

# DIII-D Participation at the 66<sup>th</sup> Annual APS-DPP Meeting

7-11 October 2024

## Invited Oral Presentations

Presenter	Title	Session
Batthey, Alexander	The Effect of Externally Applied and Self-Excited Waves on Relativistic Electrons	BI02: Invited: MFE I – Disruptions and Mitigations 7 October 2024
Chen, Xi	Intrinsically Grassy ELM Edge Near Peeling Boundary in High Beta Poloidal Regime on DIII-D	VI03: Invited: MFE VI – Advances in Tokamak Operating Scenarios 10 October 2024
Cote, Tyler	First observation, identification, and implication of edge instabilities in strongly shaped negative triangularly plasmas on DIII-D	TI02: Invited: MFE V – Core-edge Integration 10 October 2024
Kim, SangKyeun	Achieving ELM-suppressed Operation with the Highest Performance in DIII-D and KSTAR via Adaptive and Machine Learning Controls	TI02: Invited: MFE V – Core-edge Integration 10 October 2024
Li, Zeyu	Why is Turbulent QH Mode Q?: Multi-scale Interaction Suppresses ELMs in Turbulent Pedestal Plasmas	VI03: Invited: MFE IV – Advances in Tokamak Operating Scenarios 10 October 2024
Maris, Andrew	Correlation of the tokamak density limit with edge collisionality	BI02: Invited: MFE I – Disruptions and Mitigations 7 October 2024
Perillo, Renato	First-wall fluxes from large and small ELMs and implications for future devices	TI02: Invited: MFE V – Core-edge Integration 10 October 2024
Qin, Xijie	Measurement of Turbulence-driven Reynolds Stress and Its Contribution to Toroidal Intrinsic Rotation in the DIII-D Tokamak	ZI02: Invited: MFE VII – Turbulence and Modeling 11 October 2024

## Contributed Oral Presentations

Presenter	Title	Session
Shafer, Morgan	Addressing the Integrated Tokamak Exhaust and Performance Gap on DIII-D	GO06: MFE:DIII-D Tokamak 8 October 2024
Moser, Auna	Overview of Recent DIII-D Experimental Results	GO06: MFE:DIII-D Tokamak 8 October 2024
Schmitz, Lothar	Effective Transport Barriers without H-mode Bifurcation in DIII-D Negative Triangularity Plasmas	GO06: MFE:DIII-D Tokamak 8 October 2024

