Session Program

13–18 Oct 2025

30th IAEA Fusion Energy Conference (IAEA FEC 2025)

Posters 6

Friday 17 October

14:00

Posters 6
Poster Session │ **Location:** Chengdu, China

[REGULAR TWIN POSTER] H-mode operation scenarios in JT-60SA initial research phase predicted by integrated core-pedestal-SOL/divertor simulation

Speaker

Dr Nobuyuki AIBA

[REGULAR TWIN POSTER] UK STEP TOWARDS A FUSION POWER PLANT PLASMA

Speaker

Hendrik Meyer

[REGULAR TWIN POSTER] A TALE OF TWO (VISCO)CITIES Electromagnetic Turbulence and Transport Bifurcations: Implications for Next- Generation Fusion Power Plants

Speaker

Daniel Kennedy

[REGULAR TWIN POSTER] Integrated Modeling of DIII-D Super H-Mode using Improved Pedestal Physics and Integrated Core-Pedestal-Boundary Physics to Optimize Fusion Performance

Speaker

Kyungjin Kim

[REGULAR TWIN POSTER] GLOBAL DISPERSION AND NONLINEAR DYNAMICS IN PLASMAS MODELED FOR JT-60U STRONGLY REVERSED MAGNETIC SHEAR CONFIGURATION EXHIBITING A SIGNATURE OF ITBS FROM L-MODE CHARACTERISTICS

Speaker

Rui Zhao

[REGULAR TWIN POSTER] Automatic Between-shot Kinetic Equilibria and Neutral Beam-Heat Load on DIII-D Using Supercomputers

Speaker

Mark Kostuk

[REGULAR TWIN POSTER] DEVELOPMENT OF DATA ASSIMILATION SYSTEM ASTI TOWARD DIGITAL TWIN CONTROL OF FUSION PLASMA

Speaker

Mr Yuya Morishita

[REGULAR TWIN POSTER] ITER DISRUPTION MITIGATION SYSTEM DESIGN AND APPLICATION STRATEGY

Speaker

Stefan Jachmich

[REGULAR TWIN POSTER] TRT PLASMA CONTROL COMPLEXES CONCEPTUAL DESIGN ON THE BASE OF THE ITER FUSION TECHNOLOGY DEVELOPMENT

Speaker

Anatoly Krasilnikov

[REGULAR TWIN POSTER] ARTIFICIAL INTELLIGENCE FOR TOKAMAK FUSION: ADVANCEMENTS IN DIAGNOSTICS, CONTROL, AND SCENARIO OPTIMIZATION

Speaker

Egemen Kolemen

[REGULAR TWIN POSTER] Development of Low Inductive Electric Field Plasma Start-up in JT-60SA

Speaker

Dr Takuma Wakatsuki

[REGULAR TWIN POSTER] MULTI-MACHINE VALIDATION OF PLASMA INITIATION MODELLING AND PROSPECTS FOR FUTURE DEVICES

Speaker

Dr Hyun-Tae Kim

[REGULAR TWIN POSTER] DIRECT CONTROL OF TURBULENCE FOR IMPROVED PLASMA CONFINEMENT

Speaker

Toshiki Kinoshita

[REGULAR TWIN POSTER] DEVELOPMENT OF EQUILIBRIUM CONTROL SIMULATOR AND EXPERIMENTAL VALIDATION OF ADVANCED ISO-FLUX EQUILIBRIUM CONTROL DURING THE FIRST OPERATIONAL PHASE OF JT-60SA

Speaker

Shizuo Inoue

[REGULAR TWIN POSTER] PLASMA CONTROL EXPERIMENTS IN JET DEUTERIUM-TRITIUM PLASMAS

Speaker

Matteo Baruzzo

[REGULAR TWIN POSTER] SIMULATION OF ALPHA POWER DYNAMICS IN DIII-D

Speaker

Francesca Turco

[REGULAR TWIN POSTER] Comprehensive Simulations of Bursting and Non-Bursting Alfvén Waves in ICRF Heated Tokamak Plasmas

Speaker

Dr JIALEI Wang

[REGULAR TWIN POSTER] Turbulence, zonal flows, and global modes in burning plasmas: code development and simulations

