-FREQUENCY RF FIELD INDUCED TWO-SURFACE MULTIPACTOR**

» [Dr. Asif Iqbal](#), Dr. Patrick Wong, Prof. John P. Verboncoeur, Prof. Peng Zhang

4:15pm **20-C: Fusion: Inertial, Magnetic & Alternate Concepts**

Chaired by: Dr. Chris Walsh

4:15pm
20-C-01 **INCREASED PREHEAT ENERGY TO MagLIF TARGETS WITH CRYOGENIC COOLING**

» [Dr. Adam Harvey-Thompson](#), Dr. Matthias Geissel, Dr. Allen Crabtree, Dr. Matthew Weis, Dr. Matthew Gomez, Dr. Jeff Fein, Dr. David Ampleford, Dr. Thomas Awe, Dr. Gordon Chandler, Dr. Ben Galloway, Dr. Stephanie Hansen, Mr. Joseph Hanson, Dr. Eric Harding, Dr. Christopher Jennings, Dr. Mark Kimmel, Dr. Patrick Knapp, Mr. Derek Lamppa, Dr. William Lewis, Dr. Michael Mangan, Mr. Andrew Maurer, Mr. Lawrence Perea, Dr. Kyle Peterson, Dr. John Porter, Dr. Patrick Rambo, Mr. Grafton Robertson, Dr. Gregory Rochau, Dr. Daniel Ruiz, Mr. Jonathan Shores, Dr. Stephen Slutz, Dr. Ian Smith, Mr. Christopher Speas, Dr. David Yager-Elorriaga, Mr. Adam York, Mr. Reny Paguio, Mr. Gary Smith

4:30pm
20-C-02 **INVESTIGATING AT-SCALE MagLIF PREHEAT ON THE NIF**

» [Dr. Bradley Pollock](#), Dr. Eleanor Tubman, Mr. Ryan Lau, Dr. James Ross, Dr. David Strozzi, Dr. John Moody, Dr. Michael Glinsky, Dr. Matthew Weis, Dr. Adam Harvey-Thompson, Dr. Kris Beckwith, Dr. Evstati Evstatiev, Dr. David Ampleford

4:45pm
20-C-03 **LINE VISAR MEASUREMENTS OF ENERGY DEPOSITION FOR NEXT GENERATION MagLIF LASER PREHEAT AT NIF**

» [Dr. Michael Glinsky](#), Dr. Matthew Weis, Dr. Adam Harvey-Thompson, Dr. Kris Beckwith, Dr. Bradley Pollock, Dr. John Moody, Dr. David Strozzi

5pm
20-C-04 **MEASURING MIX IN MagLIF EXPERIMENTS AT THE NIF**

» [Dr. Eleanor Tubman](#), Dr. Bradley Pollock, Dr. David Strozzi, Dr. James Ross, Mr. Ryan Lau, Dr. John Moody, Dr. Adam Harvey-Thompson, Dr. Matthew Weis, Dr. Michael Glinsky, Dr. Stephanie Hansen, Dr. Evstati Evstatiev, Dr. David Ampleford, Dr. Kris Beckwith



Continued from **Sunday, 12 September**

5:15pm
20-C-05 **THREE-DIMENSIONAL MAGNETOHYDRODYNAMIC MODELING OF AUTO-MAGNETIZING LINER IMPLOSIONS**

» [Dr. Gabriel Shipley](#), Dr. Thomas Awe, Dr. Christopher Jennings, Dr. Brian Hutsel

5:30pm
20-C-06 **USING ENGINEERED DEFECTS TO EXPLORE 3D FEEDBACK PROCESSES IN CURRENT-DRIVEN METAL**

» [Dr. Edmund Yu](#), Dr. Thomas Awe, Mr. Kyle Cochrane, Dr. Kyle Peterson, Ms. Maren Hatch, Dr. Trevor Hutchinson, Dr. Kevin Yates, Mr. Kurt Tomlinson, Dr. Brian Hutsel, Prof. Bruno Bauer, Mr. William Tatum

5:45pm
20-C-07 **SOME CONSIDERATIONS OF A FLOW-STABILIZED Z-PINCH FOR MEGAGAUSS FUSION**

» [Dr. Peter Turchi](#), Prof. Uri Shumlak

6pm
20-C-08 **Kr L-SHELL SPECTROSCOPY AS A PLASMA DIAGNOSTIC FOR INERTIAL CONFINEMENT FUSION CONDITIONS**

» [Mr. Enac Gallardo Diaz](#), Prof. Roberto Mancini, Mr. Patrick Adrian, Dr. Johan Frenje, Dr. Ricardo Florido

4:15pm **20-D: Nonequilibrium Plasma Applications I**

Chaired by: Prof. Xuekai Pei

4:15pm
20-D-01 **REACTIVE SPECIES TRANSPORT TO WATER MICRO-DROPLETS IN ATMOSPHERIC PRESSURE RF GLOW DISCHARGES**

» [Dr. Gaurav Nayak](#), Ms. Mackenzie Meyer, Prof. Mark Kushner, Prof. Peter J. Bruggeman

4:30pm
20-D-02 **SYNTHESIS OF AMORPHOUS MOLYBDENUM SULFIDE/REDUCED GRAPHENE OXIDE NANOHYBRIDS USING PLASMA REDUCTION**

» [Mr. Dai Zhang](#), Prof. Rongqing Liang, Prof. Qiongrong Ou, Dr. Shuyu Zhang

4:45pm
20-D-03 **SIMULATION OF NANOSECOND REPETITIVELY PULSED PLASMA ASSISTED COUNTER-FLOW DIFFUSION FLAME**

» [Mr. Bang-Shiuh Chen](#), Prof. Allen Garner, Prof. Sally Bane

5pm
20-D-04 **HIGH CAPACITY AND HIGH STABILITY LITHIUM-ION BATTERY ELECTRODES USING SUSTAINABLE CARBON PLASMA**

» [Prof. Rajdeep Singh Rawat](#), Dr. Bo Ouyang

5:15pm
20-D-05 **PLASMA-ASSISTED SYNTHESIS OF SILVER NANOPARTICLES**

» [Ms. Tatiana Habib](#), Prof. Bruno Caillier, Prof. José Mauricio Almeida Caiut

5:30pm
20-D-06 **PLASMA AND FLOW DYNAMICS IN GLIDING- AND TRANSFERRED-ARC REACTORS FOR HYDROGEN PRODUCTION FROM POLYETHYLENE**

» [Mr. Benard Tabu](#), Mr. Mammadbaghir Baghirzade, Mr. Kevin Akers, Dr. Peng Yu, Dr. Erick Brack, Dr. Christopher Drew, Prof. J. Hunter Mack, Prof. Hsi-Wu Wong, Prof. Juan Trelles

5:45pm
20-D-07 **THE COMBINATION OF COLD PLASMA AND NANOCOMPOSITE PACKAGING FOR SAFFRON PRESERVATION**

» [Mr. Milad Rasouli](#), Prof. Mahmood Ghoranneviss

4:15pm **20-E: Environmental and Industrial Applications I**

Chaired by: Prof. Sayan Biswas

4:15pm
20-E-01 **DEFLUORINATION MECHANISM OF PERFLUOROCTANOIC ACID (PFOA) WITH A NANOSECOND PULSED PLASMA GAS-LIQUID FLOWING FILM REACTOR**

» [Mr. Radha Krishna Murthy Bulusu](#), Ms. Rachel Gallan, Mr. Karam Eeso, Mr. Christopher Patterson, Dr. Robert Wandell, Dr. Youneng Tang, Dr. Bruce Locke

4:30pm
20-E-02 **STUDY ON THE CHARACTERISTICS AND HEAT DISSIPATION EFFECT OF IONIC WIND GENERATED BY MULTI-NEEDLE NET ELECTRODE IN CORONA DISCHARGE**

» [Mr. Yulei Zhao](#), Mr. Jia Di, Ms. Yuan Dong, Prof. Feng Liu, Prof. Zhi Fang

4:45pm
20-E-03 **EFFECT OF HYDROGEN ION FLUX FOR REDUCTION AND HYDROGENATION OF MAGNESIUM OXIDE USING MICROWAVE EXCITED HYDROGEN PLASMA**

» [Mr. Ryohei Kurebayashi](#), Ms. Manatsu Kishi, Prof. Akihisa Ogino



Continued from **Sunday, 12 September**

5pm
20-E-04 **ELECTRICAL DISCHARGES CONTACTING A LIQUID: THE ROLE OF MIXING IN THE DEGRADATION OF ORGANIC CONTAMINANTS**
» Mr. Mikhail Vasilev, Dr. Selma Thagard, Mr. Xudong Su, Mr. Patrick Conlon, Mr. Jaymes Suiter, Dr. Douglas Bohl

5:15pm
20-E-05 **SUPER-HYDROPHOBIC FILM DEPOSITION ON EPOXY RESIN BY NANOSECOND PULSE EXCITED Ar/HMDSO JET ARRAY**
» Ms. Zhiyan Liu, Prof. Feng Liu, Dr. Xinglei Cui, Prof. Zhi Fang

5:30pm
20-E-06 **IMPROVEMENT OF THE CERAMICS WET FLASHOVER WITH Ar /PDMS DIELECTRIC BARRIER DISCHARGE EXCITED BY NANOSECOND PULSE POWER SUPPLY**
» Mr. Jingang Xu, Dr. Xinglei Cui, Prof. Zhi Fang

5:45pm
20-E-07 **SIMULATION OF 2D MODEL OF DIELECTRIC BARRIER DISCHARGE FOR FLEXIBLE HYBRID ELECTRONICS**
» Ms. Anupama Dhamala, Mr. Jacob Manzi, Prof. Harish Subbaraman, Prof. Nirmala Kandadai

6pm
20-E-08 **CHARACTERIZATION OF CAPILLARY DISCHARGE EJECTA ONTO METAL SUBSTRATES**
» Mr. William Searight, Dr. Leigh Winfrey, Dr. Joshua Nowak, Dr. John Echols, Dr. Mohamed Bourham

4:15pm **20-F: Compact Pulsed Power and Applications**
Chaired by: Prof. Jacob Stephens

4:15pm
20-F-01 **LOW-INDUCTANCE MAGNETICALLY INSULATED TRANSMISSION LINE OF PETAL-LIKE**
» Dr. laqun liu, Mrs. yan liu, Dr. liangji zhou, Dr. jihao jiang, Dr. Huihui Wang, Prof. Dagang Liu

4:30pm
20-F-02 **OPTICAL FEEDBACK MICROSECOND PULSE POWER SUPPLY FOR DBD DISCHARGE**
» Mr. zhibin li, Dr. Shanshan Jin, Prof. Zhi Fang

4:45pm
20-F-03 **PROGRESS ON THE 4-CAVITY BLUE LTD SYSTEM AT THE UNIVERSITY OF MICHIGAN**
» Dr. Roman Shapovalov, Mr. Brendan Sporer, Dr. Nicholas Jordan, Prof. Ryan McBride

5pm
20-F-04 **GENERATION OF SUPERSONIC WATER JETS BY UNDERWATER ELECTRICAL EXPLOSION OF WIRE ARRAYS**
» Mr. Daniel Maler, Dr. Sergey Efimov, Mr. Alexander Rososhek, Prof. Simon Bland, Prof. Yakov Krasik

5:15pm
20-F-05 **UNIFORMITY OF ELECTRICAL CURRENT FOR UNDERWATER ELECTRICAL WIRE ARRAY EXPLOSION**
» Mr. Zhigang Liu, Mr. Dun Qian, Prof. Xiaobing Zou, Prof. Xinxin Wang

5:30pm
20-F-06 **TARGET ACCELERATION BY UNDERWATER ELECTRICAL EXPLOSION OF A WIRE ARRAY**
» Mr. Daniel Maler, Mr. Alexander Rososhek, Dr. Sergey Efimov, Dr. Alexander Virozub, Prof. Yakov Krasik

5:45pm
20-F-07 **TRANSIENT SPACE CHARGE LIMITED PICOSECOND PULSES USING ULTRA SHORT LASER PULSES**
» Dr. Channprit Kaur, Prof. Rambabu Karumudi, Prof. Robert Fedosejevs

6pm
20-F-08 **GENERATION CONDITIONS AND COMPRESSION PROCESS OF DIVERGENT WIRE ARRAY Z-PINCH**
» Ms. Miharu Takao, Prof. Hiroaki Ito, Prof. Taichi Takezaki, Prof. Keiichi Takasugi

6:15pm **Women in Engineering**

Monday, 13 September

8:45am **2020 IEEE NPSS Marie Sklodowska-Curie Award Presentation**



Continued from Monday, 13 September	
9am	Plenary 3: 2020 Marie Sklodowska-Curie Award Winner Chaired by: Prof. John Verboncoeur
9am	NONLINEARITY AND WAVES IN CAPACITIVELY-COUPLED PLASMA PROCESSING DISCHARGES » Prof. Michael Lieberman , Prof. Allan Lichtenberg, Dr. Emi Kawamura
10am	Break
10:15am	3I-A: (Invited) Dusty Plasmas Chaired by: Prof. Lorin Matthews
10:15am 3I-A-01	DUST IN PROTOPLANETARY ENVIRONMENTS » Prof. Truell Hyde , Prof. Lorin Matthews, Dr. Augusto Carballido
10:45am 3I-A-02	EXAMINING IONIZATION WAVE EFFECTS ON SELF-ORGANIZATION OF DUST CHAINS » Mrs. Katrina Vermillion , Mr. Dustin Sanford, Prof. Lorin Matthews, Dr. Peter Hartmann, Dr. Marlene Rosenberg, Dr. Eva Kostadinova, Prof. Truell Hyde, Dr. Jeremiah Williams, Dr. Lori Scott, Dr. Uwe Konopka, Dr. Edward Thomas, Dr. Mikhail Pustyl'nik, Dr. Hubertus Thomas
11:15am 3I-A-03	ENTROPY GENERATION IN ULTRACOLD NEUTRON PLASMAS » Mr. Lucas Stanek , Dr. Jeffrey Haack, Dr. Michael Murillo
11:45am 3I-A-04	MODELING NANOPARTICLE CHARGE DISTRIBUTION IN THE AFTERGLOW OF NON-THERMAL PLASMAS AND COMPARISON WITH MEASUREMENTS » Mr. Vikram Suresh, Dr. Li Li, Prof. RANGANATHAN GOPALAKRISHNAN
10:15am	3I-B: (Invited) Intense Beam Microwave Generation & Slow-Wave Devices Chaired by: Prof. Colin Whyte