Du, Xiaodi	First measurement of Drift-Alfvén Wave Polarization in Magnetically-confined Plasmas	GO06: MFE:DIII-D Tokamak 8 October 2024
Hu, Qiming	Access to ELM-free pedestal using RMPs and edge-localized ECCD on the DIII-D tokamak	GO06: MFE:DIII-D Tokamak 8 October 2024
Tema Biwole, Arsene	Dependencies in impurity turbulent transport in ITER Baseline plasmas on DIII-D	GO06: MFE:DIII-D Tokamak 8 October 2024
Lestz, Jeffrey	Experimental observation and integrated modeling of electron heating by helicon waves in DIII-D	GO06: MFE:DIII-D Tokamak 8 October 2024
Joung, Semin	Leveraging the MHz-scale 2D BES diagnostic in real time to predict the ELM onset based on deep learning acceleration	GO06: MFE:DIII-D Tokamak 8 October 2024
Bechtel Amara, Torrin	Improved Surrogate Models for DIII-D Equilibrium Reconstruction and Tools for Uncertainty Analysis Delivered by EFIT-AI for the Theory and Simulation Performance Target	GO06: MFE:DIII-D Tokamak 8 October 2024
Shousha, Ricardo	Resilient Plasma Profile Prediction towards FPP: Machine Learning Based RTCAKINN Enables Real-Time Kinetic Profiles at Offline Accuracy Despite Reduced Diagnostics on DIII-D	GO06: MFE:DIII-D Tokamak 8 October 2024
Tang, Shawn W.	Particle Balance of Deuterium During Deuterium Shattered Pellet Injection Shutdown in DIII-D	GO06: MFE:DIII-D Tokamak 8 October 2024
Marini, Claudio	Runaway electron plateau current profile reconstruction using synchrotron emission imaging in DIII-D	GO06: MFE:DIII-D Tokamak 8 October 2024
Hayes, Alyssa	Analysis of W erosion and migration in the DIII-D SAS-VW divertor using GTR and comparison with optical emission spectroscopy	GO06: MFE:DIII-D Tokamak 8 October 2024
Emdee, Eric	The Influence of Rotation and SOL Drifts on Poloidal Asymmetries of Pedestal Fueling	GO06: MFE:DIII-D Tokamak 8 October 2024
Scotti, Filippo	Dynamics of detachment onset in DIII-D H-mode discharges	GO06: MFE:DIII-D Tokamak 8 October 2024
Bardoczi, Laszlo	Perturbed Ion Temperature And Toroidal Flow Profile Measurements In Rotating Neoclassical Tearing Mode Magnetic Islands	UO06: MFE:Research in Support of ITER 10 October 2024
Ding, Siye	Experimental basis in support of an alternative low plasma current path for the Q=10 goal in ITER	UO06: MFE:Research in Support of ITER 10 October 2024
Effenberg, Florian	Full-torus modeling of real-time boron powder injection and mixed-material migration in tokamaks	UO06: MFE:Research in Support of ITER 10 October 2024

Ernst, Darin	ITER-Relevant Turbulence Broadening of the Divertor Heat Flux Width in DIII-D Quiescent H-Mode Plasmas Featuring Turbulence-Limited Pedestals	UO06: MFE:Research in Support of ITER 10 October 2024
Herfindal, Jeffrey	Optimization of initial SPI injection composition for ITER's staggered SPI mitigation scheme	UO06: MFE:Research in Support of ITER 10 October 2024
Steiner, Peter	Avoiding fusion plasma tearing instability with deep reinforcement learning	UO06: MFE:Research in Support of ITER 10 October 2024
Navratil, Gerald	Observation of Burning Plasma Dynamics in DIII-D	UO06: MFE:Research in Support of ITER 10 October 2024
Turco, Francesca	Impact of Tungsten and Tungsten-equivalent radiators on the ITER Baseline Scenario in DIII-D	UO06: MFE:Research in Support of ITER 10 October 2024
Welsh, Austin	SICAS, a new code featuring SOLPS-ITER coupled to ASTRA-STRAHL for integrated plasma transport modeling	UO06: MFE:Research in Support of ITER 10 October 2024
Albosta, Ryan	Beam spectroscopy for Fast Magnetic Field and Plasma Rotation Measurements within the Pedestal at DIII-D	NO06: MFE:Pedestal and Edge Physics 9 October 2024
Ashourvan, Arash	Breakdown of Quasilinear Theory in the Tokamak Edge	JO06: MFE:Turbulence and Transport 8 October 2024
Balbin Arias, Julio	The Ionization peak location in the determination of neutral opaqueness in DIII-D plasmas	NO06: MFE:Pedestal and Edge Physics 9 October 2024
Choudhury, Hari	Effects of Electron Cyclotron Heating on Runaway Electrons and Runaway-Electron-Driven Modes in DIII-D plasmas	CO05: MFE:Divertor, Scrape-off Layer, and Disruption 7 October 2024
Chung, Jinil	Collaborations on Long-Pulse Tungsten-Compatible Steady-State Scenarios between DIII-D and KSTAR	BO06: MFE:KSTAR Tokamak 7 October 2024
Davda, Kirtan	Understanding the impact of divertor and main chamber ion fluxes on divertor closure in the DIII-D tokamak	CO05: MFE:Divertor, Scrape-off Layer, and Disruption 7 October 2024
De, Aritra	Amorphization and siliconization of silicon carbide as a first wall material	PO06: MFE:Plasma Material Interfaces 9 October 2024

