iFPC 2022 Daily Schedule

Sunday, August 21		
13:30-14:50	Tutorial Session I (Grand Ballroom A+B, 1F)	"Introduction to Parallel Computing for Fusion Plasmas" Dr. Ju Hyung Kim (KFE, Korea)
14:50-15:05	Break	
15:05-16:25	Tutorial Session II (Grand Ballroom A+B, 1F)	"Plasma-based Photonics and Particle Acceleration" Prof. Min Sup Hur (UNIST, Korea)
16:25-16:40	Break	
16:40-18:00	Tutorial Session III (Grand Ballroom A+B, 1F)	"Simulation Methodology for Low-temperature Plasmas and Their Applications" Prof. Hae June Lee (Pusan Nat'l Univ., Korea)

Monday, August 22

08:45-09:40	Opening Ceremony & Plenary Talk(Grand Ballroom, 1F)	"The Role of Fusion Energy Development in Pathways to Sustainability" Dr. Suk Jae Yoo (KFE, Korea)			
09:40-10:20	Plenary Talk (Grand Ballroom, 1F) Session Chair: Prof. Yongkyoon In (UNIST, Korea)	"Overview of ITER Project" Dr. Ki-Jung Jung (KFE, Korea)			
10:20-10:40	Coffee Break				
	Room A (Grand Ballroom A, 1F)	Room B (Grand Ballroom B, 1F)	Room C (Grand Ballroom C, 1F)	Room D (Diamond Hall A, B1F)	Room E (Diamond Hall B, B1F)
10:40-12:00	**[Mo1A] Space / Material** Session Chair: Prof. Sooseok Choi (Jeju Nat'l Univ., Korea)	**[Mo1B] Discharge and Sheath in Cross-field Devices** Session Chair: Prof. Ho-Jun Lee (Pusan Nat'l Univ., Korea)	**[Mo1C] Accelerators I** Session Chair: Prof. Moses CHUNG (UNIST, Korea)	**[Mo1D] ITER Technology I** Session Chair: Dr. Jong-Seok Oh (KFE, Korea)	**[Mo1E] KSTAR I** Session Chair: Prof. Ohjin Kwon (Daegu University, Korea)
	Invited [Mo1A-1] R&D of High-Power Plasma Propulsion Systems and Diagnostics for Space Applications Holak KIM (KARI)	Invited [Mo1B-1] Controlled Magnetic Confinement of Partially Magnetized E×B Source by Breaking of Symmetric Sheath June Young KIM (Seoul Nat'l Univ.)	Invited [Mo1C-1] RAON Heavy Ion Accelerator and its Injector Beam Commissioning Dong-O JEON (IBS)	Invited [Mo1D-1] Manufacturing Status of the ITER Vacuum Vessel Sector and Lessons Learned Hyunsoo KIM (KFE)	Invited [Mo1E-1] Overview of KSTAR Experiment Won-Ha KO (KFE)
	[Mo1A-2] KAERI Heat- and Particle-flux Test Facility Using Applied-Field (AF) MPD Thruster and Its Application to Space Propulsio Kil-Byoung CHAI (KAERI)	Invited [Mo1B-2] Theoretical and Numerical Analyses of the Turbulence and the Anomalous Transport Caused by the Shear Flow in the Cross-field Discharges Hae June LEE (Pusan Nat'l Univ.)	Invited [Mo1C-2] Development of 1 MeV/n RFQ Accelerator System at KOMAC Hyeok-Jung KWON (KAERI)	Invited [Mo1D-2] Status of ITER Tritium SDS and Metal Hydride Bed Development Hyun-goo KANG (KFE)	Invited [Mo1E-2] Summary of Plasma Commissioning for Physics Experiments and Operation Boundary of KSTAR Campaign Hyunsun HAN (KFE)
	Invited [Mo1A-3] Effect of Plasma in the Adhesion between Carbon Fiber-reinforced Thermoplastic Polymer and Aluminum Hun Su LEE (KIST)	[Mo1B-3] Collisional Effect on the Ion Incident Angle in an Oblique Magnetic Field Plasma Myeong-Geon LEE (Seoul Nat'l Univ.)	[Mo1C-3] Superconducting Large-Scale Accelerators over the World Younguk SOHN (PAL)	[Mo1D-3] Manufacturing Technique and Status of The ITER Blanket Shield Block Sa-Woong KIM (KFE)	Invited [Mo1E-3] Recent Progress on Advanced Operation Scenarios at KSTAR Jinil CHUNG (KFE)
	[Mo1A-4] Thermal Plasma Synthesis of Metal-CNT Nanocomposites as Electrocatalyst for Water Splitting Jeong-Hwan OH (Jeju Nat'l Univ.)	[Mo1B-4] Gradient-drift Driven Instability in Partially Magnetized E×B discharge with Multiple Ion Species Jinyoung CHOI (Seoul Nat'l Univ.)		[Mo1D-4] Progress on the Installation and Commissioning of KO Coil Power Supply System for ITER Inho SONG (KFE)	[Mo1E-4] Disruption Mitigation Using Multiple Injection of Shattered Pellets in KSTAR Jayhyun KIM (KFE)
12:00-13:30	Lunch Time				