10:15am 3I-B-01	ABNORMAL TRANSITION FROM UNCONVENTIONAL FIELD EMISSION TO SPACE CHARGE LIMITED CURRENT » Prof. Ricky ANG , Mr. Cherq Chua, Dr. Yee Sin Ang, Dr. Chunyun Kee
10:45am 3I-B-02	ELECTRON EMISSION NEXUS THEORY FOR A CROSSED FIELD DIODE » Dr. Amanda Loveless , Mr. Adam Darr, Prof. Allen Garner
11:15am 3I-B-03	EXPERIMENTS ON A 10 kA, 240 kV MAGNETICALLY INSULATED LINE OSCILLATOR » Dr. Drew Packard , Prof. Yue Ying Lau, Mr. Christopher Swenson, Ms. Emma Guerin, Dr. Nicholas Jordan, Prof. Ronald Gilgenbach
11:45am 3I-B-04	SPACE CHARGE WAVE GROWTH VIA COUPLING TO LOSSY BACKWARD CIRCUIT WAVE: TWO WAVE THEORY » Mr. Patrick Forbes , Prof. John Booske, Prof. Nader Behdad
10:15am	3I-C: (Invited) Particle Acceleration with Lasers and Beams, Laser Produced Plasmas, Fast Z-pinches Chaired by: Dr. Stephanie Hansen
10:15am 3I-C-01	SINGLE-SHOT MULTI-KEV X-RAY ABSORPTION SPECTROSCOPY USING AN ULTRASHORT LASER-WAKEFIELD ACCELERATOR SOURCE » Dr. Brendan Kettle , Dr. Rory Baggott, Mr. Cary Colgan, Ms. Eva Los, Prof. Steven Rose, Dr. Stuart Mangles
10:45am 3I-C-02	K-SHELL SPECTROSCOPY OF Ni NANOWIRE PLASMAS HEATED WITH HIGHLY RELATIVISTIC LASER PULSES » Dr. Reed Hollinger , Dr. Shoujun Wang, Dr. Huanyu Song, Mr. Ryan Nedbailo, Dr. Yong Wang, Dr. Vyacheslav Shlyaptsev, Dr. Jorge Rocca, Dr. Jerry Clark, Dr. Ronnie Shepherd, Dr. Matthew Hill, Dr. Jim Emig, Dr. Ed Magee, Prof. Alexander Pukhov, Dr. Brian Kraus, Dr. Lan Gao, Dr. Philip Efthimion, Dr. Kenneth Hill, Dr. Manfred Bitter



Continued from **Monday, 13 September**

11:15am 3I-C-03	CONTINUUM HARD-PHOTON K-SHELL YIELDS FROM Z-PINCH IMPLOSIONS: PRESENT STATUS AND SCALING TO HIGHER CURRENTS » Dr. Alexander Velikovich , Dr. Nicholas Ouart, Dr. Arati Dasgupta, Dr. John Giuliani, Dr. Varun Tangri, Dr. Adam Harvey-Thompson, Dr. Marc-Andre Schaeuble, Dr. Jens Schwarz, Dr. Clayton Myers, Dr. David Ampleford, Dr. Roger Vesey, Dr. Brent Jones
11:45am 3I-C-04	CURRENT DELIVERY OF GAS-PUFF Z-PINCHES ON THE CESZAR LINEAR TRANSFORMER DRIVER » Mr. Nicholas Aybar , Dr. Fabio Conti, Dr. Jeff Narkis, Prof. Farhat Beg
10:15am	3I-D: (Invited) Environmental and Industrial Applications Chaired by: Prof. Chunqi Jiang
10:15am 3I-D-01	PLASMA FOR CREWED TRANSIT AND PLANETARY HABITATION » Dr. Kenneth Engeling , Mr. Malay Shah, Mrs. Elspeth Petersen, Dr. Ryan Gott, Dr. Gioia Massa, Dr. Christina Johnson, Dr. Anne Meier, Mr. David Rinderknecht, Mr. Misle Tessema, Mr. Ray Pitts, Dr. Joel Olson, Ms. Mary Hummerick, Ms. Carolina Franco, Dr. Nilab Azim, Ms. Haley Boles, Mrs. Victoria Brown
10:45am 3I-D-02	UNDERWATER SHOCK WAVE GENERATED BY EXPLODING WIRE IGNITED ENERGETIC MATERIALS AND ITS APPLICATION IN RESERVOIR STIMULATION » Dr. Huantong SHI , Mr. Yujia Hu, Prof. Xingwen Li, Prof. Yongmin Zhang, Prof. Jian Wu, Prof. Aici Qiu
11:15am 3I-D-03	SEQUENTIAL ADSORPTION PLASMA CATALYTIC ABATEMENT OF TOLUENE USING METAL OXIDE LOADED MS-13X IN PACKED BED DBD REACTOR » Dr. Savita Kaliya Perumal Veerapandian , Mr. Parviz Gohari Derakhshandeh, Prof. Nathalie De Geyter, Dr. Karen Leus, Prof. Pascal Van Der Voort, Prof. Rino Morent
11:45am 3I-D-04	FAR UV-C RADIATION FROM MICROPLASMA FLAT LAMP AND ITS VIRAL INACTIVATION IN OCCUPIED SPACE » Dr. Sung-jin Park

12:15pm	Break
1pm	Exhibitors and Interactive Career Fair
3pm	Plenary 4 Chaired by: Dr. George Petrov
3pm	INTENSE GAMMA RAY PULSES FROM ULTRA-RELATIVISTIC LASER-PLASMA INTERACTIONS » Dr. Daniel Gordon , Dr. Bahman Hafizi, Mr. Abdurrahman Younis, Dr. Asher Davidson, Dr. Jacob Zier, Dr. Domenico Doria, Dr. Klaus Spohr
4pm	Break
4:15pm	4O-A: Basic Phenomena, Computational Plasma Physics, and Space Plasmas Chaired by: Prof. Amar Misra
4:15pm 4O-A-01	IONOSPHERIC BEAT-WAVE BRILLOUIN SCATTERING AT EISCAT » Dr. Bengt Eliasson , Dr. Andrew Senior, Dr. Mike Rietveld, Prof. Alan Phelps, Dr. Alan Cairns, Prof. Kevin Ronald, Dr. David Speirs, Dr. Raoul M. G. M. Trines, Dr. Ian McCrea, Dr. Ruth Bamford, Prof. Jose Tito Mendonca, Dr. Bob Bingham
4:30pm 4O-A-02	DIRECT KINETIC SIMULATION OF THE INTERACTION OF AN EXPANDING PLASMA PLUME WITH AMBIENT GAS » Dr. Wai Hong Ronald Chan , Dr. Alexander Vazsonyi, Prof. Iain Boyd
4:45pm 4O-A-03	INFLUENCE OF PLASMA AND ELECTRON BEAM NOISE ON SYSTEM INSTABILITY AT KNUDSEN NUMBERS OF THE ORDER OF 1 » Dr. Vladimir Sukhomlinov, Mr. Alexandr Mustafaev, Mr. Alexandr Zaitsev , Dr. Nikolai Timofeev



Continued from **Monday, 13 September**

5pm
40-A-04 **RADIATION DECAY IN SPIN-POLARIZED QUANTUM MAGNETOPLASMA**

» [Dr. PUNIT KUMAR](#), Dr. Shiv Singh

4:15pm **40-B: Plasma Chemistry**

Chaired by: Prof. Yangyang Fu

4:15pm
40-B-01 **PLASMA CHEMISTRY IN A HUMID AR RADIOFREQUENCY (RF) ATMOSPHERIC PRESSURE PLASMA JET**

» [Mr. Jingkai Jiang](#), Dr. V S Santosh K Kondeti, Dr. Gaurav Nayak, Prof. Peter J. Bruggeman

4:30pm
40-B-02 **PLASMA-ENABLED CO₂/CH₄ CONVERSION INTO LIQUID CHEMICALS: EFFECT OF VALENCE STATES AND MICROSTRUCTURE OF THE CATALYSTS**

» Dr. Liguang Dou, [Dr. Jiangwei Li](#), Dr. Yuan Gao, Dr. Yadi Liu, Dr. Shuai Zhang, Prof. Tao Shao

4:45pm
40-B-03 **STUDY OF NON-EQUILIBRIUM PLASMA EFFECTS ON DETONATION IN FUEL LEAN NATURAL GAS MIXTURES**

» [Mr. SHAON TALUKDAR](#), Mr. Md Monir Hossain, Dr. Rajagopalan Varadarajan Ranganathan, Dr. Mruthunjaya Uddi

5pm
40-B-04 **LANGEVIN DYNAMICS MODELING OF GAS-PHASE ION RECOMBINATION WITH DILUTE ION CONCENTRATION**

» Dr. Li Li, [Mr. Zhibo Liu](#), Ms. Mrityika Roy, Prof. RANGANATHAN GOPALAKRISHNAN

5:15pm
40-B-05 **GAS-PHASE MOLECULAR FORMATION IN MULTI-COMPONENT LASER-PRODUCED PLASMAS**

» [Dr. Liz Kautz](#), Dr. Alla Zelenyuk, Dr. Bharat Gwalani, Dr. Sivanandan Harilal

4:15pm **40-C: Codes and Modeling**

Chaired by: Dr. John Petillo

4:15pm
40-C-01 **VALIDATION OF THE TESLA-Z STABILITY ANALYSIS FRAMEWORK BY ITS APPLICATION TO EXPERIMENTAL TWTs**

» [Dr. Igor Chernyavskiy](#), Dr. John Rodgers, Dr. Colin Joye, Dr. Alan Cook, Dr. Alexander Vlasov, Dr. Simon Cooke, Prof. Thomas Antonsen

4:30pm
40-C-02 **CONFORMAL SPACE-CHARGE LIMITED EMISSION MODELING IN THE NEPTUNE EM-PIC CODE**

» [Dr. Simon Cooke](#)

4:45pm
40-C-03 **SIMULATION OF A RELATIVISTIC MAGNETRON USING A FLUID ELECTRON MODEL**

» [Dr. Nicholas Roberds](#), Dr. Andrew Sandoval, Dr. Keith Cartwright, Dr. Kris Beckwith

5pm
40-C-04 **COMPUTATIONAL MODELING OF CO₂ DECOMPOSITION BY CONCENTRATED SOLAR ENERGY – ENHANCED MICROWAVE PLASMA**

» [Mr. Rasool Elahi](#), Prof. Juan Trelles

5:15pm
40-C-05 **MICROWAVE GENERATION IN COAXIAL, COMPOSITE NONLINEAR TRANSMISSION LINES**

» [Mr. Xiaojun Zhu](#), Dr. Andrew Fairbanks, Mr. Travis Crawford, Dr. Walter Sessions, Prof. Allen Garner

4:15pm **40-D: Fast Z-pinches and Astrophysical Plasmas**

Chaired by: Dr. Gabriel Shipley

4:15pm
40-D-01 **PULSED-POWER MAGNETIZED SHOCKS UNDER AN EXTERNAL MAGNETIC FIELD**

» [Mr. Raul Melean](#), Dr. Rachel Young, Mrs. Salle Klein, Mr. Akash Shah, Mr. Trevor Smith, Mr. George Dowhan, Mr. Brendan Sporer, Mr. Paul Campbell, Dr. Nicholas Jordan, Prof. Ryan McBride, Prof. R Drake, Prof. Carolyn Kuranz

4:30pm
40-D-02 **DEVELOPING AN EXTENDED CONVOLUTE POST TO DRIVE AN X-PINCH FOR RADIOGRAPHY AT THE Z FACILITY**

» [Dr. Matthew Gomez](#), Dr. Clayton Myers, Ms. Maren Hatch, Dr. Brian Hutsel, Dr. Christopher Jennings, Mr. Derek Lamppa, Mr. Michael Lowinske, Mr. Andrew Maurer, Dr. Adam Steiner, Mr. Kurt Tomlinson, Dr. Timothy Webb, Dr. David Yager-Elorriaga, Dr. David Ampleford



Continued from **Monday, 13 September**

4:45pm
4O-D-03 **THE SURPRISING ROLE OF EQUATIONS OF STATE MODELS IN ELECTRICALLY EXPLODING METAL ROD MHD SIMULATIONS**
» [Mr. Seth Kreher](#), Dr. Christopher Rousculp, Prof. Bruno Bauer, Mr. Aidan Klemmer, Dr. Charles Starrett

5pm
4O-D-04 **SPECTRAL LINE IDENTIFICATION OF A PHOTOIONIZED SILICON PLASMA IN EMISSION**
» [Ms. Patricia Cho](#), Dr. Guillaume Loisel, Dr. Chris Fontes

4:15pm **4O-E: Environmental and Industrial Applications II**
Chaired by: Prof. Chunqi Jiang

4:15pm
4O-E-01 **SUBCELLULAR MECHANISM OF MICROBIAL INACTIVATION DURING WATER DISINFECTION BY COLD ATMOSPHERIC-PRESSURE PLASMA**
» [Ms. Siyao Ju](#), Dr. Hangbo Xu, Ms. Yupan Zhu, Ms. Mengru Du, Mr. Yuqi Wang, Prof. Ruonan Ma, Prof. Zhen Jiao

4:30pm
4O-E-02 **THE TREATMENT OF MEDICAL WASTE BY ATMOSPHERIC MICROWAVE PLASMA**
» [Mr. Daolu Xia](#), Mr. Cheng Liu, Mr. Ziyao Jie, Mr. Guixin Zhang

4:45pm
4O-E-03 **THE ROTATING PLASMA SOURCE (RPS) AS AN INNOVATIVE TOOL TO SYNTHESIZE FINE POWDER FOR INDUSTRIAL APPLICATIONS**
» [Dr. Ahmed Hala](#)

5pm
4O-E-04 **COMPARATIVE ANALYSIS OF HELIUM AND AIR SURFACE MICRO-DISCHARGE PLASMA ON THE MICROBIAL REDUCTION AND QUALITY ATTRIBUTES OF BEEF SLICES**
» [Mr. Bo Yu](#)

5:15pm
4O-E-05 **CHARACTERIZATION OF REACTIVE CHEMICAL SPECIES IN NONTHERMAL AIR SURFACE DIELECTRIC BARRIER DISCHARGE PLASMA**
» [Mr. Mahamad Allabakshi Shaik](#), Mr. P S Naga Sai Raghavendra Srikar, Dr. Reetesh Kumar Gangwar, Dr. Shihabudheen Mundampra Maliyekkal

4:15pm **4O-F: Particle and Microwave Diagnostics**
Chaired by: Dr. Alastair Moore

4:15pm
4O-F-01 **CHARACTERIZATION OF GAS JET TARGETS FOR PLASMA DIAGNOSTIC MEASUREMENTS**
» [Dr. Channprit Kaur](#), Mr. Matthew Gjevre, Dr. Sophia Malko, Prof. Robert Fedosejevs