Speaker

Axel Könies

[REGULAR TWIN POSTER] THEORY AND SIMULATION OF PHASE SPACE TRANSPORT IN BURNING PLASMAS

Speaker

Fulvio Zonca

[REGULAR TWIN POSTER] FUSION ALPHA-PARTICLE-DRIVEN ALFVEN EIGENMODES IN JET DT PLASMAS: EXPERIMENTS AND THEORY

Speaker

Dr Sergei Sharapov

[REGULAR TWIN POSTER] Advancing Tritium Fueling for DT Fusion in HL-3: Innovations in SMBI Techniques and Physics-Based Tritium Fueling Strategies

Speaker

Guoliang Xiao

Sawtooth crashes prediction using a convolutional neural network on EAST

Speaker

ZHENGSHUYAN WANG

Density Limit in Peeling-Limited Pedestals At and Above the Greenwald Value in DIII-D High Poloidal Beta Plasmas

Speaker

Huiqian Wang

ESTIMATION OF PLASMA PARAMETERS BASED ON DISCHARGE SETTINGS ON WEST

Speaker

Dr Chenguang Wan

Advancing the Concept of the Quasi-isodynamic Stellarator as the Basis for a Fusion Reactor

Speaker

Gabriel Plunk

Examining boundaries for operation on Alcator C-Mod from the separatrix perspective and projection to SPARC

Speaker

Marco Miller

Energy exchange between electrons and ions induced by ITG-TEM turbulence

Speaker

Tetsuji Kato

Plasma State discovery using Bayesian methods

Speaker

Ivan Kharitonov

STRONGLY ROTATING ST P-11B FUSION PLASMAS A data-based model to raise confinement and fusion reaction rate is proposed

Speaker

Dr Yueng-Kay Martin PENG

SYSTEM ARCHITECTURE FOR ACTUATOR MANAGEMENT IN ITER PCS

Speaker

Ondrej Kudlacek

A SIMULATION STUDY OF PLASMA BREAKDOWN IN THE TOKAMAK ELECTRON CYCLOTRON PRE-IONIZATION PHASE

Speaker

Jinwoo Gwak

PERTURBATED MAGNETIC FIELD THRESHOLD OF EDGE COHERENT OSCILLATION DURING ELM MITIGATION BY N = 1 AND N=2 RMP

Speaker

Tengfei Sun

Engineering Design, Construction, and Flexible Control of Magnetic Field Configuration of Quasi-axisymmetric Stellarator CFQS-T

Speaker

Akihiro Shimizu

Fusion Twin Platform: An Innovative Tool for Fusion Research and Education

Speaker

Mr Alexei Zhurba

THEORY OF FAST ION POPULATION EFFECT ON TURBULENCE SELF-REGULATION IN MAGNETIZED FUSION PLASMAS

Speaker

Prof. Gyungjin CHOI

Flux-driven simulations of self-generated radial electric fields and transition to improved confinement regime

Speaker

Changzhi Jiang

Neural network assisted electrostatic global gyrokinetic toroidal code using cylindrical coordinates

Speaker

Dr Animesh Kuley

Enhanced H-Mode by Boron Powder Injection and Implications for Reactors

Speaker

Yufan Xu

A Physics-Informed Neural Network for Real-Time, Data-Efficient Plasma Equilibrium Reconstruction in SUNIST-2

Speaker

Yuhang Luo

EVOLUTION OF CONFINEMENT PHYSICS AND MOST PROBABLE COMPACT IGNITION TEST DEVICE IN MAGNETIC FUSION

Speaker

Hyeon PARK

Study of plasma-edge turbulence reduction in negative triangularity plasmas using Thermal Helium Beam diagnostic in the TCV Tokamak

Speaker

Margherita Ugoletti

Zonal Flows in stellarators: Experimental measurements, code validation and implications for future reactors

Speaker

Daniel Carralero

Reinforcement Learning-Based Plasma Shape Control via Isoflux scheme on superconductor tokamak

Speaker

Haoyu Wang

NONLOCAL BEHAVIOR OF TURBULENCE IN THE PRESENCE OF POLOIDALLY LOCALIZED HEAT SOURCE

Speaker

Youngwoo Cho

OBSERVATION AND CONTROL OF 3D HEAT FLUX ON THE PLASMA FACING COMPONENT IN WENDELSTEIN 7-X

Speaker

Dr Yu Gao

OPERATIONAL SPACE OF SMALL ELM AND ELM-FREE REGIMES ON HL-3 TOKAMAK

Speaker

Na Wu

Investigation of transient transport dynamics induced by compact torus injection in the EAST tokamak