Monday, August 22		
13:30-14:10	**Plenary Talk** **(Grand Ballroom, 1F)**	**"Thermal Plasma Characterization and Diagnostics for Innovative Material Processing"** Prof. Takayuki Watanabe (Kyushu Univ., Japan)
14:10-14:50	**Plenary Talk** **(Grand Ballroom, 1F)** Session Chair: Prof. Sooseok Choi (Jeju Nat'l Univ., Korea)	**"PAL-XFEL: The Most Stable and Bright X-ray Source"** Dr. Heung-Sik Kang (PAL, Korea)
14:50-15:00	Break	
15:00-16:40	**[Mo2A] General Session** **(Grand Ballroom, 1F)** Session Chair: Dr. Hyun-Kyung Chung (KFE, Korea)	**[Mo2A-1] Can We Make a Wind Tunnel for a Tokamak RF System?** Jungpyo LEE (Hanyang Univ.)
		[Mo2A-2] Overview of Future K-DEMO Superconductor Test Facility (SUCCEX) Byung Su LIM (KENTECH)
		[Mo2A-3] Laser-plasma-based Detection of Local Plasma Density for Diagnostics of Tokamak Plasma Min Sup HUR (UNIST)
		[Mo2A-4] Transkin: Cold Plasma Medical Device for Skin Gyoo-Cheon KIM (Pusan Nat'l Univ.)
		[Mo2A-5] Computational Modeling of Gas Mixtures and Particle Behavior in Vacuum Plasma Spray Hunkwan PARK (KIMS)
16:40-18:00	**Poster Session I (Diamond Hall Lobby, B1F)**	

Tuesday, August 23					
09:00-09:40	**Plenary Talk (Grand Ballroom, 1F)**	**"Plasma Photonics Using High Power Lasers as a Basis for New Technologies"** Prof. Dino A. Jaroszynski (Univ. Strathclyde, UK)			
09:40-10:20	**Plenary Talk (Grand Ballroom, 1F)** Session Chair: Prof. Hyyong Suk (GIST, Korea)	**"Can We Realize Compact Fusion Reactor in Near Future?"** Prof. Yong-Seok Hwang (Seoul Nat'l Univ., Korea)			
10:20-10:40	Coffee Break				
	Room A (Grand Ballroom A, 1F)	Room B (Grand Ballroom B, 1F)	Room C (Grand Ballroom C, 1F)	Room D (Diamond Hall A, B1F)	Room E (Diamond Hall B, B1F)
10:40-12:00	**[Tu1A] Plasma Equipment Intelligence I** Session Chair: Dr. Jung-Sik Yoon (KFE, Korea)	**[Tu1B] Equilibrium, Instability, Self-organization** Session Chair: Prof. Ho-Jun Lee (Pusan Nat'l Univ., Korea)	**[Tu1C] ITER Technology II** Session Chair: Dr. Hyunsoo Kim (KFE, Korea)	**[Tu1D] Laser-Plasma I** Session Chair: Prof. Byoung-ick Cho (GIST, Korea)	**[Tu1E] KSTAR II** Session Chair: Dr. Won-Ha Ko (KFE, Korea)
	Invited **[Tu1A-1] Data-Informed Advanced Plasma Equipment/ Process Control Technologies for Plasma Applications** Jung-Sik YOON (KFE)	Invited **[Tu1B-1] Fast Growth and Vortex Motion of Ice Dust Grains Formed in a Plasma at Astrophysically-relevant Temperatures** Kil-Byoung CHAI (KAERI)	Invited **[Tu1C-1] Status of TBM Development in Korea** Mu-Young AHN (KFE)	Invited **[Tu1D-1] Laser-plasma THz and its Application for Plasma Diagnostics** Keekon KANG (GIST)	Invited **[Tu1E-1] Summary of Recent 3D Field Experiments in KSTAR** Gunyoung PARK (KFE)
	Invited **[Tu1A-2] To the Advanced Plasma Tool with Smart Sensing in EugeneTech** Jeonghee JO (EugeneTech)	**[Tu1B-2] Equilibrium Selection via Current Sheet Relaxation and Guide Field** Young Dae YOON (PAL)	Invited **[Tu1C-2] Engineering Issues in the Design of ITER Diagnostic Systems** Mun Seong CHEON (KFE)	Invited **[Tu1D-2] Study of Laser Wakefield Accelerator for Medical Application** Jaehoon KIM (KERI)	Invited **[Tu1E-2] Advances in High Beta MHD Mode Stabilization Research on KSTAR** Young-Seok PARK (Columbia Univ.)
	[Tu1A-3] Study of Plasma and Sensor Data for Intelligent Plasma Nitride Film Process Equipment Development Jongsik KIM (KFE)	**[Tu1B-3] Phase Synchronization versus Modulational Instability for Zonal Flow Generation** Sumin YI (KFE)	**[Tu1C-3] Development Procedure Related to Structural Integrity and Thermal-hydraulic Improvement for Test Blanket Design in Korea** Seong Dae PARK (KAERI)	**[Tu1D-3] Optimization of Laser Power and Plasma Density of Laser Electron Accelerators** Sang Yun SHIN (Korea Univ.)	Invited **[Tu1E-3] Summary of Experiments for Study of Turbulence and Transport in KSTAR** Woochang LEE (KFE)
	[Tu1A-4] Simulation of N2 Inductively Coupled Plasma and a Comparison with the Cutoff Probe: The Importance of Excited Species Sanghyun JO (Gachon Univ.)	Invited **[Tu1B-4] An Analytic Expression for Fluid Instabilities in An Anisotropic Non-uniform Flowing Plasma** Min Uk LEE (Utah State Univ.)	**[Tu1C-4] Mechanical Design and Integration of Upper Port #18 for ITER Diagnostics** Jaemin KIM (KFE)	**[Tu1D-4] Simulations on Self-focusing and Laser Wakefield Acceleration in a Capillary Gas Cell** Suho KIM (GIST)	Invited **[Tu1E-4] Summary and Future Plan of the Boundary Plasma Physics Research in KSTAR** Hyungho LEE (KFE)
12:00-13:30	Lunch Time				