4:30pm
4O-F-02 **PROBING THE COULOMB INTERACTION FORCE BETWEEN TWO PLASMA CONFINED PARTICLES UNDER HYPERGRAVITY CONDITIONS**
» [Mr. Patrick Meijaard](#), Dr. Job Beckers

4:45pm
4O-F-03 **EXPERIMENTAL DESIGN FOR DIRECT DIAGNOSTICS OF FLASHOVER PLASMA PROPAGATION VELOCITY**
» [Mr. Andrei Koch](#), Dr. John Blandino, Dr. Nikolaos Gatsonis

5pm
4O-F-04 **RESONANCE BEHAVIOR OF DIFFERENT PLANAR PROBE DESIGNS FOR ACTIVE PLASMA RESONANCE SPECTROSCOPY**
» Mr. Michael Friedrichs, [Prof. Jens Oberrath](#), Ms. Chunjie Wang, Prof. Ralf Peter Brinkmann

5:30pm **4P-A: Basic Phenomena Posters**

4P-A-01 **LONGITUDE ELECTRIC FIELD GENERATED IN GAS AND PLASMA FOR PROTON ACCELERATION**
» [Dr. somayeh rezaei](#)

4P-A-02 **EFFECT OF FREQUENCY CHIRP ON THE CIRCULARLY POLARIZED LASER PULSE PROPAGATED IN A MAGNETIZED PLASMA**
» [Dr. mohamad Reza J.Milani](#)

4P-A-03 **ELECTRON ACOUSTIC SOLITARY WAVES IN THE PRESENCE OF ELECTRON BEAM AND SUPERTHERMAL ELECTRONS**
» [Ms. Rajneet kaur](#), Prof. N.S. saini



Continued from **Monday, 13 September**

- 4P-A-04 **LARGE HELICON APPARATUS FOR PARAMETRIC MICROWAVE COUPLING EXPERIMENTS IN A MAGNETISED PLASMA**
 » [Mr. Kieran Wilson](#), Mr. Liam Selman, Prof. Colin Whyte, Dr. Phillip MacInnes, Dr. Alan Young, Prof. Alan Phelps, Prof. Adrian Cross, Dr. Liang Zhang, Dr. Bengt Eliasson, Dr. David Speirs, Dr. Craig Robertson, Prof. Kevin Ronald, Dr. Alan Cairns, Prof. Mark Koepke, Dr. Bob Bingham, Dr. Ruth Bamford

- 4P-A-05 **STUDY OF THE THRESHOLD VOLUME OF DEVELOPMENT OF THE POSITIVE STREAMER IN A VERY INHOMOGENEOUS ELECTRICAL FIELD**
 » [Mrs. Sarra ADJIM](#), Dr. Nasreddine ADJIM

- 4P-A-06 **PROPERTIES OF AN ABLATION PLASMA AT VERY LOW TARGET TEMPERATURES**
 » [Dr. Arturo Robledo-Martinez](#), Mr. Luis Angel Garcia-Villarreal, Dr. Hugo Martin Sobral

- 4P-A-07 **DIELECTRIC BREAKDOWN IN INSULATING GASES IN NON-UNIFORM FIELDS**
 » [Mrs. Sarra ADJIM](#), Dr. Nasreddine ADJIM

- 4P-A-08 **SPECTROSCOPIC CHARACTERIZATION OF ELECTRON BEAM INDUCED PLASMA IN DIFFERENT GASES**
 » [Dr. Michael Johnson](#), Dr. Stuart Jackson, Dr. Eric Kaiser, Dr. David Hinshelwood, Dr. A. Stephen Richardson, Dr. Stephen Swanekamp

5:30pm **4P-B: Plasma, Ion, and Electron Sources & Intense Electron Ion Beam Posters**

- 4P-B-01 **STUDY ON MULTI CONTROL MODE OF ARC POWER SUPPLY ON NBI**
 » [Prof. Junjun Pan](#), Mr. Lian Duan, Prof. Zhimin Liu, Prof. Shiyong Chen, Prof. Caichao Jiang, Prof. Sheng Liu, Prof. Yahong Xie

- 4P-B-02 **DEVELOPMENT OF PHOTOINJECTOR COMPLEX AT IAP RAS: SYSTEM FOR SYNCHRONIZATION OF LASER PULSE AND RF-SOURCES**
 » [Dr. Dmitriy Makarov](#), Dr. Alexander Vikharev, Dr. Nikolai Peskov, Mr. Alexander Shkayev

- 4P-B-03 **DEVELOPMENT OF COMPACT TORUS INJECTION ON KEDA TORUS EXPERIMENT**
 » [Prof. Tao Lan](#), Dr. Chen Chen, Prof. Ge Zhuang, Prof. Weixing Ding, Prof. Zhengwei Wu, Prof. Wenzhe Mao, Dr. Jie Wu, Dr. Hangqi Xu, Dr. Jiaren Wu, Dr. Yiming Zu, Mr. Dong Zhang, Prof. Chu Zhou, Prof. Ahdli Liu, Prof. Jinlin Xie, Prof. Hong Li, Prof. Wandong Liu, Prof. Chijin Xiao, Prof. Defeng Kong, Prof. Shoubiao Zhang

- 4P-B-04 **GATED FIELD EMITTER ARRAYS FOR PLANAR CROSSED-FIELD DEVICE EXPERIMENT**
 » [Dr. Ranajoy Bhattacharya](#), Mr. John McClarin, Mr. Andong Yue, Ms. Rushmita Bhattacharjee, Mr. Isaac Wolstenholme, Mr. Mason Cannon, Mr. Gerardo Herrera, Ms. Liz Gaffney, Mr. Adam Darr, Mr. Nedeljko Karaulac, Dr. Girish Rughoobur, Dr. Winston Chern, Prof. Allen Garner, Prof. Akintunde I Akinwande, Prof. Jim Browning

- 4P-B-05 **ELECTRON BEAM-PLASMA INTERACTION IN AN ELECTRON-POSITRON PLASMA SYSTEM WITH KAPPA-DISTRIBUTED ELECTRONS**
 » [Dr. Ashkbiz Danehkar](#)

- 4P-B-06 **SIMULATIONS ABOUT INFLUENCES OF FARADAY SHIELD ON RADIO FREQUENCY PLASMA DISCHARGE**
 » [Dr. Bo Liu](#), Prof. Zhimin Liu, Prof. Jianglong Wei, Prof. Caichao Jiang, Prof. Chundong Hu

5:30pm **4P-C: Fusion, Particle Acceleration with Lasers and Beams, Plasma Material Interactions Posters**

- 4P-C-01 **EFFECTS OF APPLIED AXIAL MAGNETIC FIELDS ON CURRENT COUPLING IN MagLIF EXPERIMENTS ON THE Z MACHINE**
 » [Ms. Dana Zimmer](#), Dr. Matthew Gomez, Dr. Christopher Jennings, Dr. Clayton Myers, Dr. Nichelle Bennett, Dr. Fabio Conti, Prof. Farhat Beg



Continued from **Monday, 13 September**

- 4P-C-02 **MITIGATING THE JOINT FEATURE IN DOUBLE SHELL IMPLOSION SIMULATIONS**
 » [Dr. David Stark](#), Dr. Joshua Sauppe, Dr. Brian Haines, Dr. Sasikumar Palaniyappan, Dr. Ryan Sacks, Dr. Irina Sagert, Dr. Paul Keiter, Dr. David Montgomery, Dr. Tana Morrow, Dr. Brian Patterson, Dr. Theresa Quintana, Dr. Lindsey Kuettner, Dr. Lynne Goodwin, Dr. Steve Batha, Dr. Eric Loomis

- 4P-C-03 **A PLATFORM TO STUDY HIGH-FIELD FRC FORMATION ON THE MAIZE LINEAR TRANSFORMER DRIVER**
 » [Mr. Brendan Sporer](#), Mr. Akash Shah, Mr. George Dowhan, Dr. Nicholas Jordan, Prof. Ryan McBride, Dr. Stephen Slutz, Dr. Gabriel Shipley

- 4P-C-04 **PLASMA CHANNEL MODULATION IN CAPILLARY DISCHARGES FOR PARTICLE ACCELERATORS**
 » [Dr. Nathan Cook](#), Dr. Abdou Diaw, Dr. Jon Edelen, Dr. Stephen Coleman, Dr. Johan Carlsson, Dr. Eddie Hansen, Dr. Petros Tzeferacos

- 4P-C-05 **MODELLING PLASMA FORMATION AND EVOLUTION FROM BEAM STRIKES ON ADVANCED PHOTON SOURCE UPGRADE COLLIMATORS**
 » Dr. Nathan Cook, [Dr. Jeffrey Dooling](#), Dr. Michael Borland, Dr. Alex Grannan, Dr. Carlo Graziani, Dr. Ryan Lindberg, Dr. Gary Navrotsky, Dr. Dongwook Lee, Mr. Youngjun Lee

- 4P-C-06 **INCLUSION OF ENERGY LOSS IN MODELS OF LASER-IRRADIATED GOLD FILMS VIA CLASSICAL MOLECULAR DYNAMICS**
 » [Mr. Jacob Molina](#), Dr. Thomas White

5:30pm **4P-D: Medical and Biological Applications Posters**

- 4P-D-01 **BACTERICIDAL PROPERTIES OF LEUCINE UPON TREATMENT BY HE/O₂ PLASMA IN PHOSPHATE-BUFFERED SALINE SOLUTION**
 » [Dr. Petr Lukes](#), Dr. Vit Jirasek, Dr. Barbora Tarabova, Dr. Zuzana Kovalova

- 4P-D-02 **WOUND-BASED BACTERIAL BIOFILM IMAGING FOR SELECTIVE COLD ATMOSPHERIC PRESSURE PLASMA TREATMENT**
 » [Mr. Michael Okebiurun](#), Mr. Cameron Waite, Ms. Hannah May, Mr. Dalton Miller, Prof. Ken Cornell, Prof. Jim Browning

- 4P-D-03 **LOW TEMPERATURE PLASMA ACTIVATED LIQUID INDUCES MELANOMA APOPTOSIS IN VIVO AND IN VITRO**
 » [Dr. Gui-Min Xu](#)

- 4P-D-04 **EFFECTIVE INACTIVATION OF PLANT-PATHOGEN FUSARIUM SPP. BY COLD ATMOSPHERIC PLASMA: EFFICIENCY, MECHANISM AND APPLICATION**
 » [Mr. Yugi Wang](#), Ms. Shuang Li, Ms. Xiaoxia Hu, Mrs. Siyao Ju, Prof. Ruonan Ma, Prof. Zhen Jiao

- 4P-D-05 **EFFECTIVE INACTIVATION OF STAPHYLOCOCCUS AUREUS IN AQUEOUS ENVIRONMENT BY COLD ATMOSPHERIC PLASMA VIA DEGRADATION OF STAPHYLOXANTHIN ON BACTERIAL MEMBRAN**
 » [Ms. Yupan Zhu](#)

- 4P-D-06 **BIPOLAR MICROSECOND PULSE GENERATOR FOR BIOMEDICAL APPLICATIONS**
 » Mr. Alex Henson, Mr. Caleb Schmidt, Mr. Kevin Muggli, Mr. Huatsern Yeager, [Dr. James Prager](#)

- 4P-D-07 **FUNGUS INACTIVATION USING REACTIVE SPECIES GENERATED BY PLASMA JET SUBMERGED IN WATER**
 » [Mr. Housseem Eddine Bousba](#), Prof. Salah Sahli, Dr. Mouna Saoudi, Dr. Lyes Benterrouche, Mr. Wail Seifeddine Namous

- 4P-D-08 **MACHINE LEARNING FOR PLASMA STERILIZATION OPTIMIZATION**
 » [Ms. Sophia Shick](#), Dr. Amanda Loveless, Prof. Stylianos Chatzidakis, Dr. James Prager, Prof. Allen Garner

- 4P-D-09 **EFFECT OF NITROGEN GAS RATIO ON THE MICROSTRUCTURAL AND ELECTROCHEMICAL PROPERTIES OF Zr-N COATINGS DEPOSITED THROUGH HIPIMS TECHNIQUE**
 » [Mr. mourad azibi](#), Dr. nadia saoula, Prof. hamid aknouche



Continued from **Monday, 13 September**

- 4P-D-10 **POTENTIAL USE OF ATMOSPHERIC COLD PLASMA FOR POSTHARVEST PRESERVATION OF BLUEBERRIES**
» [Ms. Jingjing Wu](#)
- 4P-D-11 **REGULATORY MECHANISM OF COLD ATMOSPHERIC PLASMA ON DEOXYNIVALENOL BIOSYNTHESIS IN FUSARIUM GRAMINEARUM**
» [Ms. Xiaoxia Hu](#)
- 4P-D-12 **COMPARATIVE ANALYSIS OF COLD ATMOSPHERIC PLASMA ON THE DEGRADATION OF DEOXYNIVALENOL IN SOLID AND AQUEOUS STATE**
» [Mr. Xudong Yang](#)
- 4P-D-13 **STRUCTURE ELUCIDATION AND TOXICITY ANALYSIS OF THE DEGRADATION PRODUCTS OF ZEARELENONE BY COLD ATMOSPHERIC PLASMA**
» [Ms. Mengjie Liu](#)
- 4P-D-14 **REGULATION OF CELLULAR REDOX HOMEOSTASIS IN ARABIDOPSIS THALIANA SEEDLING BY ATMOSPHERIC PRESSURE COLD PLASMA-GENERATED REACTIVE OXYGEN/NITROGEN SPECIES**
» [Ms. Dongjie Cui](#)
- 4P-D-15 **C OLD ATMOSPHERIC PRESSURE PLASMA PLANAR AND RADIAL ARRAYS FOR BIOFILM REMEDIATION**
» Mr. Adam Croteau, Mr. Spencer Goering, Mr. Dalton Miller, Mr. Sam Clark, Ms. Amanda White, Mr. Jose Escobosa, Mr. Ryan Olson, Mr. Cade Solich, Ms. Serena Stranger, Mr. Brendan Bjorklund, Ms. Kalynn Alexander, Dr. Marcus Pearlman, Prof. Don Plumlee, Prof. Ken Cornell, [Prof. Jim Browning](#)