Garcia, Alvin	Artificial Intelligence-assisted control of Alfvén Eigenmodes improves plasma stability in the DIII-D tokamak	TO07: Joint ICF&MFE: Machine Learning and Data Science Technologies 10 October 2024
Gerru Miguelanez, Raul	Effect of detachment on ionization and neutral density profiles in the edge and SOL in samDIII-D	NO06: MFE:Pedestal and Edge Physics 9 October 2024
Gill, Kevin	Real-Time Detection of Confinement Regimes in Fusion Plasmas via Deep Learning and Edge Turbulence Measurements	NO06: MFE:Pedestal and Edge Physics 9 October 2024
Horvath, Laszlo	Main chamber fueling asymmetries and their impact on pedestal performance in DIII-D H-mode plasmas	NO06: MFE:Pedestal and Edge Physics 9 October 2024
Jalalvand, Azarakhsh	Enhancing Temporal Resolution in Fusion Diagnostics through Multimodal Neural Networks	CM11: Mini-Conference: Digital Twins for Fusion Research II 7 October 2024
Jeon, Young-Mu	First achievement of high poloidal beta scenario with KSTAR-like constraints on DIII-D	BO06: MFE:KSTAR Tokamak 7 October 2024
Kim, Kyungjin	Coupled core, edge pedestal and SOL modeling in super H-mode experiments on DIII-D	ZO06: MFE:Negative Triangularity and ELM-Free regimes 11 October 2024
Kostadinova, Eva	Mechanisms for electron trapping and acceleration in magnetic islands from lab to space	JO05: Space Plasmas 8 October 2024
Kostuk, Mark	Progress Towards a Predictive DIII-D Digital Twin with Neutral Beam Heat-Load and As-built Geometry	BM11: Mini-Conference: Digital Twins for Fusion Research I 7 October 2024
Kramer, Gerrit	Full orbit calculations show that the negative triangularity and H-mode plasma edge are equivalent	ZO06: MFE:Negative Triangularity and ELM-Free regimes 11 October 2024
Leppink, Evan	Simulation-Based Inference of High Field Side Scrape-Off Layer Filament Characteristics using Profile Reflectometry	TO07: Joint ICF&MFE: Machine Learning and Data Science Technologies 10 October 2024

Meneghini, Orso	FUSE: digital twin for tokamak fusion power plant design and operations	BM11: Mini-Conference: Digital Twins for Fusion Research I 7 October 2024
Pajares Martinez, Andres	Integrated magnetic control to facilitate H-mode access and high performance in NSTX-U	BO05: MFE:Low Aspect Ratio Tokamaks 7 October 2024
Perez, Elizabeth	Gyrokinetic simulations of edge turbulence during NBI-only and NBI+ECRH plasmas	JO06: MFE:Turbulence and Transport 8 October 2024
Poulos, Matthew	Validating a model based on interchange-drift-Alfvén turbulence for LH and HL transitions in DIII-D	NO06: MFE:Pedestal and Edge Physics 9 October 2024
Rakers, Kole	Wisconsin In Situ Penning (WISP) gauge at DIII-D; installed, commissioned, and first experiments	PO05: MFE:Technology 9 October 2024
Rudakov, Dmitry	Recent DiMES PMI research in the DIII-D tokamak	PO06: MFE:Plasma Material Interfaces 9 October 2024
Sizyuk, Tatyana	Modeling and predictions of the effects of plasma characteristics on D-supersaturation induced defects formation in tungsten-based materials	PO06: MFE:Plasma Material Interfaces 9 October 2024
Stagner, Luke	Bayesian Integrated Data Analysis of ITER Magnetic Equilibrium and Kinetic Profiles	UO06: MFE:Research in Support of ITER 10 October 2024
Sun, Xuan	Impact of Various DIII-D Diagnostics on the Accuracy of Neural Network Surrogates for Kinetic EFIT Reconstructions	CO05: MFE:Divertor, Scrape-off Layer, and Disruption 7 October 2024
Thome, Kathreen	Current and Future Research on Negative Triangularity on the DIII-D Tokamak	ZO06: MFE:Negative Triangularity and ELM-Free regimes 11 October 2024
Yang, Jeong-hun (James)	Measurement of small island characteristics using high resolution ECE and CER at DIII-D	CO06: MFE:Stellarators, Helical Systems, and 3D Effects 7 October 2024

