

DIII-D Participation at IAEA

Invited Talks

| Presenter | Title | Date/Time |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Christopher Holcomb | DIII-D Research to Provide Solutions for ITER and Fusion Energy | October 16 at 2:21 pm |
| Guillame Brochard | Saturation of fishbone instability by self-generated zonal flows in tokamak plasmas | October 17 at 10:40 am |
| Xi Chen | Recent progress of the reactor-relevant intrinsically ELM-stable Quiescent H-mode on the DIII-D tokamak | October 18 at 5:04 pm |
| Nathan Howard | Performance and Transport in ITER: Multi-Channel Validation in DIII-D ITER-like Conditions and Predictions of ITER Burning Plasmas via Nonlinear Gyrokinetic Profile Prediction | October 19 at 09:21 am |
| Qiming Hu | Integration of RMP ELM control with divertor detachment in the DIII-D tokamak | October 20 at 09:04 am |
| Juan Huang | Sustainment of High q_{min} , High BetaN Plasmas on DIII-D towards Steady-state Advanced Tokamak Fusion | October 20 at 5:38 pm |
| Valerie Izzo | Runaway electron prevention by a passive 3D coil in disruption simulations of the SPARC and DIII-D tokamaks | October 20 at 09:21 am |
| Nikolas Logan | Improved pedestal performance utilizing 3d fields and edge localized electron cyclotron current drive | October 18 at 4:47 pm |
| George McKee | Turbulence, Transport and Confinement Dependence on Isotope Mass in Dimensionally Similar H-Mode Plasmas on DIII-D | October 19 at 08:47 am |
| Filippo Scotti | 2D characterization of radiative divertor regimes with impurity seeding in DIII-D | October 21 at 09:21 am |
| Andrew Seltzman | Development of Monolithically Additive Manufactured Lower Hybrid Current Drive Launchers | October 18 at 3:25 pm |
| Ricardo Shousha | Closed Loop RMP ELM Suppression With Minimized Confinement Degradation Using Adaptive Control Demonstrated In DIII-D And KSTAR | October 19 at 11:31 am |
| Gary Staebler | Successful Prediction of Tokamak Transport in the L-mode Regime | October 21 at 09:14 am |
| Kathreen Thome | Assessment of Negative Triangularity as a Reactor Scenario in DIII-D | October 17 at 08:47 am |
| Francesca Turco | First Tungsten radiation studies and non-linear oscillations in DIII-D's ITER Baseline Demonstration Discharges | October 17 at 08:30 am |
| George Wilkie | Kinetic simulations of pedestal fueling asymmetry and implications for scrape-off-layer flows | October 18 at 08:47 am |
| Andreas Wingen | Prediction of pellet mass thresholds for ELM triggering in low-collisionality, ITER-like discharges | October 20 at 2:17 pm |

Poster Presentations

| Presenter | Title | Date/Time |
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| Craig Petty | DIII-D: Closing the gaps to future fusion reactors | October 16 at 12:20 pm |
| Rongjie Hong | Mesoscopic turbulent transport events with long-radial-range correlation in low flow shear H-mode plasmas on DIII-D | October 20 at 07:30 am |
| Saeid Houshmandyar | Wide pedestal quiescent H-modes without power degradation of energy confinement: an observation understood by transport modelling | October 17 at 07:50 am |
| Jie Chen | Internal magnetic turbulence measurements link to confinement factor in DIII-D L-, ELMy H-, Quiescent H-, and I-mode plasmas | October 20 at 07:10 am |
| Kyle Callahan | Origin of the L-H power threshold isotope effect in DIII-D hydrogen and deuterium plasmas | October 18 at 12:20 pm |
| Lothar Schmitz | Accessing and Maintaining Robust H-mode in ITER Pre-Fusion Power Operation (PFPO) Plasmas | October 20 at 09:50 am |
| Guiding Wang | Core electron temperature turbulence and transport during sawtooth oscillations in the DIII-D tokamak | October 21 at 07:30 am |
| Robert Pinsker | First High-Power Helicon Results from DIII-D | October 18 at 4:30 pm |
| Stephen Wukitch | Development of DIII-D High Field Side Lower Hybrid Current Drive Launcher | October 19 at 10:00 am |
| Michael Van Zeeland | Isotope Impact on Alfvén Eigenmodes and Fast Ion Transport in DIII-D | October 19 at 4:30 pm |
| Eric Bass | Integration of critical-gradient model Alfvén eigenmode-driven energetic ion transport predictions into whole-device modeling workflows for fusion devices | October 18 at 4:10 pm |
| Azarakhsh Jalalvand | Towards Real-time Control of Alfvén Eigenmodes at DIII-D using Data-Driven Models and High-Resolution Diagnostics | October 20 at 09:10 am |
| Laszlo Bardoczi | The Root Cause of Disruptive NTMs and Paths to Stable Operation in Low-Torque DIII-D ITER Baseline Scenario Plasmas | October 20 at 10:00 am |
| Jeremy Hanson | Variable-spectrum mode control of high poloidal beta discharges | October 20 at 10:00 am |
| Mihir Pandya | Early detection of tearing modes and its impact on understanding the MHD stability of high-q _{min} plasmas in DIII-D | October 19 at 10:00 am |
| Allan Reiman | Passive, automatic RF stabilization of magnetic islands | October 19 at 4:30 pm |
| Himank Anand | Real-time plasma equilibrium reconstruction and shape control for the MAST upgrade tokamak | October 19 at 10:00 am |
| Vincent Graber | Assessment of the Burning-Plasma Operational Space in ITER by Using a Control-Oriented Core-Edge Model with SOLPS Parameterization | October 20 at 10:00 am |
| Shira Morosohk | Rapid Model-Based Scenario Optimization Using Machine Learning: Reducing Computational Time While Preserving Prediction Accuracy by Using Surrogate Models | October 17 at 10:00 am |
| Sai Tej Paruchuri | Actuator-sharing Algorithm for Simultaneous Regulation of Plasma Properties with Coupled Dynamics | October 18 at 10:00 am |
| David Eldon | Detachment control innovations used to support long-pulse detachment studies on the KSTAR tokamak | October 19 at 3:40 pm |
| Matthew Beidler | Wall Heating By Subcritical Energetic Electrons Generated By the Runaway Electron Avalanche Source | October 18 at 4:10 pm |
| Andres Pajares | Advanced Control in DIII-D: Supervisory and Fail-safe Algorithms for Future Reactor-grade Tokamaks | October 17 at 10:00 am |