- 4P-E-01 **A NANOSECOND PULSE GENERATOR BASED ON THE COMBINATION OF AVALANCHE TRANSISTOR MARX CIRCUIT AND TRANSMISSION LINE TRANSFORMER**
» [Mr. Mingzu He](#), Mr. Wenjie Sun, Prof. Liang Yu, Mr. Jianhao Ma, Prof. Shoulong Dong, Prof. Chenguo Yao
- 4P-E-02 **COMPACT HIGH-CURRENT PULSE GENERATOR FOR LABORATORY STUDIES OF HIGH ENERGY DENSITY MATTER**
» Dr. Svetlana Gleizer, [Mr. Daniel Maler](#), Mr. Eugene Flyat, Mr. Alexander Rososhek, Dr. Sergey Efimov, Dr. John Leopold, Prof. Yakov Krasik
- 4P-E-03 **INTUITIVE INTERPRETATION OF CONVOLUTION THEORY IN HIGH POWER MICROWAVE SYSTEM**
» [Prof. Max Chung](#)
- 4P-E-04 **PULSED POWER SUPPLY MODEL FOR ELECTROMAGNETIC RAILGUN WITH HIGH FIRING RATE**
» [Mr. Zhiming Qiao](#), Mr. Zhichao Guan, Mr. Genrong Cao, Mr. Qing'ao Lv, Mr. Hongjun Xiang
- 4P-E-05 **DEVELOPMENT OF MAGNETIC FIELD GENERATOR FOR GENERATING MAGNETIZED COLLISIONLESS SHOCK USING HIGH POWER LASER**
» [Mr. Takuya Oguchi](#), Prof. Taichi Takezaki, Dr. Shogo Isayama, Dr. Shuichi Matsukiyo, Dr. Taichi Morita, Dr. Ryo Yamazaki, Dr. Shuta Tanaka, Dr. Youichi Sakawa, Prof. Hiroaki Ito
- 4P-E-06 **SYNTHESIS OF CERIUM DIOXIDE NANOPARTICLES BY GAS/LIQUID PULSED DISCHARGE PLASMA IN A SLUG FLOW REACTOR**
» [Ms. Wanying ZHU](#), Dr. Wahyu Diono, Prof. Hideki Kanda, Prof. Motonobu Goto
- 4P-E-07 **VARYING THE MORPHOLOGY AND PHASE COMPOSITION OF CuxOy@SiO2 NANOCOMPOSITES IN THE PULSED PLASMA-CHEMICAL SYNTHESIS**
» [Ms. Galina Kholodnaya](#), Mr. Denis Ponomarev, Mr. Roman Sazonov, Ms. Olga Lapteva

5:30pm **4P-E: Generators, Switching, and Compact Pulsed Power Posters**



Continued from **Monday, 13 September**

4P-E-08 **A HIGH-VOLTAGE SiC SERIES SWITCH FOR PULSE DISCHARGE**
 » [Mr. Wenjie Sun](#), Mr. dazhao He, Mr. Mingzu He, Mr. Penghao Zhang, Prof. Liang Yu, Prof. Shoulong Dong, Prof. Chenguo Yao

Tuesday, 14 September

8:45am **PSAC Award Presentation**

9am **Plenary 5: PSAC Award**
 Chaired by: Dr. Jason Marshall

9am **THE GOOD, THE BAD AND THE UGLY: THE STORY OF FAST IGNITION AND A PATH FORWARD**
 » [Prof. Farhat Beg](#)

10am **Break**

10:15am **50-A: Basic Phenomena I**
 Chaired by: Dr. Andrey Beresnyak

10:15am **"GASDYNAMIC DIODE" FORMATION FOR HIGH-VOLTAGE NS DISCHARGES**
 50-A-01
 » [Dr. Andrey Starikovskiy](#), Dr. Mikhail Shneider, Dr. Arthur Dogariu

10:30am **INCORPORATING A SERIES RESISTOR INTO MICROSCALE GAS BREAKDOWN THEORY**
 50-A-02
 » [Mr. James Welch](#), Mr. Adam Darr, Dr. Amanda Loveless, Prof. Allen Garner

10:45am **MULTIPACTOR STATISTICAL MODELING REGARDING SPACE CHARGE EFFECT FOR SATURATION INVESTIGATION**
 50-A-03
 » [Dr. Shu Lin](#), Dr. Hongguang Wang, Ms. Hao Qu, Dr. Yongdong Li, Dr. Patrick Wong, Prof. John Verboncoeur

11am **EXPERIMENTAL STUDIES OF GAS BREAKDOWN AND ELECTRON EMISSION FOR NANOSCALE GAPS AT ATMOSPHERIC PRESSURE**
 50-A-04
 » [Mr. Haoxuan Wang](#), Dr. Russell Brayfield, Dr. Amanda Loveless, Prof. Allen Garner

11:15am **CALCULATION OF IONIZATION COEFFICIENT IN MICROSCALE AND NANOSCALE GAPS USING PIC/MCC SIMULATIONS**
 50-A-05
 » [Mr. Haoxuan Wang](#), Dr. Russell Brayfield, Prof. Ayyaswamy Venkatraman, Dr. Amanda Loveless, Mr. Cameron Buerke, Prof. Allen Garner

10:15am **50-B: Partially Ionized Plasmas**
 Chaired by: Prof. Lorin Matthews

10:15am **SIMILARITY OF ENERGY BALANCE BETWEEN SINGLE-SURFACE MULTIPACTOR AND COLLISIONAL GAS DISCHARGE**
 50-B-01
 » [Dr. Huihui Wang](#), Dr. laqun liu, Prof. Dagang Liu, Prof. Lin Meng

10:30am **ON ELECTRON HEATING AND ION RECYCLING IN HIGH POWER IMPULSE MAGNETRON SPUTTERING DISCHARGE**
 50-B-02
 » [Prof. Jon Tomas Gudmundsson](#)

10:45am **NANOSECOND MICRO-JOULE DISCHARGES IN CAVITATING WATER FLOW**
 50-B-03
 » [Dr. Alexander Gutsol](#), Mr. Yuriy Mirochnik

11am **ATMOSPHERIC PRESSURE PLASMA TREATMENT OF DRY AND WATER-FILLED MICROCHANNELS**
 50-B-04
 » [Ms. Kseniia Konina](#), Dr. SANJANA KERKETTA, Dr. Astrid Raisanen, Mr. Josh Morsell, Prof. Steven Shannon, Prof. Mark Kushner

11:15am **THE PULSE DBD IN MIXTURES OF ARGON WITH SULFUR AND SELENIUM VAPOURS**
 50-B-05
 » [Dr. Svetlana Avtaeva](#), Dr. Andrii Heneral



Continued from **Tuesday, 14 September**

10:15am 50-C: High Pressure and Thermal Plasma Processing & Plasma Thrusters

Chaired by: Dr. Li Lin

10:15am 50-C-01 CONTINUOUSLY-OPERATING REPETITIVELY-PULSED RMF-FRC THRUSTER AND POWER SYSTEM

» Dr. Kenneth E. Miller, Dr. James Prager, Mr. Alex Henson, Mr. Kyle McEleney, Mr. Joshua Woods, Mr. Christopher Sercel, Mr. Tate Gill, Mr. Eric Vigés, Prof. Benjamin Jorns

10:30am 50-C-02 NUMERICAL AND ANALYTICAL THRUST PERFORMANCE ANALYSIS OF DC RING CUSP DISCHARGE ION THRUSTER

» Mr. Naveen Ranasinghe, Dr. Ravindra Wijesiriwardhana

10:45am 50-C-03 EFFECT OF LARGE MODULATION IN LOWER COIL CURRENT ON NANOPOWDER SYNTHESIS BY TWO-COIL TANDEM MODULATED INDUCTION THERMAL PLASMAS

» Prof. Yasunori Tanaka, Mr. Ryudai Furukawa, Mrs. Yurina Nagase, Dr. Yusuke Nakano, Prof. Tatsuo Ishijima, Mrs. Shiori Sueyasu, Dr. Shu Watanabe, Dr. Keitaro Nakamura

10:15am 50-D: Fusion: Inertial, Magnetic & Alternate Concepts

Chaired by: Dr. Debra Callahan

10:15am 50-D-01 UNDERSTANDING OF THE SHELL SHAPE OF DIRECT-DRIVEN CAPSULES WITH THE OFF-POINTING OF THE LASER SPOTS ON SGII-U LASER FACILITY

» Dr. Zhongjing Chen

10:30am 50-D-02 BIERMANN BATTERY MAGNETIC FIELDS IN ICF CAPSULES

» Dr. Chris Walsh

10:45am 50-D-03 THE IMPROVEMENT OF IMPLOSION SYMMETRY USING I-HOHLRAUM AT THE 100KJ LEVEL LASER FACILITY

» Dr. Ji Yan, Dr. Zhongjing Chen

11am 50-D-04 EFFECT OF ALPHA PARTICLE RETENTION ON THE FRC TARGET DURING STABILIZED LINER COMPRESSION

» Dr. Peter Turchi

11:15am 50-D-05 EXPERIMENTAL STUDY OF FAST DEUTERONS AND ELECTRONS IN DPF FUSION PLASMA

» Prof. Pavel Kubes, Dr. Marian Paduch, Prof. Marek Sadowski, Dr. Jakub Cikhart, Prof. Daniel Klir, Dr. Josef Kravarik, Mr. Jakub Malir, Dr. Karel Rezac, Dr. Balzhima Cikhartova, Mr. Krzysztof Tomaszewski, Mr. Jan Novotny

10:15am 50-E: Non-Fusion Microwave Systems and Intense Beam Microwave Generation

Chaired by: Prof. John Mankowski

10:15am 50-E-01 COMPOSITE-BASED NONLINEAR TRANSMISSION LINE AS A COMPLETE HIGH POWER MICROWAVE SYSTEM

» Dr. Andrew Fairbanks, Mr. Travis Crawford, Prof. Allen Garner

10:30am 50-E-02 TESTING COMPOSITE BASED NONLINEAR TRANSMISSION LINES WITH VARIOUS PULSED POWER DRIVERS

» Mr. Travis Crawford, Dr. Andrew Fairbanks, Prof. Allen Garner

10:45am 50-E-03 RF GENERATION USING A COMPACT CYROMAGNETIC NLTL WITH PERMANENT MAGNETS

» Dr. Jose Rossi, Dr. Fernanda Yamasaki, Mr. Andre Teixeira, Dr. Elizete Rangel, Mrs. Ana Greco, Dr. Joaquim Barroso, Dr. Lauro Paulo Silva Neto, Prof. Edl Schamiloglu

11am 50-E-04 ADDITIVELY MANUFACTURED HIGH POWER MICROWAVE COMPONENTS IN ALUMINUM SLM

» Dr. Charalampos Stoumpos, Prof. María García-Vigueras, Dr. Juan-Antonio Duran-Venegas, Mr. Thierry Pierré

11:30am 5P-A: Computational Plasma Physics Posters

5P-A-01 THE THRESHOLD OF NONLINEAR WAVE BREAKING AT THE BOUNDARY BETWEEN VACUUM AND FIELD-IONIZED PLASMA

» Dr. Elnaz Khalilzadeh, Dr. Amir Chakhmachi, Dr. Mohammad Jafar Jafari



Continued from **Tuesday, 14 September**

5P-A-02 **THE EFFECT OF IONIZATION ON THE ENERGY SPECTRUM OF ELECTRONS IN THE INTERACTION OF A LASER WITH HYDROGEN ATOMS**

» [Dr. Zohreh Dehghani](#), Dr. Elnaz Khalilzadeh

5P-A-03 **MODELING THE EFFECTS OF ELECTRON-ION COLLISIONS ON ELECTRIC FIELD AND CONDUCTIVITY IN AN E-BEAM DRIVEN GAS CHAMBER USING TURBOPY**

» [Dr. Ian Rittersdorf](#), Dr. A. Stephen Richardson, Dr. Stephen Swanekamp, Dr. Paul Adamson, Ms. Nancy Isner, Mr. Darryl Watkins, Dr. David Mosher

5P-A-04 **SIMULATION STUDY OF PULSE LENGTH EFFECT ON PROTON ACCELERATION PERFORMANCE IN A FILED-IONIZED PLASMA**

» [Dr. somayeh rezaei](#)

5P-A-05 **SIMULATION AND EXPERIMENTAL VERIFICATION OF AN ARGON DC GLOW DISCHARGE**

» [Mr. Erik Ziehm](#), Dr. George Miley

5P-A-06 **DEEP LEARNING MODEL FOR CLASSIFICATION AND PREDICTION OF THE NONLINEAR DYNAMICS IN A PLASMA DIODE SYSTEM**

» [Mr. Cheol Woong Kim](#), Prof. Hae June Lee, Ms. Yeun Jung Kim

11:30am **5P-B: Partially Ionized Plasmas Posters**

5P-B-01 **RESEARCH ON EAST-NBI EXPERIMENTAL DATA ANALYSIS SYSTEM BASED ON NEURAL NETWORKS**

» [Dr. Jinxin Wang](#), Prof. Zhimin Liu, Ms. Na Wang, Ms. Yuanzhe Zhao, Prof. Yahong Xie

5P-B-02 **AN IGNITION CIRCUIT FOR THE FLASHLAMP-PUMPED LASER-INDUCED COPPER PLASMA**

» [Ms. Fatemeh Sadat Tahsildaran](#), Dr. Amir hossein Farahbod, Dr. Rasoul Malekfar

5P-B-03 **SIMULATION ANALYSIS OF ELECTROMAGNETIC INDUCTION BETWEEN TWO DRIVERS OF RADIO FREQUENCY ION SOURCE**

» [Ms. Na Wang](#), Prof. Zhimin Liu, Dr. Jinxin Wang, Prof. Yahong Xie, Prof. Caichao Jiang, Prof. Jianglong Wei, Prof. Junjun Pan

5P-B-04 **PLASMA AS A WORKING BODY**

» [Dr. Alexey Medvedev](#)

11:30am **5P-C: Codes and Modeling Posters**

5P-C-01 **A RE-EXAMINATION OF BRILLOUIN FLOW IN A CROSSED-FIELD DIODE**

» [Mr. Dion Li](#), Dr. Abhijit Jassem, Prof. Yue Ying Lau

5P-C-02 **SIMULATION OF L3-HARRIS L-4953 CROSSED-FIELD AMPLIFIER**

» [Dr. Marcus Pearlman](#), Prof. Jim Browning, Dr. John Luginsland, Dr. Peter Stoltz, Prof. Allen Garner, Dr. Michael Worthington

5P-C-03 **THEORETICAL ANALYSIS OF MICROWAVE BREAKDOWN FOR MICROSCALE GAPS**

» [Ms. Shivani Mahajan](#), Dr. Amanda Loveless, Prof. Abbas Semnani, Prof. Allen Garner