## Poster Presentations

Presenter	Title
Abrams, Tyler	The DIII-D Wall Change-Out Project
Buttery, Richard	DIII-D to Close Critical Gaps to Fusion Energy
Petty, Craig	Upgrading DIII-D to Close the Gaps to Future Fusion Reactors
McKee, George	The Role and Impacts of Isotope Mass on Burning Plasma Performance from DIII-D Similarity Experiments
Yan, Zheng	Turbulence and flow dynamics approaching the density limit in L-mode plasmas at DIII-D
Chen, Jie	Measurements of fluctuations link to low rotation plasmas in the DIII-D tokamak
Khabanov, Filipp	Density Fluctuation Statistics and Turbulence Spreading Dynamics at the Edge-SOL Interface on DIII-D
Pratt, Quinn	Advancements in full-wave synthetic diagnostic modeling of Doppler back-scattering
Gage, Kenneth	Radial Propagation of Turbulence Signals in DIII-D
Houshmandyar, Saeid	Gyrokinetic simulations of high-performance wide pedestal quiescent H-mode at DIII-D
Callahan, Kyle	Isotopic radial electric field at the DIII-D tokamak
Carter, Blake	Investigating core transport and confinement discrepancies between two high density H-mode DIII-D discharges
Loughran, Jarred	Comparing Particle Transport Modulation Study Methodology
Macwan, Tanmay Martinbhai	Full wave modeling of the cross-polarization scattering diagnostics for NSTX-U tokamak
Zimmermann, Carl	Momentum transport studies in ITER-relevant turbulence regimes on ASDEX Upgrade and DIII-D
Heidbrink, William	Experimental studies of the interaction between fast ions, Alfvén eigenmodes, microturbulence, and zonal flows in the DIII-D tokamak
Eskew, Jessica	The Role of Island Bifurcation on Deconfinement of Energetic Electrons
Liu, Deyong	Validation of the Imaging Fast Ion D-Alpha Measurements in DIII-D with MHD quiescent and sawtooth plasmas
Yu, Guanying	The ECE radiation signature of runaway electrons in optically thick and optically thin plasmas

Andrew, Bradley	Using Nonextensive Statistics and Spectral Theory to Characterize Anomalous Diffusion in Fusion Plasmas
Bogar, Klara	Impact of Molecules on Edge Passive Fast-ion D-alpha Signals
Van Compernelle, Bart	GENRAY/CQL3D modeling for NSTX-U with combined NBI and HHFW
Squire, Jared	DIII-D Electron Cyclotron Heating and Current Drive Systems Status and Plans for Expansion to 10 Gyrotrons
Pagan, Ian*	Measuring power loss in DIII-D ECH waveguides with arrays of temperature sensors
Kallenberg, Evan	First Plasmas and Initial Characterization with the RISE and SupRISE Test Devices for the DIII-D Neutral Beam System Upgrade
Garcia, Alvin	Progress in Developing Spin-Polarized Fusion Fuels for Enhanced Reactor Performance
Rueda-Rueda, Jose	Development of orbit weight functions for INPA and FILD fast ion diagnostics
Serrano, Jesus	The Capability of the Ion Cyclotron Emission Diagnostic on Observing High-K waves in DIII-D
Cahaan, Justin	Neural Networks for Fast-Ion Velocity-Space Tomography Using Projected Velocities
Elendu, Chidubem	Optimizing Tikhonov Regularization in Fast-Ion Velocity-Space Tomography Through Neural Networks
Moradi, Keyan	Impact of Grid Discretization on Reconstruction Accuracy in Fast-Ion Velocity-Space Tomography
Baylor, Larry	Spin Polarized LiD and 3He injector development at ORNL for a SPF test on the DIII-D National Fusion Facility
Pinsker, Robert	Experimental study of coupling 476 MHz helicon power to DIII-D plasmas
Kim, Eun-Hwa	High-fidelity simulations of helicon wave coupling in DIII-D H-mode plasmas
Chowdhury, Satyajit	Spatial Distribution of Helicon Wave Amplitude Using Turbulence-induced Doppler Backscattering Measurements at DIII-D
Porkolab, Miklos	Parametric instabilities associated with helicon wave injection in DIII-D
Dupuy, Alex	High-Power Helicon System Upgrades and Repairs at DIII-D
Tang, Shawn X.	Conditioning Process of the Helicon Radiofrequency Traveling Wave Antenna
Rutherford, Grant	Predictions of HFS LHCD Absorption in DIII-D LH Commissioning Targets