Tuesday, August 23

13:30-14:10	**Plenary Talk (Grand Ballroom, 1F)**	**"The Role of Advanced Algorithms in Understanding Plasmas"** Prof. Andrew Christlieb (Michigan State Univ., USA)		
14:10-14:50	**Plenary Talk (Grand Ballroom, 1F)** Session Chair: Prof. Hae June Lee (Pusan National University, Korea)	**"PI-VM: The Most Efficient Way To Control the Plasma Processes in Mass Production with Data-driven Plasma Science"** Dr. Seolhye Park (Samsung Display Co., Ltd., Korea)		
14:50-15:05	Break			
	Room A (Grand Ballroom A, 1F)	**Room C (Grand Ballroom C, 1F)**	**Room D (Diamond Hall A, B1F)**	**Room E (Diamond Hall B, B1F)**
	[Tu2A] Plasma Equipment Intelligence II Session Chair: Dr. Jong Sik Kim (KFE, Korea)	**[Tu2B] Young Scientist Forum** Session Chair: Prof. Jungpyo Lee (Hanyang Univ., Korea)	**[Tu2D] Accelerators II** Session Chair: Dr. Hyeok-Jung Kwon (KAERI, Korea)	**[Tu2E] Integrated Scenario** Session Chair: Prof. Yong-Su Na (Seoul Nat'l Univ., Korea)
15:05-16:25	Invited **[Tu2A-1] Predictive Control of the Plasma Processes in the OLED Display Mass Production Referring to the PI-VM** Yoona PARK (Samsung Display Co., Ltd.)	**[Tu2B-1] Characteristics of n=0 Resistive Wall Mode in a Negative Triangular Plasma Shape of Tokamak** Junhyuk SONG (Hanyang Univ.)	Invited **[Tu2D-1] Recent Progress of PAL-XFEL Operation** Changbum KIM (PAL)	Invited **[Tu2E-1] High ℓ_i Steady State Scenario on KSTAR and DIII-D for ITER** Jin Myung PARK (ORNL)
	[Tu2A-2] Plasma Information based Advanced Process Controller for Plasma Etch Process Jaemin SONG (Seoul Nat'l Univ.)	**[Tu2B-2] MARS-F Modeling in Resonant Magnetic Perturbation Asymmetric Poloidal Coupling in KSTAR** Inhwan CHOI (UNIST)	Invited **[Tu2D-2] The Development of Beam Position Monitor System for 4GSR** Siwon JANG (Korea Univ.)	Invited **[Tu2E-2] A New Regime to "FIRE" Fusion Plasmas Toward Long Sustained and High-Performance Reactor Conditions** Sangjin PARK (Seoul Nat'l Univ.)
	Invited **[Tu2A-3] Real-time, Non-Perturbing, and Precise Plasma Sensor for Intelligent Semiconductor/Display Process Equipment** Hyo-Chang LEE (KRISS)	**[Tu2B-3] Simulations on Laser Pulse Compression by Plasma with an Exponential Density Profile** Hyojeong LEE (GIST)	**[Tu2D-3] Beam Dynamics for Beam Commissioning of RAON Linac** Ji-Ho JANG (IBS)	**[Tu2E-3] Integrated Advanced Tokamak Scenario Modeling for Tearing Mode Avoidance on DIII-D and KSTAR** Kyungjin KIM (ORNL)
	[Tu2A-4] Low-temperature Plasma Source Monitoring by Using a Global Model Deuk-Chul KWON (KFE)	**[Tu2B-4] Ion Transport Driven by Electrohydrodynamic Instability of a Plasma-Liquid Interface** Woo Jin NAM (POSTECH)	**[Tu2D-4] e-LABs: Electron Beam Based R&D Facility at PAL** Minseok KIM (PAL)	**[Tu2E-4] Development of High Performance Longer Pulse Discharge in KSTAR** Hyun-Seok KIM (KFE)
		[Tu2B-5] Analysis of Operating Conditions of the Methane Pyrolysis Process Applying the Triple Direct Current Thermal Plasma Yong Hee LEE (Jeju Nat'l Univ.)		**[Tu2E-5] Achievement of a Stationary I-Mode Operation with Hot Ion Temperature in KSTAR** Youngmu JEON (KFE)
16:25-16:40	Break			
16:40-18:00	**Poster Session II (Diamond Hall Lobby, B1F)**			