5P-C-04 **ANGULAR MOMENTUM EFFECTS IN COAXIAL MULTIPACTOR**

» [Dr. Patrick Wong](#), Dr. Shu Lin, Prof. Peng Zhang, Prof. John Verboncoeur

5P-C-05 **A MATLAB PROGRAMMING TOOL FOR INSERTION DEVICE PERFORMANCE ANALYSIS**

» [Ms. Shreya Mishra](#), Dr. Mona Gehlot

11:30am **5P-D: Non-Fusion Microwave Systems Posters**

5P-D-01 **VARACTOR DIODE SELECTION BASED ON SPICE SIMULATION FOR APPLICATION IN DISCRETE NONLINEAR TRANSMISSION LINES**

» [Dr. Lauro Paulo Silva Neto](#), Mr. Lucas Ferraz, Dr. Jose Rossi, Dr. Joaquim Barroso, Dr. Elizete Rangel, Prof. Edl Schamiloglu



Continued from **Tuesday, 14 September**

5P-D-02 NUMERICAL SIMULATION OF A GYROMAGNETIC NLTL USING AN LC DISCRETE LINE MODEL

» [Mrs. Ana Greco](#), Dr. Jose Rossi, Dr. Joaquim Barroso, Dr. Fernanda Yamasaki, Mr. Andre Teixeira, Dr. Elizete Rangel, Dr. Lauro Paulo Silva Neto, Prof. Edl Schamiloglu

11:30am 5P-E: Matter Under Extreme Conditions & Laser Produced Plasmas Posters

5P-E-01 DEVELOPMENT OF HIGH FLUENCE X-RAY SOURCES USING LASER HEATED NOVEL NANO-WIRE METAL FOAMS

» [Dr. Mark May](#), Dr. Gregory Kemp, Dr. Russ Benjamin, Dr. Patrick Poole, Dr. Klaus Widmann, Dr. Jeff Colvin, Dr. Tyler Fears, Dr. Fang Qian, Dr. Brent blue

11:30am 5P-F: Nonequilibrium Plasma Applications Posters

5P-F-01 ORGANIC DYE DEGRADATION USING ARGON AND HELIUM COLD PLASMA JETS: A COMPARATIVE STUDY

» [Dr. Veda Prakash Gajula](#), Mr. Deepchandra Joshi, Prof. Satyananda Kar, Prof. Shaikh Ziauddin Ahammad, Prof. T R Srekrishnan T R

5P-F-02 INVESTIGATION OF PULSE PARAMETERS ON CO2 SPLITTING TO O2 BY DIELECTRIC BARRIER DISCHARGE PLASMA AT 1kPa

» [Mr. Qiang Fu](#), Ms. Yufei Wang, Mr. Cong Wang, Prof. Zhengshi Chang

5P-F-03 UNIFORM INNER SURFACE TREATMENT OF TUBES USING A FLEXIBLE ATMOSPHERIC PRESSURE MICROPLASMA JET SOURCE

» [Mr. Li Lv](#), Prof. Tao Wang, Mr. Jiahao Wang, Mr. Shengquan Wang, Prof. Liping Shi, Prof. Meng Li

5P-F-04 TUNABLE QUANTUM CASCADE LASER ABSORPTION SPECTROSCOPY FOR PLASMA ASSISTED OXIDATIVE COUPLING OF METHANE TO C2 BASED PRODUCTS

» [Mr. Md Monir Hossain](#), Mr. Shaon Talukdar, Dr. Rajagopalan Varadarajan Ranganathan, Mr. Robayet Ahasan, Dr. Ruigang Wang, Dr. Mruthunjaya Uddi

5P-F-05 EFFECT OF DIFFERENT DESIGNED PARAMETERS ON THE OUTPUT BEAM OF THERMIONIC ELECTRON GUN

» [Dr. Zohreh Dehghani](#), Mr. Mehdi Bakhshzad Mahmoudi

5P-F-06 FABRICATION OF POLYANILINE/REDUCED GRAPHENE OXIDE COMPOSITES USING MICROWAVE PLASMA

» [Ms. Wenqi Zhao](#), Prof. Rongqing Liang, Dr. Shuyu Zhang, Prof. Qiongrong Ou

11:30am 5P-G: Optical and X-ray Diagnostics Poster

5P-G-01 CHARACTERIZATION OF A COMMERCIAL PLASMA SOURCE WITH APPLICATION TO PLASMA ETCHING

» [Dr. Dereth Drake](#), Mr. Bakari Bethea, Mr. Arthur Bui, Mr. Zachary Barton, Mr. Eric Burns, Ms. Gabriella Miles, Ms. Ashley Raulerson

5P-G-02 DEVELOPMENT OF A REMOTE IR TEMPERATURE MEASUREMENT FOR NBI BEAM INJECTION PROTECTION

» [Dr. Chao Shi](#), Prof. Zhimin Liu, Prof. Lizhen Liang

5P-G-03 CTR DIAGNOSTICS FOR LASER PRODUCED ELECTRON BEAMS IN MG MAGNETIC FIELDS GENERATED BY THE 1 MA PULSED POWER MACHINE

» [Mr. Noah Huerta](#), Dr. Vladimir Ivanov, Mr. Alexey Astanovitskiy

5P-G-04 MEASUREMENT OF ELECTRON DENSITY EVOLUTION BY THE OPTICAL FIBER INTERFEROMETER ON THETA PINCH PLASMAS

» Prof. Tao Lan, [Dr. Sen Zhang](#), Prof. Weixing Ding, Prof. Ge Zhuang, Prof. Zhengwei Wu, Prof. Wenzhe Mao, Dr. Chen Chen, Dr. Hangqi Xu, Dr. Jiaren Wu, Dr. Yiming Zu, Dr. Zian Wei, Prof. Haiyang Zhou, Dr. Hai Wang, Dr. Xiaohui Wen, Dr. Jie Wu, Prof. Chu Zhou, Prof. Ahdli Liu, Prof. Jinlin Xie, Prof. Hong Li, Prof. Wandong Liu, Prof. Rui Cheng, Prof. Chijin Xiao, Prof. Defeng Kong, Prof. Shoubiao Zhang

5P-G-05 MEASUREMENT OF DYNAMIC POLARIZABILITY OF AL FROM 420 NM TO 680 NM IN ELECTRICAL EXPLODING WIRE EXPERIMENTS WITH TWO MACH-ZEHNDER INTERFEROMETER

» [Dr. Chen Ziwei](#), Prof. Jian Wu



Continued from **Tuesday, 14 September**

5P-G-06	A TWO-COLOR INTERFEROMETER FOR CHARACTERIZATION OF GAS PUFF Z-PINCH LOADS » Dr. Niansheng Qi , Dr. John Goyer, Dr. Norman Link, Dr. Lindsay Miller, Dr. David Phipps, Dr. Peter Sincerny
5P-G-07	FRESNEL ZONE PLATE IMAGING AND SYNTHETIC DIAGNOSTIC MODELING FOR THE OMEGA LASER FACILITY » Mr. Samuel Myren , Dr. Benjamin Tobias
5P-G-08	HIGH REPETITION RATE X-RAY FRESNEL DIFFRACTION RADIOGRAPHY AT THE EXTREME LIGHT LABORATORY » Mr. Travis Griffin , Mr. William Angermeier, Mr. Cameron Allen, Mr. Tyreis Gatson, Dr. Thomas White, Dr. Tilo Doeppner, Dr. Matthew Oliver
5P-G-09	UPDATES ON THE X-PINCH PLATFORM AND FARADAY ROTATION IMAGING DIAGNOSTIC ON THE MAIZE PULSED POWER FACILITY » Mr. George Dowhan , Mr. Akash Shah, Dr. Nicholas Jordan, Prof. Ryan McBride, Prof. Simon Bland, Prof. Roland Smith, Dr. Lee Suttle, Prof. Sergey Lebedev, Dr. Sergei Pikuz
5P-G-10	PLASMA-DENSITY IMAGING USING A 2-DIMENSIONAL, SECOND-HARMONIC, DISPERSION INTERFEROMETER » Dr. Frank Wessel , Mr. Cameron Chavez, Mr. Andrew Egly, Mr. Ivan Sepulveda
5P-G-11	ZEEMAN SPECTROSCOPIC DETERMINATION OF MAGNETIC FIELD ON GAS PUFF Z-PINCHES » Mr. Jay Angel , Mr. Euan Freeman, Dr. William Potter, Prof. David Hammer
5P-G-12	CHARACTERIZATION OF VIBRATIONAL AND ROTATIONAL N2 SPECTRAL BANDS IN AN ELECTRON BEAM PRODUCED PLASMA VIA A 1.3M HIGH-RESOLUTION MULTI-VIEW SPECTROMETER » Dr. Eric Kaiser , Dr. Stuart Jackson, Dr. Michael Johnson, Dr. David Hinshelwood, Dr. A. Stephen Richardson, Dr. Stephen Swanekamp

1pm	Break
1:30pm	Exhibitors and Career Fair Interviews
3pm	Plenary 6 Chaired by: Dr. Marilyn Schneider
3pm	THE CRUCIAL ROLE OF DIAGNOSTICS IN IMPROVING OUR UNDERSTANDING OF HIGH-ENERGY-DENSITY SCIENCE » Dr. Sabrina Nagel
4pm	Break
4:15pm	6I-A: (Invited) Computational Plasma Physics, Codes and Modeling, Optical and X-ray Diagnostics Chaired by: Dr. Joseph Schumer
4:15pm 6I-A-01	A DISCONTINUOUS GALERKIN FINITE ELEMENT METHOD FOR A CLASS OF SPHERICAL HARMONIC EXPANSIONS OF THE BOLTZMANN EQUATION » Dr. David Kessler , Dr. Stephen Swanekamp, Dr. A. Stephen Richardson, Dr. Paul Adamson, Dr. Tzvetelina Petrova
4:45pm 6I-A-02	BENCHMARKED AND UPGRADED PARTICLE-IN-CELL SIMULATIONS TREATING EXCITED STATE ATOMS AS A FLUID IN ARGON DISCHARGE » Dr. De-Qi Wen , Mr. Janez Krek, Prof. Jon Tomas Gudmundsson, Dr. Emi Kawamura, Prof. Michael Lieberman, Prof. John Verboncoeur
5:15pm 6I-A-03	ADJOINT APPROACH TO ANALYSIS OF EXTERNAL CIRCUIT EFFECTS IN VACUUM ELECTRONIC DEVICES » Dr. Alexander Vlasov , Dr. Igor Chernyavskiy, Prof. Thomas Antonsen, Dr. David Chernin
5:45pm 6I-A-04	LIBS ON THE RED PLANET: EXPLORATION OF ANOTHER WORLD USING CHEMCAM AND SUPERCAM » Dr. Roger Wiens



Continued from **Tuesday, 14 September**

4:15pm **6I-B: (Invited) Fast Wave Devices, Microwave Plasma Interaction, THz Sources, Radiation & Applications, and Vacuum Microelectronics**

Chaired by: Dr. Lawrence Ives

4:15pm **6I-B-01 WIDEBAND AMPLIFICATION OF TRANSIENT SIGNALS FOR APPLICATION IN PULSE COMPRESSION**

» [Dr. Alan Young](#), Prof. Colin Whyte, Dr. Craig Robertson, Dr. Philip MacInnes, Prof. Alan Phelps, Prof. Adrian Cross, Dr. Liang Zhang, Dr. Craig Donaldson, Dr. Kathleen Matheson, Prof. Kevin Ronald

4:45pm **6I-B-02 THE NON-LINEAR HIGH-POWER MICROWAVE COMPLETE ABSORPTION PHENOMENON IN A PLASMA FILLED WAVEGUIDE**

» [Mr. Yang Cao](#), Dr. John Leopold, Dr. Yuri Bliokh, Dr. Guy Leibovitch, Prof. Yakov Krasik

5:15pm **6I-B-03 THZ-SPECTRUM OF MEGAWATT POWER FLUX GENERATED BY REB IN A PLASMA COLUMN WITH A STRONG DENSITY DROP AT THE OUTPUT END***

» [Dr. Andrey Arzhannikov](#), Mr. Petr Kalinin, Dr. Alexandr Kasatov, Mr. Segrei Kuznetsov, Mr. Konstantin Kuklin, Mr. Maxim Makarov, Mr. Sergey Popov, Mr. Andrey Rovenskikh, Mr. Evgeny Sandalov, Mr. Stanislav Sinitsky, Mr. Vasilii Stepanov, Mr. Vladimir Glinskiy, Mr. Igor Timofeev

5:45pm **6I-B-04 CHARACTERISTICS OF PSEUDOSPARK-SOURCED BEAM AND ITS APPLICATION IN THz SOURCES**

» [Dr. Liang Zhang](#), Prof. Kevin Ronald, Prof. Alan Phelps, Prof. Adrian Cross, Dr. Jin Zhang, Prof. Xiaodong Chen, Dr. Jie Xie

4:15pm **6I-C: (Invited) Matter Under Extreme Conditions, Laser Produced Plasmas, and Astrophysical Plasmas**

Chaired by: Dr. Sabrina Nagel

4:15pm **6I-C-01 EXPLORING THE UNIVERSE THROUGH DISCOVERY SCIENCE ON NIF**

» [Dr. Bruce Remington](#)

4:45pm **6I-C-02 NONLINEAR EVOLUTION OF THE ION-WEIBEL INSTABILITY IN INTERPENETRATING PLASMAS OF CH, Al, and Cu**

» [Dr. Mario Manuel](#), Mr. Swarvanu Ghosh, Mr. Raghuram Jonnalagadda, Prof. Farhat Beg, Ms. Marissa Adams, Dr. Petros Tzeferacos, Dr. Channing Huntington, Dr. Bruce Remington, Dr. James Ross, Dr. Dimitri Ryutov, Dr. Hong Sio, Dr. George Swadling, Dr. Scott Wilks, Dr. Hye-Sook Park, Dr. Youichi Sakawa

5:15pm **6I-C-03 MEASUREMENTS OF UNEQUILIBRATED IONS IN HOT, SOLID-DENSITY PLASMAS VIA X-RAY LINESHAPES**

» [Dr. Brian Kraus](#), Dr. Lan Gao, Dr. Kenneth Hill, Dr. Manfred Bitter, Dr. Philip Efthimion, Dr. Thomas Gomez, Mr. Adam Moreau, Dr. Reed Hollinger, Dr. Shoujun Wang, Dr. Huanyu Song, Dr. Jorge Rocca, Prof. Roberto Mancini