Speaker

zhihao zhao

MACHINE ENHANCEMENT OF TOKAMAK DEVICE FOR THE JT-60SA NEXT OPERATION

Speaker

HIROKI KAYANO

SAWTEETH DYNAMICS IN JT-60SA BASELINE SCENARIOS WITH EFFECTS ON NTM ONSET

Speaker

Dr Silvana NOWAK

STUDY OF REVERSED MAGNETIC SHEAR CONFIGURATION IN ADITYA-U TOKAMAK

Speaker

Mr Gopal Krishna M

Experimental studies on the effect of turbulence-driven edge poloidal shear flow on tokamak plasma confinement

Speaker

Dr Ting Long

Transport properties of trapped-electron-mode turbulence interacting with tearing modes in tokamak plasmas

Speaker

Prof. Jiquan Li

NOVEL EFFECTS OF EDGE-LOCALISED RMPS AND PLASMA DENSITY ON THE L-H TRANSITIONS AND TURBULENCE

Speaker

Eun-jin Kim

Fast ion transport in presence of magnetic perturbations using full-orbit and guiding-center simulations

Speaker

Julio Martinell

SIMULATING ENERGETIC PARTICLE DYNAMICS USING OPERATOR NEURAL NETWORKS WITH SPATIAL TRANSLATION INVARIANCE

Speaker

Jian LIU

Coupling of Geodesic Acoustic Modes and Resonant Magnetic Perturbations in Fusion Plasmas

Speaker

Jingchun Li

Experimental research on the penetration behavior of compact toroid fueling on EAST

Speaker

Yahao Wu

Application of a Design Structure Matrix Methodology to STEP Plasma Control System Design and Sensor Optimisation

Speaker

Eddie Pennington

PLASMA CURRENT AND POSITION CONTROL IN KTM TOKAMAK

Speakers

Aleksei Li, Dr Baurzhan Chektybayev

Intra-shot Tools for Plasma Scenario Optimization and Magnetic Control

Speaker

Prof. Massimiliano Mattei

Self-organized states of Alfvén eigenmodes and zonal modes via cross-scale interactions

Speaker

Qinghao Yan

GROWING NONLINEARITY IN KSTAR FIRE MODE PEDESTAL PROVIDES CLUE TO UNDESIRABLE H-MODE TRANSITION IN I-MODE PLASMAS

Speaker

Chweeho Heo

A PROPOSED NEW EXPERIMENTAL STELLARATOR: VARIABLE SYMMETRY TORUS

Speaker

Prof. Hiroyuki Yamaguchi

Experimental observation of zonal flow-like oscillation in Chinese first quasi-axisymmetric stellarator-test device

Speaker

Dr Xi Chen

CHARACTERISTICS OF EDGE QUASI-COHERENT MODE IN THE EDA H-MODE ON HL-3

Speaker

Anshu Liang

Manipulating ambipolar electric field to improve confinement in stellarators

Speaker

Prof. Zhihong Lin

PROGRESS OF CORE-EDGE INTEGRATED TUNGSTEN TRANSPORT STUDY IN EAST WITH ITER-LIKE TUNGSTEN DIVERTORS USING ADVANCED IMPURITY DIAGNOSTICS

Speaker

Ling ZHANG

PROGRESS ON REAL-TIME DENSITY CONTROL CAPABILITY OF THE KSTAR TOKAMAK

Speaker

June-Woo Juhn

FEATURES OF FUSION POWER MEASUREMENTS IN THE NEXT GENERATION MAGNETIC PLASMA CONFINEMENT EXPERIMENTS

Speaker

Timofey Kormilitsyn

OVERVIEW OF THE EUROPEAN CONTRIBUTION TO THE DIAGNOSTIC EQUIPMENT OF JT-60SA FOR THE NEXT OPERATIONAL PHASES

Speaker

Dr Carlo Sozzi

Developing Open Machine Learning Benchmarks for Tokamak Event Prediction from MAST

Speaker

Prakhar Sharma

USE OF NUCLEAR SPECTROMETRY TO MONITOR FUSION RATE, FAST PARTICLES AND RUNAWAY ELECTRONS IN TOKAMAK PLASMAS

Speaker

Dr Aleksandr Shevelev

Advancing Pedestal Stability Prediction Through Integrated Equilibrium and ReSISTIVE MHD Modeling

Speaker

xinliang xu

LEVERAGING TURBULENCE DATA FROM FUSION EXPERIMENTS

Speaker

Minjun J. Choi

Development of AI Framework for Plasma Equilibrium Parameters Generation for Virtual Tokamak Environment

Speaker

Mr Agraj Abhishek

Rapid, Robust, Real-Time AI-Based Plasma Equilibrium Profile Reconstruction and Control on DIII-D