Wukitch, Stephen	DIII-D High Field Side Lower Hybrid Current Drive Experiment Status
Demby, Aysia	Thermal Helium Beam Spectroscopy at the DIII-D Helicon Antenna
Austin, Max	Confinement and performance trends in DIII-D negative triangularity discharges
Hong, Rongjie	Interplay of Turbulence, MARFE Dynamics, and Density Limit in Negative Triangularity Plasmas on DIII-D
Burke, Marcus	Experimental and modeling studies of scrape-off-layer impurity velocity stagnation points in negative triangularity plasmas on DIII-D
Ku, Seung-Hoe	Gyrokinetic study of neoclassical and turbulence properties in negative triangularity edge
Ebrahimi, Fatima	Extended MHD studies of ELM-free negative-triangularity plasmas and the CETOP SciDAC-5 project
Wang, Guiding	Edge turbulence in DIII-D plasmas with strong negative triangularity shaping
Stewart, Samuel	Characterization of Turbulence in Negative Triangularity DIII-D Plasmas using Beam Emission Spectroscopy
Casali, Livia	Highly radiating plasmas in negative triangularity with reactor-relevant seeding gases
Wang, Wenhao	Comparison of global gyrokinetic simulations of turbulent transport in DIII-D tokamak with negative and positive triangularity
Nelson, Andrew (Oak)	Properties and Limits of the ELM-free Negative Triangularity Edge on DIII-D
Scotti, Filippo	Design of a new closed divertor for negative triangularity operation in DIII-D
Lore, Jeremy	Simulation of negative triangularity plasmas on DIII-D using SOLPS-ITER
Ma, Xinxing	SOLPS-ITER modeling of a new divertor for negative triangularity plasmas in DIII-D tokamak
Garofalo, Andrea	Requirements for Q=10 in ITER at IP < 15 MA, and relevant metrics for present-day tokamaks
Shi, Shengyu	Core tungsten effects and transport in DIII-D high poloidal beta (bp) scenario with the SAS-VW divertor
Xie, Ruifeng	Characterization of Startup Runaway Electrons in DIII-D Plasmas
DeGrandchamp, Genevieve	Pursuit of high performance, small ELM, high-qmin plasmas with stronger shaping
Victor, Brian	DIII-D high beta hybrid with high frequency ELMs