5:45pm **6I-C-04 TEMPERATURE EQUILIBRATION DUE TO CHARGE STATE FLUCTUATIONS IN DENSE PLASMAS**

» [Dr. Rory Baggott](#), Prof. Steven Rose, Dr. Stuart Mangles

4:15pm **6I-D: (Invited) Generators and Intense Electron Ion Beams**

Chaired by: Prof. Victor Kantsyrev

4:15pm **6I-D-01 PULSED-POWER INNOVATIONS NEEDED FOR NEXT-GENERATION, HIGH-CURRENT DRIVERS***

» [Dr. Rick Spielman](#)

4:45pm **6I-D-02 THE UNIQUE POSSIBILITIES OF ELECTRON SOURCES WITH A GRID PLASMA CATHODES FOR THE SURFACE MODIFICATION OF MATERIALS AND PRODUCTS**

» [Dr. Maxim Vorobyov](#), Mr. Vladislav Shin, Mr. Pavel Moskvina, Ms. Kamilla Ashurova, Dr. An Tran My Kim, Dr. Tamara Koval, Prof. Nikolay Koval, Mr. Vladimir Devyatkov

5:15pm **6I-D-03 UNDERSTANDING HIGH INDUCTANCE POWER FLOW FOR PULSE SHAPED TARGETS ON THE Z MACHINE**

» [Dr. Andrew Porwitzky](#), Dr. Sonal Patel, Mr. Derek Lamppa, Dr. Brian Huttsel, Dr. Nichelle Bennett, Dr. Justin Brown, Dr. Sakun Duwal



Continued from **Tuesday, 14 September**

5:45pm
6I-D-04 **CHARACTERISTIC EFFECTS OF PULSED POWER GENERATORS OF DIFFERENT ARCHITECTURE ON THE IMPLOSION DYNAMICS OF MID-Z DOUBLE PLANAR WIRE ARRAYS**
» Mr. Christopher Butcher, Prof. Victor Kantsyrev, Dr. Alla Safronova, Ms. Veronica Shlyaptseva, Dr. Ishor Shrestha, Dr. Austin Stafford, Mr. Paul Campbell, Ms. Stephanie Miller, Dr. Nicholas Jordan, Prof. Ryan McBride, Prof. Ronald Gilgenbach, Dr. Adam Steiner

6:15pm **Young Professionals Panel**

Wednesday, 15 September

8:30am **Award Presentations: TPS Best Paper, Alexoff, Best Student Paper**

9am **Plenary 7**
Chaired by: Dr. John Luginsland

9am **PLASMA SCIENCE AND DIRECTED ENERGY: DO WE AVOID PLASMA AT ALL POSSIBLE COST?**
» Dr. Don Shiffler

10am **Break**

10:15am **7O-A: Computational Plasma Physics**
Chaired by: Prof. RANGANATHAN GOPALAKRISHNAN

10:15am
7O-A-01 **SARKAS: A FAST PURE-PYTHON MOLECULAR DYNAMICS SUITE FOR NON-IDEAL PLASMAS**
» Dr. Luciano Silvestri, Mr. Lucas Stanek, Dr. Gautham Dharuman, Dr. Yongjun Choi, Dr. Michael Murillo

10:30am
7O-A-02 **USING DIODE SIMULATIONS TO VERIFY PLASMA PHYSICS CODES**
» Dr. Thomas Smith, Dr. Keith Cartwright

10:45am
7O-A-03 **COMPUTATIONAL 3D MODELING AND SIMULATION OF DC ATMOSPHERIC PRESSURE GLOW DISCHARGE IN HELIUM**
» Mr. Valentin Boutrouche, Prof. Juan Trelles

11am
7O-A-04 **CONFORMAL MAPPING TO SIMULATE NANOSECOND PULSED PLASMA FOR PLASMA SPECIES GENERATION IN TIP-TIP GEOMETRY**
» Mr. Sree Harsha N R, Prof. Allen Garner

11:15am
7O-A-05 **COMPARISON BETWEEN MAGNETIZED PLASMA PLUME SOLUTIONS OBTAINED WITH STAGGERED AND COLLOCATED 3D CARTESIAN GRID SCHEMES**
» Mr. Alberto Modesti, Dr. Filippo Cichocki, Prof. Eduardo Ahedo

10:15am **7O-B: Intense Beam Microwave Generation**
Chaired by: Dr. John Luginsland

10:15am
7O-B-01 **ELECTROMAGNETIC AND RELATIVISTIC CORRECTIONS TO THE RAMO-SHOCKLEY THEOREM**
» Mr. Dion Li, Dr. David Chernin, Prof. Yue Ying Lau

10:30am
7O-B-02 **SPACE-CHARGE LIMITED CURRENT FOR A NONPLANAR CROSSED-FIELD DIODE**
» Mr. Adam Darr, Mr. Joshua Pan, Dr. Ranajoy Bhattacharya, Prof. Jim Browning, Prof. Allen Garner

10:45am
7O-B-03 **MULTI-DIMENSIONAL SPACE-CHARGE LIMITED CURRENT USING VARIATIONAL CALCULUS AND VACUUM CAPACITANCE**
» Mr. Sree Harsha N R, Prof. Allen Garner

11am
7O-B-04 **UNIFICATION OF PHOTO- THERMIONIC, AND FIELD EMISSION**
» Ms. Sarah Lang, Mr. Adam Darr, Prof. Allen Garner



Continued from **Wednesday, 15 September**

11:15am
70-B-05 **SPACE-CHARGE-LIMITED CURRENT FOR NONZERO ELECTRON INJECTION VELOCITY IN NON-PLANAR DIODES**

» [Mr. Jacob Halpern](#), Mr. Adam Darr, Mr. Sree Harsha N R, Prof. Allen Garner

10:15am **70-C: Vacuum Microelectronics & THz sources, Radiation and Applications**

Chaired by: Prof. Chao-Hai Du

10:15am
70-C-01 **CONCEPT AND MODELING OF AN EFFICIENT, HIGH POWER, 0.35 THz SOURCE**

» [Dr. Amy MacLachlan](#), Dr. Craig Robertson, Prof. Adrian Cross, Prof. Alan Phelps

10:30am
70-C-02 **A MICROSCALE CARBON NANOTUBE SHEET COLD CATHODE FOR SHEET BEAM ELECTRON GUN ***

» [Prof. Yu Zhang](#)

10:45am
70-C-03 **SLOW WAVE STRUCTURE ANALYSIS FOR A THz SOLID STATE TRAVELING WAVE AMPLIFIER**

» [Mr. Matt Hodek](#), Dr. John Albrecht, Dr. David Smithe

11am
70-C-04 **SPACE CHARGE WAVES IN A 2DEG**

» [Prof. Peng Zhang](#), Dr. Patrick Wong, Prof. John Albrecht, Mr. Matt Hodek, Dr. David Smithe

11:15am
70-C-05 **ANALYTICAL AND SIMULATED PERFORMANCE OF DIAMOND PLASMONIC TERAHERTZ FETS**

» [Mr. Kindred Griffis](#), Mr. Christopher Herrmann, Dr. Sergey Baryshev

10:15am **70-D: X-ray and Optical Diagnostics II**

Chaired by: Prof. John Foster

10:15am
70-D-01 **2D-IMAGING OF METHYL IN A HE/CH4 NANOSECOND PULSED PLASMA BY PHOTO-FRAGMENTATION LASER INDUCED FLUORESCENCE**

» [Dr. Dirk van den Bekerom](#), Mr. Erxiong Huang, Mr. Caleb Richards, Dr. Igor Adamovich, Dr. Jonathan Frank

10:30am
70-D-02 **N2 OXIDATION PATHWAYS IN A ns-PULSED DISCHARGE ABOVE WATER: O ATOMS, NO, AND OH RADICALS KINETICS**

» [Mr. Mikhail Gromov](#), Ms. Kseniia Leonova, Prof. Nikolay Britun, Prof. Nathalie De Geyter, Prof. Rony Snyders, Prof. Rino Morent, Dr. Anton Nikiforov

10:45am
70-D-03 **OPTICAL TRAPPING OF SINGLE PARTICLES IN PLASMA FOR PLASMA DIAGNOSTICS**

» [Ms. Pubuduni Ekanayaka](#), Prof. Chuji Wang

11am
70-D-04 **MEASURING MULTIPLE PLASMA REACTIVE SPECIES IN COMPLEX SETTINGS USING AN INNOVATIVE APPROACH OF CAVITY RINGDOWN SPECTROSCOPY**

» [Ms. Rongrong Wu](#), Prof. Chuji Wang

11:15am
70-D-05 **OPTICAL DIAGNOSTIC OF AIR SURFACE DIELECTRIC BARRIER DISCHARGE PLASMA**

» [Mr. P S Naga Sai Raghavendra Srikar](#), Mr. Mahamad Allabakshi Shaik, Dr. Shihabudheen Mundampra Maliyekkal, Dr. Reetesh Kumar Gangwar

10:15am **70-E: Medical and Biological Applications II**

Chaired by: Prof. Dawei Liu

10:15am
70-E-01 **A HUMAN-CONTACTABLE PLASMA BRUSH APPLIED IN BIOMEDICAL FIELD**

» [Mr. Jiaqi Yang](#), Dr. Xinglei Cui, Dr. Shanshan Jin, Prof. Zhi Fang

10:30am
70-E-02 **A PORTABLE PHOTOCATALYTIC OXIDATION SYSTEM FOR REUSE OF N95 FILTERING FACE-MASK RESPIRATORS**

» [Ms. Kiran Ahlawat](#), Mr. Ramavtar Jangra, Mr. Shivam Chaturvedi, Dr. Rajneesh Chaurasiya, Dr. Ankur Gupta, Dr. Shankar Manoharan, Dr. Deepak Fulwani, Dr. Ambesh Dixit, Dr. Ram Prakash



Continued from **Wednesday, 15 September**

- 10:45am
7O-E-03 **THE USE OF LASER-INDUCED BREAKDOWN SPECTROSCOPY FOR BACTERIAL DETECTION, QUANTIFICATION, AND IDENTIFICATION**
» [Ms. Emma Blanchette](#), Dr. Steven Rehse
- 11am
7O-E-04 **COMBINED UVC AND DBD PLASMA DEACTIVATION OF AEROSOLIZED BACTERIA**
» Dr. Sohail Zaidi, [Ms. Bhavya Bellannagari](#), Prof. Prasun Datta
- 11:15am
7O-E-05 **OZONE PRODUCTION BY DIELECTRIC BARRIER DISCHARGE PLASMA FOR COVID AND MICROBIAL INACTIVATION**
» [Prof. Lutfi Oksuz](#), Dr. Esra Karaca, Dr. Burcu Tenderis, Mr. Emir Baran Ozkaptan, Mr. Mehmet Ali Titrek, Mr. Orkun Nuri Asan, Dr. ali oz, Prof. Ali Gulec, Prof. aysegul oksuz

10:15am **7O-F: Switching**
Chaired by: Dr. Sean Simpson

- 10:15am
7O-F-01 **CURRENT SPREADING OVER THE WIDTH OF THIN FOILS (IN SERPENTINE-LIKE SYSTEMS) OR FLAT CURRENT-CONDUCTION LAYERS**
» [Dr. Sergey Garanin](#), Dr. Ekaterina Kravets
- 10:30am
7O-F-02 **COMPUTATIONALLY ASSESSING DIAMOND FOR USE IN ULTRAFAST PULSE SHAPERS**
» [Mr. Christopher Herrmann](#), Mr. Joseph Croman, Dr. Sergey Baryshev
- 10:45am
7O-F-03 **PACKAGE DESIGN OF SiC MOSFET WITH ULTRA-LOW PARASITIC INDUCTANCE FOR NANOSECOND PULSE GENERATOR BASED ON 3D LAMINATION STRUCTURE**
» [Mr. Jianhao Ma](#), Prof. Liang Yu, Prof. Shoulong Dong, Prof. Chenguo Yao
- 11am
7O-F-04 **RAY TRACING SIMULATION OF UV PRE-IONIZATION IN MARX BANK**
» [Prof. Max Chung](#)

11:30am **7P-A: Dusty & Strongly Coupled Plasmas and Plasma Chemistry Posters**

- 7P-A-01 **ANALOGUE OF SURFACE TENSION COEFFICIENT OF COULOMB BALL**
» [Dr. Dmitry Polyakov](#), Dr. Valeria Shummova, Prof. Leonid Vasilyak
- 7P-A-02 **EFFICIENCY OF ION ACCUMULATION IN DUST CLOUD IN DC DISCHARGE**
» [Dr. Valeria Shummova](#), Dr. Dmitry Polyakov, Prof. Leonid Vasilyak
- 7P-A-03 **THERMAL EFFECT UNDER ACCUMULATION OF IONS IN DUST CLOUD**
» [Dr. Valeria Shummova](#), Dr. Dmitry Polyakov, Prof. Leonid Vasilyak
- 7P-A-04 **STUDY OF DUST ACOUSTIC SOLITARY AND ROGUE WAVES IN JUPITER'S ATMOSPHERE**
» [Ms. Geetika Slathia](#), Dr. Kuldeep Singh, Prof. N. S. Saini
- 7P-A-05 **NUMERICAL MODELING OF RADIATION FOR THE NRL ArF* LASER**
» [Dr. Tzvetelina Petrova](#), Dr. Matthew Wolford, Dr. Matthew Myers, Dr. George Petrov, Dr. John Giuliani, Dr. Arati Dasgupta, Dr. Malcolm McGeoch, Dr. Andrew Schmitt, Dr. Steve Obenschain
- 7P-A-06 **NUMERICAL INVESTIGATION ON PLASMA ASSISTED IGNITION OF METHANE/AIR MIXTURE BY THE NANOSECOND PULSED DIELECTRIC BARRIER DISCHARGE**
» [Mrs. Na Li](#)
- 7P-A-07 **NUMERICAL INVESTIGATIONS ON CH₄/AIR BY THE SYNERGISTIC NANOSECOND REPETITIVE PULSED AND DC DISCHARGE PLASMA-ASSISTED COMBUSTION**
» [Mrs. Na Li](#)

11:30am **7P-B: Intense Beam Microwave Generation, Vacuum Microelectronics, and Microwave Plasma Interaction Posters**