Wednesday, August 24

09:00-09:40	Plenary Talk (Grand Ballroom, 1F)	"Deep Learning Acceleration of Progress in Fusion Energy Research" Dr. William M. Tang (PPPL, USA)			
09:40-10:20	Plenary Talk (Grand Ballroom, 1F) Session Chair: Hyeon Gon Lee (KFE, Korea)	"Progress in A US-based Liquid Metal Plasma-Facing Component Design Activity for A Fusion Nuclear Science Facility" Dr. Rajesh Maingi (PPPL, USA)			
10:20-10:40	Coffee Break				
10:40-12:00	Room A (Grand Ballroom A, 1F)	Room B (Grand Ballroom B, 1F)	Room C (Grand Ballroom C, 1F)	Room D (Diamond Hall A, B1F)	Room E (Diamond Hall B, B1F)
	[We1A] Plasma Equipment Intelligence III Session Chair: Dr. Hyo-Chang Lee (KRISS, Korea)	**[We1B] Atomic, Molecular, and Materials Properties** Session Chair: Prof. June Young KIM (Seoul Nat'l Univ., Korea)	**[We1C] Accelerators III** Session Chair: Dr. Dong-O JEON (IBS, Korea)	**[We1D] Blanket** Session Chair: Dr. Mu-Young Ahn (KFE, Korea)	**[We1E] MHD & Fast Particles** Session Chair: Prof. Jungpyo Lee (Hanyang Univ., Korea)
	Invited **[We1A-1] Metrology and Inspection in Etch Tools and Processes** Byoungho LEE (Hitachi High-Tech in Korea)	Invited **[We1B-1] A+M Data Center and Fundamental Research Activities in Korea Institute of Fusion Energy** Mi-Young SONG (KFE)	Invited **[We1C-1] Space-Charge-Driven Halo Formations and Their Mitigation via Beam Spinning in High-Intensity Linear Accelerators** Yoo Lim CHEON (UNIST)	Invited **[We1D-1] Application of Discrete Element Method in Breeding Blanket Design** Youngmin LEE (KFE)	Invited **[We1E-1] Tokamak Disruption Event Characterization and Forecasting Research and First Real-time Application on KSTAR** Steven SABBAGH (Columbia Univ.)
	Invited **[We1A-2] Trends of Plasma Etch Equipments in Semiconductor Industries** Junghyun CHO (Samsung Electronics Co., Ltd.)	**[We1B-2] Perfluoro-methyl-vinyl-ether as SF_6 Alternative in Insulation Applications: A DFT Study on the Physiochemical and Decomposition Mechanism** Nidhi SINHA (KFE)	Invited **[We1C-2] Storage Rings in Korea as Synchrotron Radiation Source** Taekyun HA (PAL)	**[We1D-2] Experimental Research on Vapor Adsorption Performance of Molecular Sieve Bed in Gas Coolant System** Chang Wook SHIN (KAERI)	**[We1E-2] Investigation of Coherent Edge Mode Effect on High-performance Transition and Sustainment in KSTAR Hybrid Scenario Discharges** Youngho LEE (KFE)
	[We1A-3] Plasma Dielectric Deposition Process Monitoring and Equipment Diagnosis Minho KIM (Myoungi Univ.)	**[We1B-3] The OES Line-ratio Technique Assisted with Collisional Radiative Model for Pure Argon Plasma Diagnosis** Swati BHARTI (KFE)	**[We1C-3] Development of 3D Multi-Resolution Two-Space Scheme in Smoothed Particle Magnetohydrodynamics for External Magnetic Field Coupling** Ju-hyeong LEE (Seoul Nat'l Univ.)	**[We1D-3] Current Status of Manufacturing Technologies Development for the First Wall of the HCCR Blanket** Hyoseong GWON (KFE)	**[We1E-3] Numerical Study on Wave Generation by Runaway Electron** Hye Lin KANG (POSTECH)
	[We1A-4] Study to Estimate Parameters of Plasma Enhanced Atomic Layer Deposition (PEALD) Process Using Deep Learning Techniques Yeong Geun YOOK (KFE)	**[We1B-4] Investigation of Helium Plasma Interaction with Tungsten** Ki-Baek ROH (Seoul Nat'l Univ.)	**[We1C-4] Machine Learning for the KOMAC Proton Injector** Dong-Hwan KIM (KAERI)	**[We1D-4] Tritium Dynamic Transport Analysis Tool for Breeding Blanket System** Yonghee LEE (KFE)	**[We1E-4] Benchmark Study on Toroidal Alfven Eigenmodes Using gKPSP** Youngwoo CHO (KFE)
				[We1D-5] Neutron Activation System for HCCR DEMO Blanket Development Chang-Shuk KIM (KFE)	**[We1E-5] Plasma Disruption Physics and Avoidance in KSTAR** Gnan KIM (KFE)
12:00-13:30	Lunch Time				
13:30-18:00	Excursion				