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| David Schissel | Remote Operation of the DIII-D National Fusion Facility | October 17 at 10:00 am |
| David Smith | Real-time ELM onset prediction with deep neural networks and high-bandwidth edge fluctuation measurements | October 18 at 3:40 pm |
| Brendan Lyons | Simulation of DIII-D disruption with pellet injection and runaway electron beam | October 18 at 4:10 pm |
| Huiqian Wang | Manipulating density pedestal structure to improve core-edge integration towards low collisionality | October 19 at 4:30 pm |
| Shaun Haskey | Plasma Fueling due to Thermal Charge Exchange Neutrals on DIII-D and Future Reactors | October 19 at 4:30 pm |
| Florian Laggner | Disentangling H-Mode Pedestal Structure And Neutral Ionization Source | October 20 at 10:00 am |
| Saskia Mordijck | Impact of ionization and transport on pedestal density structure in DIII-D and C-mod | October 17 at 2:40 pm |
| Zheng Yan | Inter-ELM pedestal turbulence and edge current density dynamics | October 21 at 10:20 am |
| Theresa Wilks | Limiting factors for achieving peeling-limited pedestals in present devices | October 19 at 4:30 pm |
| Robert Hager | Understanding the kinetic physics of RMP penetration in tokamak edge plasma with high-fidelity gyrokinetic simulations | October 20 at 10:00 am |
| Matthias Knolker | Advances in RMP ELM suppression towards high pedestal pressures harnessing the Super H-mode regime | October 19 at 4:30 pm |
| Auna Moser | Heat Flux Broadening And Divertor Detachment In High Parallel Heat Flux DIII-D Discharges | October 19 at 09:50 am |
| Florian Effenberg | Reducing plasma-material interactions in the DIII-D low-Z and high-Z divertors with impurity powders | October 17 at 4:10 pm |
| Jeremy Lore | Time-Dependent SOLPS-ITER Simulations of the Tokamak Plasma Boundary for Model Predictive Control | October 19 at 10:00 am |
| Roberto Maurizio | Experiments on plasma detachment in a V-shaped slot divertor | October 17 at 4:10 pm |
| Adam McLean | Radiated power by molecular deuterium in the tokamak divertor | October 19 at 3:20 pm |
| Morgan Shafer | Radiation dependence of divertor leg length in detachment on DIII-D | October 19 at 09:30 am |
| Tyler Abrams | Unraveling the physics of tungsten sourcing and leakage from a slot divertor configuration on DIII-D | October 20 at 10:00 am |
| Renato Perillo | Heat and particle flux to primary and secondary divertors for various ELM types and its implications for future machines | October 19 at 4:00 pm |
| Philip Snyder | Self-consistent integrated modeling of the pedestal, scrape-off layer, and divertor | October 20 at 10:00 am |
| Robert Wilcox | Interpretive Modeling Using SOLPS-ITER for Pumping Experiments with a Closed Divertor | October 17 at 4:10 pm |
| Siye Ding | On the development of an operational regime with high normalized density and confinement for ITER and attractive fusion pilot plant | October 17 at 4:10 pm |
| Orso Meneghini | Fusion Synthesis Engine: A next generation framework for integrated design of fusion pilot plants | October 17 at 10:00 am |
| Alessandro Marinoni | Nonlinear Gyrokinetic Modelling of High Confinement Negative Triangularity Plasmas | October 17 at 10:00 am |
| Tess Bernard | Effects of neutral transport and negative triangularity on plasma scrape-off layer turbulence in gyrokinetic simulations | October 18 at 4:10 pm |
| Andrew Oakleigh Nelson | Robust L-Mode Edge Behavior In High Performance Negative Triangularity Plasmas: From Experiments To Reactors | October 20 at 10:00 am |
| Federico Halpern | Drift-fluid simulations of tokamak edge turbulence with energy conservation | October 18 at 4:10 pm |

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| Jon Kinsey | Predictive Equilibrium Reconstruction of DIII-D H-mode Plasmas | October 17 at 4:10 pm |
| Brendan Lyons | Flexible, Predictive Modeling of Tokamak Stability, Transport, Equilibrium, and Pedestal Physics | October 18 at 4:10 pm |
| Min-Gu Yoo | Innovative delta-f PIC algorithm for efficient homogeneous simulation of fusion plasmas from core to edge | October 18 at 4:10 pm |