Continued from **Wednesday, 15 September**

- 7P-B-01 **RELATIVISTIC TRAVELING WAVE AMPLIFIER BASED ON TWO ELECTRON BEAMS**
» [Dr. Ahmed Elfrgani](#), Ms. Khandakar Nusrat Islam, Prof. Edl Schamiloglu
- 7P-B-02 **CASCADE ELECTRON SOURCE BASED ON HORIZONTAL TUNNELING JUNCTION**
» [Mr. Zhiwei Li](#), Prof. Xianlong Wei
- 7P-B-03 **COUPLING HIGH-k FIELDS OF SURFACE PLASMONIC RADIATION GENERATORS TO FREE SPACE RADIATION USING CURVED HYPERBOLIC METAMATERIAL**
» [Mrs. Nalini Pareek](#), Dr. Anirban Bera
- 7P-B-04 **TERAHERTZ CHERENKOV RADIATION BASED ON EQUIVALENT GRAPHENE PLASMONIC METASURFACES**
» [Prof. Chao-Hai Du](#), Dr. Zi-Wen Zhang, Dr. Zi-Chao Gao, Dr. Fan-Hong Li, Dr. Li-Zheng Yin, Dr. Juan-Feng Zhu, Prof. Pu-Kun Liu
- 7P-B-05 **ATOMIC LAYER DEPOSITION AND CHEMICAL VAPOR DEPOSITION OF MULTIPACTOR SUPPRESSION COATINGS**
» [Dr. Lawrence Ives](#), Dr. Art Fortini, Dr. Chris Oldham
- 7P-B-06 **CREATION OF PLASMA UNDER COMPLEMENTARY, LASER AND MICROWAVE ACTION ON GAS**
» [Dr. Alexey Medvedev](#)

11:30am **7P-C: Fast Z-pinchs and Astrophysical Plasmas Posters**

- 7P-C-01 **MEASUREMENTS OF THE IMPLODING PLASMA SHEATH IN TRIPLE NOZZLE GAS-PUFF Z PINCHES ON 1-MA COBRA**
» [Dr. Eric Lavine](#), Dr. Sophia Rocco, Dr. William Potter, Dr. Jacob Banasek, Mr. Jay Angel, Mr. Euan Freeman, Prof. David Hammer, Prof. Bruce Kusse

- 7P-C-02 **VISIBLE SPECTROSCOPY STUDIES IN GAS PUFF Z-PINCHES ON COBRA**
» [Dr. Niansheng Qi](#), Dr. Eric Lavine, Dr. Jacob Banasek, Mr. Jay Angel, Mr. Euan Freeman, Dr. Sophia Rocco, Mr. Chiatai Chen, Dr. William Potter, Dr. John Greenly, Prof. David Hammer, Prof. Bruce Kusse
- 7P-C-03 **EFFECTS OF PRE-IONIZATION ON CURRENT DISTRIBUTION IN A GAS-PUFF Z-PINCH**
» [Mr. Akash Shah](#), Mr. Brendan Sporer, Mr. George Dowhan, Dr. Nicholas Jordan, Prof. Ryan McBride, Dr. Kristi Elliott, Dr. Mahadevan Krishnan
- 7P-C-04 **FEATURES OF NEUTRON EMISSION IN EXPERIMENTS WITH DEUTERIUM HYBRID GAS-PUFF**
» [Dr. Jakub Cikhardt](#), Prof. Daniel Klir, Dr. Josef Kravarik, Prof. Pavel Kubes, Mr. Vojtech Munzar, Dr. Karel Rezac, Dr. Alexandr Shishlov, Mr. Rustam Cherdizov, Mr. Fedor Fursov, Dr. Vladimir Kokshenev, Mr. Nikolay Kurmaev, Dr. Nikolay Ratakhin, Dr. Stuart Jackson, Mr. Joseph Engelbrecht, Prof. Gennady Dudkin, Dr. Valery Varlachev, Dr. Karel Turek
- 7P-C-05 **SCALING OF EFFICIENT AR K-SHELL EMISSION FROM FAST GAS-PUFF Z-PINCHES IN THE 10 TO 100 MA CURRENT RANGE**
» [Dr. Varun Tangri](#), Dr. John Giuliani, Dr. Arati Dasgupta, Dr. Alexander Velikovich, Dr. Nicholas Ouart, Dr. Marc-Andre Schaeuble, Dr. Jens Schwarz, Dr. David Ampleford, Dr. Roger Vesey, Dr. Brent Jones
- 7P-C-06 **RADIOACTIVITY INDUCED BY A LOCAL MASS INJECTION INITIATED DENSE PLASMA FOCUS**
» [Dr. Stuart Jackson](#), Dr. David Mosher, Dr. Eric Kaiser, Dr. Andrey Beresnyak, Dr. Robert Commisso, Dr. Paul Adamson, Dr. Arati Dasgupta, Dr. Joseph Schumer, Dr. Evan Gropman, Dr. David Willingham, Prof. Daniel Klir, Dr. Karel Rezac, Dr. Jakub Cikhardt
- 7P-C-07 **EFFECT OF ANODE SHAPE AND HOLLOW ON NEUTRON YIELD IN A 4.4 KJ DENSE PLASMA FOCUS DEVICE**
» [Ms. Veronica Eudave](#), Dr. Eric Hahn, Mr. Swarvanu Ghosh, Dr. Jeff Narkis, Dr. Fabio Conti, Prof. Farhat Beg



Continued from **Wednesday, 15 September**

- 7P-C-08 **X-RAY SPECTROSCOPIC STUDIES OF HYBRID X-PINCHES WITH 20ps TIME RESOLUTION**
» [Mr. Ahmed Elshafiey](#), Prof. Sergei Pikuz, Prof. Tatiana Shelkovenko, Prof. David Hammer
- 7P-C-09 **MHD SIMULATIONS OF TURBULENT DEVELOPMENT OF THE SAUSAGE INSTABILITY OF A Z-PINCH**
» Dr. Sergey Garanin, [Mr. Vasilij Dolinskiy](#)
- 7P-C-10 **TWO-DIMENSIONAL SIMULATION OF A LARGE-SIZE MAGNETIZED INDUCTIVELY COUPLED PLASMA GENERATOR**
» [Dr. Fan Lei](#)
- 7P-C-11 **LINER ON TARGET GAS PUFF Z-PINCHES WITH DIFFERENT GAS SPECIES ON THE CESZAR LINEAR TRANSFORMER DRIVER**
» [Dr. Fabio Conti](#), Dr. Jeff Narkis, Mr. Nicholas Aybar, Ms. Apsara Williams, Mr. Vladimir Fadeev, Prof. Farhat Beg

11:30am **7P-D: Particle and Microwave Diagnostics Posters**

- 7P-D-01 **HIGH-K MM-WAVE SCATTERING DIAGNOSTIC FOR MEASURING POLOIDAL WAVENUMBER ELECTRON-SCALE TURBULENCE ON MAST-U**
» [Dr. David Speirs](#), Prof. Alan Phelps, Prof. Kevin Ronald, Mr. Valerian Hall-Chen, Dr. Anthony Field, Prof. Roddy Vann
- 7P-D-02 **SYSTEM-ON-CHIP APPROACH MICROWAVE DIAGNOSTICS DEVELOPMENT FOR BURNING PLASMA**
» [Dr. Yilun Zhu](#), Dr. Guanying Yu, Ms. Ying Chen, Dr. Calvin Domier, Mr. Jon Dannenberg, Prof. Neveille Luhmann
- 7P-D-03 **STOPPING POWER MEASUREMENT FOR 100 KEV/U FE IONS IN HYDROGEN PLASMA**
» [Mr. Roman Gavrilin](#), Dr. Alexander Golubev, Dr. Alexey Kantsyrev, Mr. Sergey Visotski, Ms. Aiush Khurchiev, Mr. Dmitry Kolesnikov, Mr. Petr Fedin, Dr. Igor Roudskoy, Mr. Sergey Savin

11:30am **7P-E: High Pressure and Thermal Plasma Processing Posters**

- 7P-E-01 **CALCULATION OF ARC TEMPERATURE DISTRIBUTION CONSIDERING CONTACT STRIP DESCENT IN ELECTRIC RAILWAY**
» [Ms. Honoka Morishita](#), Mr. Yoshifumi Maeda, Mr. ZhenWei Ren, Mr. Yusuke Nemoto, Dr. Takamasa Hayasaka, Dr. Toru Iwao
- 7P-E-02 **NUMERICAL SIMULATION OF CATHODE JET DISTRIBUTION CONTRIBUTING TO MOVEMENT OF CATHODE SPOT IN VACUUM ARC**
» [Mr. Masahiro Takagi](#), Mr. Yusuke Nemoto, Mr. ZhenWei Ren, Mr. Yuki Suzuki, Mr. Hiroto Suzuki, Dr. Toru Iwao
- 7P-E-03 **ANALYSIS OF ARC TEMPERATURE DISTRIBUTION AFFECTED BY OPENING SPEED IN AIR CIRCUIT BREAKER**
» [Mr. Shinichiro Kashiwagi](#), Mr. ZhenWei Ren, Mr. Yusuke Nemoto, Mr. Yuki Suzuki, Mr. Yoshifumi Maeda, Dr. Toru Iwao
- 7P-E-04 **CALCULATION OF ARC TEMPERATURE DISTRIBUTION AFFECTED BY CHANGING PRESSURE IN SHORT ARC LAMP**
» [Mr. Kazumasa Minamisawa](#), Mr. ZhenWei Ren, Mr. Yusuke Nemoto, Mr. Yuki Suzuki, Mr. Yoshifumi Maeda, Dr. Toru Iwao
- 7P-E-05 **PRODUCTION OF TRAPPED DEUTERIUM VIA DEUTERON-CATHODE BOMBARDMENT IN A DC GLOW DISCHARGE**
» [Mr. Erik Ziehm](#), Dr. George Miley
- 7P-E-06 **CONTRIBUTION OF OPENING SPEED FOR REDUCTION OF HIGHT TEMPERRATURE REGION IN A DOUBLE-FLOW CIRCUIT BREAKER IS INVESTIGATED USING THREE-DIMENSIONAL ELECTROMAGNETIC THERMO-FLUID SIMULASION**
» [Mr. Wataru Fuse](#), Mr. Yuki Suzuki, Mr. Yusuke Nemoto, Mr. ZhenWei Ren, Dr. Toru Iwao

11:30am **7P-F: Environmental and Industrial Applications Posters**

- 7P-F-01 **DRY REFORMING OF METHANE IN SINGLE AND DOUBLE ATMOSPHERIC DIELECTRIC BARRIER DISCHARGE REACTORS**
» [Ms. Geuhui Duan](#), Dr. Danhua Mei, Dr. Shiyun Liu, Prof. Zhi Fang
- 7P-F-02 **ANALYSIS OF LOCAL AND NONLOCAL ELECTRON KINETICS THROUGH ENERGY RELAXATION PROCESS IN A CAPACITIVE RF PLASMA**
» [Mr. Heesung Park](#), Prof. Hae June Lee



Continued from **Wednesday, 15 September**

- 7P-F-03 **SURFACE DIELECTRIC BARRIER DISCHARGE BASED LARGE VOLUME PLASMA ACTIVATED WATER**
» [Ms. Shikha Pandey](#), Ms. Kiran Ahlawat, Mr. Ramavtar Jangra, Mr. Pankaj Pareek, Dr. Ram Prakash
- 7P-F-04 **RESEARCH IN SUPPORT OF RF DISCHARGE FOR CLEANING QUARTZ OR SAPHIER WINDOWS CONTAMINATED BY ITER FIRST WALL MATERIAL**
» [Dr. Valentin Bukhovets](#)
- 7P-F-05 **EFFECT OF NEUTRAL RADICAL ON SULFUR DEFECT FORMATION IN MONOLAYER MoS2 USING MICROWAVE PLASMA**
» [Mr. Shuya Asada](#), Prof. Akihisa Ogino
- 7P-F-06 **LASER-INDUCED BREAKDOWN SPECTROSCOPY FOR ENVIRONMENTAL ENGINEERING APPLICATIONS**
» Mrs. Fatima Keserwan, [Mr. Liam Droog](#), Mr. Mohammad Humayun Kabir, Mrs. Foroogh Mehravaran, Prof. Mohamed Gamal El-Din, Prof. Robert Fedosejevs, Prof. Amina Hussein
- 7P-F-07 **TO INVESTIGATE THE INDUCTIVELY COUPLED PLASMA TORCH (ICPT) CONFIGURATIONS FOR TREATMENT OF RADIOACTIVE THERMOPLASTIC WASTE .**
» [Ms. Bhawna Tewatia](#)

1pm **Break**

1:30pm **Exhibitors and Career Fair Interviews**

3pm **Plenary 8**
Chaired by: Prof. Rajdeep Singh Rawat

3pm **DIODE PHYSICS: FROM CHILD-LANGMUIR TO PASCHEN'S LAW**
» [Prof. Allen Garner](#)

4pm **Break**

4:15pm **80-A: Basic Phenomena II**
Chaired by: Dr. David Kessler

4:15pm 80-A-01 **PROGRESS ON MACHINE LEARNING INFORMED DESIGN OPTIMIZATION FOR DOUBLE SHELL CAPSULE GRADED DENSITY INNER LAYER TARGETS**
» [Ms. Nomita Vazirani](#), Dr. Paul Bradley, Dr. David Stark, Dr. Michael Grosskopf, Dr. Eric Loomis, Dr. Brian Haines, Prof. Scott England, Prof. Wayne Scales

4:30pm 80-A-02 **KINETIC MODELING OF EMISSIVE SHEATHS IN FLOWING PLASMA**
» [Mr. Moises Angulo Enriquez](#), Mr. Nakul Nuwal, Prof. Deborah Levin

4:45pm 80-A-03 **ENGINEERED ELECTRICAL CONTACTS**
» [Ms. Sneha Banerjee](#), Dr. John Luginsland, Prof. Peng Zhang

5pm 80-A-04 **EFFECT OF THE PULSE POLARITY ON THE JET PROPAGATION OF MICRO HOLLOW CATHODE DISCHARGE**
» [Dr. zhengchao duan](#), Ms. Peizhen Li, Prof. Feng He, Dr. Ruoyu Han, Prof. Jiting Ouyang

5:15pm 80-A-05 **LARGE EDDY SIMULATION ON THE CHARACTERISTICS OF FLOW OF ARGON THERMAL PLASMA JET**
» [Dr. Xu Zhou](#), Prof. TaoHong Ye, Dr. XianHui Chen

5:30pm 80-A-06 **THE EFFECT OF DENSITY FLUCTUATIONS DURING IONIZATION ON THE ELECTRON STOCHASTIC HEATING IN INTERACTION OF LASER PULSE WITH HYDROGEN ATOMS**
» Dr. somayeh rezaei, [Dr. Elnaz Khalilzadeh](#), Dr. Amir Chakhmachi, Dr. Mohammad Jafar Jafari, Dr. Zohreh Dehghani

4:15pm **80-B: Slow-Wave and Fast-Wave Devices**
Chaired by: Prof. Ronald Gilgenbach



Continued from **Wednesday, 15 September**

4:15pm
80-B-01 **PHASE LOCKED HIGH POWER X-BAND MICROWAVE SOURCES**
» [Dr. Philip MacInnes](#), Dr. Craig Donaldson, Dr. Amy MacLachlan, Prof. Colin Whyte, Prof. Kevin Ronald, Prof. Alan Phelps, Prof. Adrian Cross