Thursday, August 25					
09:00-09:40	Plenary Talk (Grand Ballroom, 1F)	"Technical Gaps between HCCR TBM and DEMO Blanket and their Facilities Development/Plans" Dr. Seungyon Cho (KFE, Korea)			
09:40-10:20	Plenary Talk (Grand Ballroom, 1F) Session Chair: Prof. Bongguen Hong (Jeonbuk National University, Korea)	"An Overview of DIII-D Plans for Addressing ITER and Fusion Pilot Plant Research Needs" Dr. Raffi Nazikian (PPPL, USA)			
10:20-10:40	Coffee Break				
10:40-12:00	Room A (Grand Ballroom A, 1F)		Room C (Grand Ballroom C, 1F)	Room D (Diamond Hall A, B1F)	Room E (Diamond Hall B, B1F)
	[Th1A] Plasma Fundamentals and Applications Session Chair: Prof. Ho Jun KIM (Gachon Univ., Korea)		[Th1C] Laser-Plasma II Session Chair: Dr. Minseok Kim (PAL, Korea)	[Th1D] Fuel Cycle, Superconducting Magnet Session Chair: Dr. Hyung Gon JIN (KAERI, Korea)	[Th1E] 3D Physics Session Chair: Prof. Yongkyoon In (UNIST, Korea)
	Invited [Th1A-1] Plasma Technology in Semiconductor Industry Sang Ki NAM (Samsung Electronics Co., Ltd.)		Invited [Th1C-1] Ultrafast Dynamics of Nonequilibrium Warm Dense Plasma Heated by Femtosecond Laser Pulses Byoung-ick CHO (GIST)	Invited [Th1D-1] Dynamic Simulation on Flow Characteristics of KSTAR PF Magnet Cryogenic Network Sangjun OH (KFE)	Invited [Th1E-1] Tailoring Resonant Magnetic Perturbations to Optimize ELM Control in KSTAR Seong Moo YANG (PPPL)
	Invited [Th1A-2] Development of Flexible and Thin Patch-type Microwave Probe for Obtaining Plasma Electron Density in Low Pressure Plasmas Dae-Woong KIM (KIMM)		Invited [Th1C-2] Intense THz Radiation from Laser-Produced Nanoplasmas Manoj KUMAR (UNIST)	Invited [Th1D-2] Development of Dynamic Simulation Program for Cryogenic Distillation in Hydrogen Isotope Separation System Jae Jung URM (Seoul Nat'l Univ.)	Invited [Th1E-2] Adaptive ELM Control and its Application to Integrated Long-pulse RMP Scenarios in KSTAR Sang Kyeun KIM (Princeton Univ.)
	[Th1A-3] Particle-in-cell Simulation of Two-dimensional RF Sheath Dynamics in Dual-frequency Capacitively Coupled Ar Plasmas Ji Hyun SHIN (Pusan Nat'l Univ.)		[Th1C-3] Raman Backscattering Amplification in Plasma Created by Hydrogen Gas Do Hyun PARK (UNIST)	[Th1D-3] Current Development Activities on the Fusion Fuel Cycle Technologies in Korea Min Ho CHANG (KFE)	[Th1E-3] Confinement Characteristics of 3D Magnetic Braking Discharges in KSTAR Kimin KIM (KFE)
	[Th1A-4] Investigation of Distributed Ion Energy on Power Electrode of Narrow Gap VHF-CCP Etcher Dr. Taejun PARK (Seoul Nat'l Univ.)		[Th1C-4] Measurement of Non-equilibrium *d*-band Electron Hole Dynamics in Warm Dense Copper Using Femtosecond XFEL Pulses Gyeongbo KANG (GIST)	[Th1D-4] Design Status of the Korean Fusion Demonstration Reactor Superconducting Toroidal Field Magnet Hyun Wook KIM (KFE)	[Th1E-4] Vortex Flow Evolution and Structural Change around a Magnetic Island in a Tokamak Plasma Gyungjin CHOI (Seoul Nat'l Univ.)
12:00-13:30	Lunch Time				