Speaker

Dr Ricardo Shousha

CHARACTERISTICS OF HIGH FREQUENCY TURBULENCE DURING EDGE LOCALIZED MODES IN THE HL-2A TOKAMAK

Speaker

Guanqun Xue

EXPLORATION OF HIGH-PERFORMANCE PEDESTALS AND EPED MODEL VALIDATION IN SHAPE AND VOLUME RISE (SVR) STUDIES ON DIII-D

Speaker

Matthias Knolker

A MULTISCALE AND MULTIPHYSICS APPROACH TO THE DEVELOPMENT OF A HIGH-FIDELITY PHYSICS PLASMA SIMULATOR FOR BURNING PLASMA

Speaker

Francesca POLI

Tokamak formation via localized helicity injection using tangential boundary flows

Speaker

Dr Pablo Garcia-Martinez

Magnetic flux surface mapping system at Chinese First Quasi-axisymmetric Stellarator

Speaker

Mr Xirui Liu

Tangential injection of compact torus fueling in the HL-3 tokamak using the HL-CTI injector

Speaker

Prof. Tao Lan

INNOVATIVE AND EFFICIENT PLASMA MAGNETIC CONFINEMENT METHOD BASED ON AN OVERLOOKED HISTORICAL DISCOVERY

Speaker

Mr Martin STOREY

MULTI-FIELD TURBULENCE AND TRANSPORT BARRIER MEASUREMENTS AND VALIDATING PREDICTIVE CODES FOR HIGH-PERFORMANCE, NEGATIVE TRIANGULARITY ELM-FREE DIII-D PLASMAS

Speaker

Guiding Wang

A Human-in-the-Loop Active Learning Tool for Event Detection in Tokamak Discharges

Speaker

Nathan Cummings

DEVELOPMENT OF ITER HIGH-FIDELITY PLASMA SIMULATOR BASED ON JINTRAC AND DINA, AND STRATEGY FOR VALIDATION

Speaker

Sun Hee KIM

Demonstration of vertical stability control based on non-inductive Faraday-effect polarimetry measurements on DIII-D

Speaker

Thomas Benedett

GYROKINETIC ANALYSIS FOR ELECTRON-SCALE TURBULENCE IN KSTAR FIRE MODE DISCHARGE

Speaker

Donguk KIM

Bayesian Data Fusion for Enhanced Edge Plasma Density Profile estimation in KSTAR

Speaker

Jaewook Kim

EFFECTS OF FINITE ION TEMPERATURE AND ITS GRADIENT ON HASEGAWA-MIMA EQUATION AND ZONAL FLOW GENERATION

Speaker

Lu Wang

Performance Optimisation of Tokamak Operation in ASDEX Upgrade Through Novel Feedback Control Capabilities

Speaker

Wolfgang Treutterer

TEMO: a comprehensive and versatile equilibrium modelling toolbox for tokamak operations

Speaker

Zhengbo Cheng

DYNAMICS OF TURBULENCE AND ZONAL FLOWS EFFECTED BY TUNGSTEN IMPUITTY IN HL-2A EDGE PLASMAS

Speaker

Qian Zou

AI-AUGMENTED SCENARIO DESIGN AND CLASSICAL CONTROL OF TOKAMAK PLASMAS

Speaker

Adriano Agnello

DEVELOPMENT & VALIDATION OF CONTROL SYSTEM FOR OPERATION OF 170GHZ, 1MW, 1000S GYROTRON AT ITER-INDIA GYROTRON TEST FACILITY

Speaker

Ronak Shah

PLASMA PREDICTION AND SIMULATION IN SUPPORT OF REACTOR DESIGN AND OPERATION AT TOKAMAK ENERGY

Speaker

Prof. Michele Romanelli

Demonstration and Investigation of a Reactor-Relevant, Low-Collisionality, High-Performance, Intrinsic Grassy ELM Regime in DIII-D

Speaker

Zeyu Li

New insights on the quasicoherent mode in EDA high confinement discharges

Speaker

Gustavo Grenfell

SURROGATE MODEL FOR TURBULENT TRANSPORT USING DEEP LEARNING AND PLASMA PROFILE PREDICTION IN TOKAMAK PLASMAS

Speaker

Yong Xiao

Pushing Boundaries of Integrated Modeling with Improved GPU-Enhanced Performance and Validated Gyrokinetic Model in TRANSP Code

Speaker

Dr Alexei Pankin

18:10