4:30pm
80-B-02 **AN ELECTRON POPULATION ANALYSIS TECHNIQUE FOR UNDERSTANDING FUNDAMENTAL CROSS-FIELD ELECTRON DEVICE PHYSICS**
» [Dr. Andong Yue](#), Prof. Jim Browning, Dr. Michael Worthington, Mr. John Cipolla

4:45pm
80-B-03 **INVESTIGATIONS OF THE RECIRCULATING PLANAR CROSSED-FIELD AMPLIFIER**
» [Mr. Christopher Swenson](#), Dr. Drew Packard, Mr. Stephen Langellotti, Ms. Emma Guerin, Dr. Nicholas Jordan, Prof. Yue Ying Lau, Prof. Ryan McBride, Prof. Ronald Gilgenbach

5pm
80-B-04 **DESIGN AND PIC SIMULATION OF HIGHER ORDER MODE KA-BAND SHEET BEAM EXTENDED INTERACTION OSCILLATOR**
» [Mr. Muhammad Shahab Sarwar](#), Prof. Xinjian Niu, Dr. Ying Hui Liu

5:15pm
80-B-05 **EXTENDED INTERACTION CIRCUIT BASED ON TWO BEAMS WITH ARBITRARY UNIFORMITY FOR HIGH POWER SUB-TERAHERTZ APPLICATIONS**
» [Dr. Liangjie Bi](#), Dr. Yong Yin, Dr. Bin Wang, Dr. Hailong Li, Prof. Lin Meng

5:30pm
80-B-06 **NONLINEAR AND SELF-CONSISTENT FORMULATION FOR TM-MODE GYROTRONS**
» [Dr. Hsin Yu Yao](#), Mr. Cheng-Hsiung Wei, Prof. Tsun-Hsu Chang

4:15pm **80-C: Intense Electron and Ion Beams**
Chaired by: Dr. Jacob Zier

4:15pm
80-C-01 **STUDIES ON ELECTRON BEAM TRANSPORT IN A LINEAR INDUCTION ACCELERATOR FOR FREE ELECTRON LASER APPLICATION**
» [Mr. Evgeny Sandalov](#), Mr. Stanislav Sinitsky, Mr. Dmitrii Skovorodin, Mr. Danila Nikiforov

4:30pm
80-C-02 **PARTICLE-IN-CELL SIMULATIONS OF ION DYNAMICS IN A PINCHED-BEAM DIODE**
» [Mr. Jesse Foster](#), Dr. Stephen Swanekamp, Dr. David Hinshelwood, Dr. A. Stephen Richardson, Dr. Paul Adamson, Dr. Joseph Schumer, Dr. Paul Ottinger, Dr. David Mosher

4:45pm
80-C-03 **ANALYTICAL AND SIMULATION STUDY OF MULTIBEAM ELECTRON GENERATION FOR HIGH POWER MICROWAVE SOURCES**
» [Ms. Khandakar Nusrat Islam](#), Dr. Andrey D. Andreev, Dr. Salvador Portillo, Dr. Ahmed Elfrgani, Prof. Edl Schamiloglu

5pm
80-C-04 **ENERGY DISTRIBUTION OF THE RELATIVISTIC ELECTRON BEAM AFTER BEAM-PLASMA INTERACTION RESULTING IN THZ RADIATION EMISSION**
» [Mr. Denis Samtsov](#), Dr. Andrey Arzhannikov, Mr. Stanislav Sinitsky, Mr. Maxim Makarov, Mr. Konstantin Kuklin, Mr. Sergey Popov, Mr. Petr Kalinin, Mr. Evgeny Sandalov

5:15pm
80-C-05 **ELECTROSTATIC CUMULATION IN A FLOW OF CHARGED PARTICLES: A CONVENIENT RESEARCH INSTRUMENT FOR HIGH ENERGY DENSITY PHYSICS**
» [Dr. Sergei Anishchenko](#), Prof. Vladimir Baryshevsky, Dr. Alexandra Gurinovich

5:30pm
80-C-06 **MODELING TEMPORAL SPOT SIZE EVOLUTION ON A LINEAR INDUCTION ACCELERATOR**
» [Dr. Michael Weller](#), Dr. T.J. Burris-Mog, Dr. E.R. Scott, Dr. C.A. Ekdahl, Dr. B.T. McCuistian



Continued from **Wednesday, 15 September**

5:45pm
80-C-07 **CHARACTERIZATION OF NEUTRON BEAMS GENERATED IN HIGH-INTENSITY INTERACTIONS FOR NUCLEAR PHYSICS EXPERIMENTS**
» Mr. Vincent Lelasseux, Dr. Pär-Anders Söderström, Dr. Soichiro Aogaki, Dr. Konstantin Burdonov, Dr. Mirela Cerchez, Dr. Sophia Chen, Ms. Sandra Dorard, Ms. Alice Fazzini, Dr. Marius Gugiu, Dr. Sergey Pikuz, Dr. Florin Rotaru, Dr. Oswald Willi, Dr. Florin Negoita, Dr. Julien Fuchs

4:15pm **80-D: Fast Z-pinches**
Chaired by: Prof. Ryan McBride

4:15pm
80-D-01 **RECENT SIMULATIONS OF NOZZLE GAS FLOW AND GAS-PUFF Z-PINCH IMPLOSIONS WITH MAGNETIC FIELDS IN THE WEIZMANN Z-PINCH**
» Dr. Varun Tangri, Dr. John Giuliani, Dr. Arati Dasgupta, Dr. Tal Queller, Dr. Eyal Kroup, Dr. Yitzhak Maron

4:30pm
80-D-02 **A MODEL FOR K-SHELL X-RAY YIELD FROM MAGNETIC IMPLOSIONS AT SANDIA'S Z MACHINE**
» Dr. Jens Schwarz, Dr. Roger Vesey, Dr. David Ampleford, Dr. Marc-Andre Schaeuble, Dr. Brent Jones, Dr. Alexander Velikovich, Dr. John Giuliani, Dr. Varun Tangri, Dr. Nicholas Quart, Dr. Arati Dasgupta

4:45pm
80-D-03 **THEORETICAL STUDY OF GAS-PUFF AND LASER IRRADIATED GAS JET M-SHELL XENON EXPERIMENTS RADIATING BETWEEN 9-14Å**
» Ms. Amandeep Gill, Dr. Alla Safronova, Mr. Ryan Childers, Prof. Victor Kantsyrev, Ms. Veronica Shlyaptseva

5pm
80-D-04 **INVESTIGATION OF CH FOAMS DOPED WITH TITANIUM AS A COLD X-RAY SOURCE ALTERNATIVE**
» Dr. Nicholas Quart, Dr. Arati Dasgupta, Dr. Alexander Velikovich, Dr. John Giuliani, Dr. Varun Tangri, Dr. Marc-Andre Schaeuble, Dr. Jens Schwarz, Dr. David Ampleford, Dr. Roger Vesey, Dr. Brent Jones

5:15pm
80-D-05 **EFFECT OF INSULATOR SLEEVE LENGTH ON NEUTRON YIELD IN A 4.4 kJ DENSE PLASMA FOCUS DEVICE**
» Mr. Swarvanu Ghosh, Dr. Eric Hahn, Ms. Veronica Eudave, Dr. Fabio Conti, Dr. Jeff Narkis, Prof. Farhat Beg

5:30pm
80-D-06 **NEUTRON TIME-OF-FLIGHT MEASUREMENTS ON THE VERUS RESEARCH 750KJ DENSE PLASMA FOCUS**
» Mr. Robert Dwyer, Mr. Carl Willis, Dr. Michael Butcher

4:15pm **80-E: Nonequilibrium Plasma Applications II**
Chaired by: Prof. Yubin Xian

4:15pm
80-E-01 **SYNTHESIS OF HYDROGEN PEROXIDE BY UNDERWATER BUBBLING MULTI-MODE DISCHARGE**
» Mr. □ □, Dr. Sen Wang, Prof. Zhi Fang

4:30pm
80-E-02 **INFLUENCE OF RF BIAS PHASE ON INDUCTIVELY COUPLED PLASMA FOR MATERIAL PROCESSING**
» Prof. Ivan Ganachev, Ms. Haruka Nakano, Prof. Keiji Nakamura

4:45pm
80-E-03 **HELICAL SHAPED PLASMA JET: INTRODUCING AN EXCLUSIVE BEHAVIOR OF ATMOSPHERIC PRESSURE PLASMA**
» Ms. Mahreen Khan, Dr. Veda Prakash Gajula, Prof. Satyananda Kar, Prof. Debaprasad Sahu, Prof. Ashish Ganguli

5pm
80-E-04 **EVALUATION OF THE TRANSIENT PLASMA IGNITION OF METHANE/AIR UNDER LEAN-BURN CONDITIONS**
» Dr. Meimei Lai, Prof. Chunqi Jiang, Prof. Sayan Biswas, Dr. Isaac Ekoto

5:15pm
80-E-05 **DEVELOPMENT OF DUAL-PULSE LASER INDUCED BREAKDOWN SPECTROSCOPY SYSTEMS IN NUCLEAR POWER PLANT APPLICATIONS**
» Prof. Jian Wu, Dr. Yan Qiu, Mr. Zhi Zhang, Prof. Xingwen Li, Dr. Yuhua Hang

5:30pm
80-E-06 **PLASMA-ASSISTED SYNTHESIS OF Pt NANOPARTICLES /N-DOPED REDUCED GRAPHENE OXIDE COMPOSITES AS HIGHLY EFFICIENT CATALYSTS FOR THE HYDROGEN EVOLUTION REACTION**
» Ms. Minghui Cui



Continued from **Wednesday, 15 September**

- 4:15pm 80-F: Insulation and Dielectric Breakdown**
 Chaired by: Prof. Andrew Fierro
- 4:15pm 80-F-01 MEEKS' CRITERIA FOR BREAKDOWN EXAMINED IN AIR USING A NEEDLE-TO-PLATE CONFIGURATION**
 » Mr. Dan Wozniak, Mr. Md Ziaur Rahman, Ms. Sneha Banerjee, Dr. Asif Iqbal, Prof. John Verboncoeur, Prof. Peng Zhang, Prof. Chunqi Jiang
- 4:30pm 80-F-02 PULSE-BY-PULSE STREAMER-TO-LEADER TRANSITION IN N₂-SF₆ MIXTURES UNDER REPETITIVE SUB-MICROSECOND PULSES**
 » Dr. Zheng Zhao, Mr. Zhifeng Dai, Prof. Anbang Sun, Prof. Jiangtao Li
- 4:45pm 80-F-03 INVESTIGATION OF THE NANOSECOND PULSED GUIDED STREAMER INITIATION AND BREAKDOWN USING A RING-TO-PLATE CONFIGURATION**
 » Mr. Md Ziaur Rahman, Mr. Edwin Oshin, Dr. Shutong Song, Prof. Chunqi Jiang
- 5pm 80-F-04 DEEP LEARNING MODELS FOR MULTI-SOURCE CORONA DISCHARGE CLASSIFICATION UNDER DC VOLTAGE**
 » Mr. Moein Borghei, Dr. Mona Ghassemi
- 5:15pm 80-F-05 FLUOROSILICON COATING PREPARED BY HIGH-THROUGHPUT LOW-TEMPERATURE PLASMA FOR PROMOTING SURFACE CHARGE DISSIPATION OF POLYSTYRENE**
 » Mr. Penghao Zhang, Prof. Liang Yu, Mr. Xingyu Tao, Mr. Wenjie Sun, Prof. Shoulong Dong, Prof. Chenguo Yao
- 5:30pm 80-F-06 RESEARCH ON THE OVERCURRENT-SHORT CIRCUIT PROTECTION METHOD OF NANOSECOND PULSE POWER SUPPLY APPLIED IN THE FIELD OF GLIDING ARC DISCHARGE**
 » Mr. chunhui zhang, Dr. Shanshan Jin, Prof. Zhi Fang
- 6:00pm Exploring the Universe from Nevada**



MINICOURSE

PLASMA SPECTROSCOPY: THE FULL SPECTRUM FROM X-RAYS TO RADIO WAVES

OPENING REMARKS

[Dr. Mark D. Johnston](#) (Sandia National Laboratories)

MC-1 SPECTROSCOPY: A CHEMIST'S OVERVIEW

[Dr. David Ball](#) (Cleveland State, Retired)

MC-2 PLASMA SPECTROSCOPY OF MAGNETIC FUSION PLASMAS: FROM X-RAY TO VISIBLE LIGHT

[Dr. Oleksandr Marchuk](#) (Institute of Energy and Climate Research (IEK-4))

MC-3 INFRARED LASER SPECTROSCOPY TO CHARACTERIZE LOW AND ATMOSPHERIC PRESSURE PLASMAS

[Dr. Jean-Pierre van Helden](#) (Leibniz Institute for Plasma Science and Technology (INP))

MC-4 SPECTROSCOPIC DETERMINATION OF MAGNETIC FIELDS IN PULSED-POWER AND HIGH ENERGY DENSITY PLASMAS

[Dr. Yitzhak Maron](#) (Weizmann Institute of Science)

MC-5 OPENING THE INFRARED TREASURE CHEST WITH THE JAMES WEBB SPACE TELESCOPE (JWST)

[Dr. John C. Mather](#) (NASA: Goddard Space Flight Center)

MC-6 LINESHAPE-BASED SPECTROSCOPIC DIAGNOSTICS OF ASTROPHYSICAL PLASMAS IN THE VISIBLE AND RADIO RANGES

[Dr. Eugene Oks](#) (Auburn University)

MC-7 SPECTROSCOPY OF HIGH INTENSITY, ULTRA-SHORT PULSE, LASER-PLASMA INTERACTIONS

[Dr. Karl Krushelnick](#) (University of Michigan)

MC-8 CHARACTERIZATION OF LASER PRODUCED PLASMAS USING OPTICAL SPECTROSCOPY

[Dr. Sivanandan \(Hari\) S. Harilal](#) (Pacific Northwest National Laboratory)

MC-9 21st CENTURY MEDICINE, ONE SPARK AT A TIME: BIOMEDICAL APPLICATIONS OF LASER-INDUCED BREAKDOWN SPECTROSCOPY (LIBS)

[Dr. Steven Rehse](#) (University of Windsor)

MC-10 LIBS ON THE RED PLANET: EXPLORATION OF ANOTHER WORLD USING CHEMCAM AND SUPERCAM

[Dr. Roger C. Wiens](#) (Los Alamos National Laboratories)