Thursday, August 25					
	Room A (Grand Ballroom A, 1F)	Room B (Grand Ballroom B, 1F)	Room C (Grand Ballroom C, 1F)	Room D (Diamond Hall A, B1F)	Room E (Diamond Hall B, B1F)
	[Th2A] HED Plasmas Session Chair: Byung-ick Cho (GIST, Korea)	**[Th2B] Semiconductor and Display** Session Chair: Dr. Dae-Woong Kim (KIMM, Korea)	**[Th2C] Accelerators IV** Session Chair: Dr. Changbum KIM (PAL, Korea)	**[Th2D] Material** Session Chair: Dr. Young-Bum Chun (KAERI, Korea)	**[Th2E] Confinement in General** Session Chair: Prof. Choongki Sung (KAIST, Korea)
13:30-14:50	**[Th2A-1] Radiation Transfer in the High-energy-density Matter** Sang June HAHN (Chung-Ang Univ.)	Invited **[Th2B-1] Effect of Pulsed RF Plasma for Etch Application** Dongsoo LEE (Lam Research Korea)	Invited **[Th2C-1] Particle-in-Cell Simulation Using a Fast Poisson Solver with Truncated Green's Functions** Chong Shik PARK (Korea Univ.)	Invited **[Th2D-1] Status of Material Development for Breeding Blanket in Korea** Yi-Hyun PARK (KFE)	Invited **[Th2E-1] Two-stage Approach to Realize Fusion Reactor from Science to Engineering: Detour or Ultra-fast-track?** Yongkyoon IN (UNIST)
		[Th2B-2] High Aspect Ratio Contact Etching Using Additive Gas Materials Hyun Woo TAK (Sungkyunkwan Univ.)	Invited **[Th2C-2] A Way for Sub-10 Femtosecond Ultrafast Electron Diffraction Technology** Hyun Woo KIM (KAERI)	Invited **[Th2D-2] Enhancement of Mechanical Properties of Reduced Activation Ferritic/ Martensitic Steel by Ti Microalloying and Repeated Heat Treatment** Chang-Hoon LEE (KIMS)	Invited **[Th2E-2] Observation of a New Self-Generated Current in a Tokamak** Yong-Su NA (Seoul Nat'l Univ.)
		Invited **[Th2B-3] Real-time Monitoring of VUV Radiation from Low-pressure Hydrogen Plasmas** Se Youn MOON (Jeonbuk Nat'l Univ.)	**[Th2C-3] RAON ISOL Preparation for Radioactive Isotope Production and Future Plan** Taeksu SHIN (IBS)	**[Th2D-3] Effect of Microstructure of Pure Tungsten on Ductile-to-brittle Transition Temperature and Formation of Blisters** Heung Nam HAN (Seoul Nat'l Univ.)	**[Th2E-3] A Minimization Principle for Estimating Current Profile from Magnetic Probe and Flux Loop Using Boundary Integral Equation** Minho WOO (KFE)
		[Th2B-4] Analysis of Taper Angle in VNAND Stack HARC Etch Profile Using Convolutional Neural Network Algorithm Ji Hoon PARK (Seoul Nat'l Univ.)	**[Th2C-4] Numerical Study of Resonantly Growing Long Beam Instability in Over-Dense Plasma** Kook-Jin MOON (UNIST)	**[Th2D-4] Characterization of Y_2O_3-doped Tungsten Fabricated by Internal Oxidation and Spark Plasma Sintering** Guensik MIN (Seoul Nat'l Univ.)	**[Th2E-4] Fokker-Plank Collision Model for Discontinuous Galerkin Gyrokinetic Simulations** Janghoon SEO (KFE)
14:50-15:05	Break				

Thursday, August 25

	Room A (Grand Ballroom A, 1F)	Room B (Grand Ballroom B, 1F)	Room C (Grand Ballroom C, 1F)	Room D (Diamond Hall A, B1F)	Room E (Diamond Hall B, B1F)
15:05-16:25	**[Th3A] Warm Dense Matter / CR Calculations I** Session Chair: Byung-ick Cho (GIST, Korea)	**[Th3B] Plasma Processing** Session Chair: Dr. Sang Ki Nam (Samsung Electronics Co., Ltd., Korea)	**[Th3C] Accelerators and Laser-Plasma** Session Chair: Prof. Chong Shik PARK (Korea Univ., Korea)	**[Th3D] Plasma Facing Component** Session Chair: Dr. Yi-Hyun Park (KFE, Korea)	**[Th3E] Turbulence & Transport** Session Chair: Prof. Young-chul Ghim (KAIST, Korea)
	[Th3A-1] Warm Dense Matter Woosuk BANG (GIST)	Invited **[Th3B-1] Microwave Plasma Technologies for Next-Generation Thin Films** Jaeho KIM (Samsung Electronics Co., Ltd.)	Invited **[Th3C-1] Multiphysics Design of the Half-Wave Resonator at KOMAC** Jeong-Jeung DANG (KAERI)	Invited **[Th3D-1] Current Status of the Preliminary Design Activities for the K-DEMO Divertor** Sungjin KWON (KFE)	Invited **[Th3E-1] Comparative Study of Pedestal Turbulence Dynamics in ELMing and RMP-Driven ELM Suppression** Jaehyun LEE (KFE)
		Invited **[Th3B-2] Rotating Surface Wave Excitation by Time-varying Phase Agitation Using Higher-order mode Cylindrical Resonator** Ju-Hong CHA (KERI)	Invited **[Th3C-2] Arbitrary Bunch Shaping via Wake Potential Tailoring** Young Dae YOON (PAL)	**[Th3D-2] Tungsten Coated Tile Design for KSTAR Inboard Limiter** Hee-Jae AHN (KFE)	Invited **[Th3E-2] Modeling of Tungsten Impurities with Gyrokinetic Bundles in the XGC Code for the Study of Tokamak Pedestal Physics in Tungsten Environment** Julien DOMINSKI (PPPL)
	[Th3A-2] Atomic Processes in Plasmas Hyun-Kyung CHUNG (KFE)	**[Th3B-3] Analysis on Plasma Arcing Evolution in a Capacitively Coupled Plasma** Si-jun KIM (Chungnam Nat'l Univ.)	**[Th3C-3] Spectral Splitting of Radiation by Intrinsic Modes of Magnetized Plasma Dipole Oscillation** Hyung Seon SONG (UNIST)	**[Th3D-3] Impact of Gas Puff Location and Divertor Surface Material on ITER Fusion Plasma Operation Phase Divertor Performance** Jae-Sun PARK (ORNL)	**[Th3E-3] Intrinsic Rotation Analysis by Plasma-Neutral Interaction** Kwan Chul LEE (KFE)
		[Th3B-4] Control of the Ion Energy Distribution of Dual-Frequency Capacitive RF Plasmas by the Variation of the Driving Voltages Hwan Ho KIM (Pusan Nat'l Univ.)	**[Th3C-4] Simulation Study of Plasma Dipole Oscillation Applying Field Ionization Effect** Jae Ho LEE (UNIST)	**[Th3D-4] The Interaction between a Single Dislocation and Atomic Hydrogen in Tungsten: Atomistic Study** Keonwook KANG (Yonsei Univ.)	**[Th3E-4] Global $E \times B$ Flow Pattern Formation and Saturation** Lei QI (KFE)
				[Th3D-5] Development of Divertor Heat Management Systemwith Hypervapotron Cooling Channel Hoongyo OH (POSTECH)	**[Th3E-5] The Effects of Toroidal Rotation and Collisionality on Non-monotonic Temperature Screening of Neoclassical Impurity Transport in KSTAR** Hyeonjun LEE (Hanyang Univ.)
16:25-16:40	Break				
16:40-18:00	Poster Session III (Diamond Hall Lobby, B1F)				
18:30-	Banquet (Grand Ballroom, 1F)				

Friday, August 26

09:00-09:40	Plenary Talk (Grand Ballroom, 1F)	"Physics Considerations for the Lifetime of ITER Plasma-facing Components" Dr. Richard Pitts (ITER IO, France)			
09:40-10:20	Plenary Talk (Grand Ballroom, 1F) Session Chair: Dr. Si-Woo Yoon (KFE, Korea)	"ExB Zonal and Vortex Flows in Toroidal Plasmas; Role of Symmetry Breaking" Prof. Taik Soo Hahm (Seoul Nat'l Univ., Korea)			
10:20-10:40	Break				
	Room A (Grand Ballroom A, 1F)	Room B (Grand Ballroom B, 1F)	Room C (Grand Ballroom C, 1F)	Room D (Diamond Hall A, B1F)	Room E (Diamond Hall B, B1F)
	[Fr1A] PIC Simulation Session Chair: Byung-ick Cho (GIST, Korea)	[Fr1B] Discharge Fundamentals and Hollow Cathode Session Chair: Prof. Hae June Lee (Pusan Nat'l Univ., Korea)	[Fr1C] Energy and Environment / Bio Session Chair: Prof. Se Youn Moon (Jeonbuk Nat'l Univ., Korea)	[Fr1D] DEMO Session Chair: Dr. Namil Her (KFE, Korea)	[Fr1E] Combined Session (Fusion Science & Technology) Session Chair: Prof. Gunsu Yun (POSTECH, Korea)
10:40-12:00	[Fr1A-1] Modern Particle-In-Cell Simulation for Laser-Plasma Interactions Chulmin KIM (GIST)	Invited [Fr1B-1] Electrical Breakdown from Macro to Micro Scales Yangyang FU (Tsinghua Univ.)	Invited [Fr1C-1] Plasma as a Means of Electrification of Chemical Processes for Carbon Neutrality Dae Hoon LEE (KIMM)	Invited [Fr1D-1] A Review of DEMO Reactor Concepts: Open Questions and Issues Suk-Ho HONG (General Atomics)	Invited [Fr1E-1] Status and Plan for the KSTAR Diagnostics System Yong Un NAM (KFE)
		Invited [Fr1B-2] Process Optimization in Low Temperature Plasma Reactors: The Importance of Excited Species Ho Jun KIM (Gachon Univ.)	[Fr1C-2] Proposal for Plasma Waste Treatment with Renewable Energy Yong Sup CHOI (KFE)	Invited [Fr1D-2] Consideration Of Confinement Barrier for Fusion DEMO And Preliminary Accident Analysis Using MELCOR Sungbo MOON (KFE)	[Fr1E-2] Improvement of Plasma Diamagnetic Flux Diagnostic System in VEST Taekyoung KIM (Seoul Nat'l Univ.)
		[Fr1B-3] Experimental Characterization of Reverse Polarity Hollow Electrode Plasma Torch with Double Cathodes Darian FIGUERA MICHAL (Jeonbuk Nat'l Univ.)	Invited [Fr1C-3] Bio-plasma Technologies for Various Medical Healthcare Applications Youbong LIM (Plasmapp Co., Ltd)	[Fr1D-3] Data Mirrors and Streaming Analysis for Meeting Fusion Energy Challenges in the ITER Era R. Michael CHURCHILL (PPPL)	[Fr1E-3] Tungsten-wall Sputtering Model for Tokamak Plasma Start-up Simulation Sangil LEE (KFE)
		[Fr1B-4] A Particle-in-Cell Simulation for the Two-Dimensional Sheath Dynamics and Electron Heating in a Hollow Electrode Structure Heesung PARK (Pusan Nat'l Univ.)	[Fr1C-4] Inactivation of Infectious Bioaerosols by Plasma Application Technologies Joo-Young PARK (KIMS)		[Fr1E-4] How Do We Make Motional Stark Effect Measurements during Multiple-ion-source Neutral Beam Injection In KSTAR? Jinseok KO (KFE)
					[Fr1E-5] Experimental Results of Current Drive by Lower Hybrid Fast Wave on VEST and Implication to KSTAR Sun Ho KIM (KAERI)
12:00-12:15	Closing Ceremony				

Friday, August 26	
12:15-13:30	Lunch Time
13:30-14:50	**[Fr2A] CR Calculations II** Session Chair: Byung-ick Cho (GIST, Korea)
	[Fr2A-1] Introduction to Generalized Collisional-Radiative Code, FLYCHK, and its Application Min Sang CHO (LLNL)
14:50-15:05	Break
15:05-16:25	**[Fr3A] Strongly-coupled Plasmas** Session Chair: Byung-ick Cho (GIST, Korea)
	[Fr3A-1] Strongly Coupled Plasmas Gunsu YUN (POSTECH)