Hanson, Jeremy	Simulating feedback-controlled error field correction
Brown, Ashton	The role of fast ion redistribution leading to loss of differential rotation and concomitant onset of disruptive $m/n=2/1$ s
Jiang, Yanzheng	Error field measurement with rotating RMP field
Myers, Rachel	Nonlinear Coupling of Core Tearing Modes and Edge Density Fluctuations in QH-Mode Plasmas in DIII-D
Richner, Nathan	Initial Modelling of a Novel Actuator for the Entrainment of Fast MHD Modes by Slow 3D Field Coils
Benedett, Thomas	Exploring trends in Faraday-effect polarimetric measurements of the DIII-D tokamak core magnetic fields for future diagnostic and control applications
Ford, Brent	Multi-Modal analysis of linear MHD response to resonant magnetic perturbations in DIII-D plasmas
Abbate, Joseph	Combining physics-based simulations and machine learning to predict and control tokamak profile evolution
Shabbir, Khadija	A Neural Network Version of the Multi-Mode Model for Fast Simulations in DIII-D
Farre-Kaga, Hiro-Josep	Machine learning control of DIII-D profiles using a linear profile predictor
Rothstein, Andrew	Preemptive tearing mode suppression using real-time ECH steering machine learning stability predictions on DIII-D
Marchioni, Stefano	Vertical instability studies and novel real-time metrics applications for proximity controller development's in the TCV and DIII-D tokamaks
AlKhawaldeh, Hassan	Advanced Density Regulation for ITER-emulated Scenarios on DIII-D via Adaptive Control Techniques
Clark, Randall	NSFsim Validation as a DIII-D Plasma Equilibrium Simulator
Ribeiro, Celso	Radial Magnetic Compression of DIII-D Plasmas
Hollmann, Eric	Research at DIII-D toward understanding wall damage from post-disruption low-Z and high-Z runaway electron wall impact
Bodner, Grant	Summary of dispersive shell pellet injection experiments on DIII-D
Pandya, Mihir	Characterizing bursty magnetic fluctuations in long-lived post-disruption runaway electron beams on DIII-D using internal measurements
Shekhanov, Sviatoslav	Modeling of ECE time decay following low-Z RE plateau final loss instability in DIII-D
Xia, Jamie	Advanced Reconstruction of Plasma and Vessel Current Distributions During Disruptions
Chrystal, Colin	Real-time Charge Exchange Recombination Spectroscopy at DIII-D

Angulo, Adrianna	Accelerated Main-Ion Charge Exchange Recombination analysis leveraging Machine Learning
Curie, Max	Generative Adversarial Networks (GANs) for Identification and Reconstruction of Cut-off Regions in Electron Cyclotron Emission (ECE) Measurements
Steiner, Peter	Evaluating Neural Network Architectures and Signal Processing Techniques for Diagnostic Reconstruction in DIII-D
Khavin, Vasilii	Development of ECE-I and ECE synthetic diagnostics in NIMROD
Truong, Dinh	Core Impurity Spectroscopy in a Complex Mixed-Species Environment
Thomas, Dan	Insights from the DIII-D Small Angle Slot Divertor Program: Experiment-Modeling Comparisons and Conundrums
Holm, Andreas	Impact of solving a separate atom energy equation in UEDGE on predictions of a dissipation-focused divertor in DIII-D
Leonard, Anthony	Constraints on divertor heat flux width at high power and plasma density in DIII-D H-mode plasmas
Yu, Jonathan	Simulations of a DIII-D dissipative divertor design using mid-leg particle pumping to enhance divertor neutral compression
Hood, Ryan	Sandia National Laboratories Boundary Physics Research at DIII-D
Wingen, Andreas	Development and validation of non-axisymmetric heat flux simulations with 3D fields using the HEAT code
Navarro, Marcos	Onset of Detachment in the DIII-D Closed Divertor for an $n = 3$ Resonant Magnetic Perturbation
Traverso, Peter	Scrape-off layer power fall-off length broadening in small ELM regimes on DIII-D
Peret, Mathieu	Predictive turbulence-driven flux model of scrape-off layer widths across confinement regimes in tokamaks
Boedo, Jose	Turbulence-driven Transport and Spreading at the Edge of DIII-D L- and H-mode Plasmas
Haskey, Shaun	Constraining Neutral Transport Models using Measurements Based on Charge Exchange Neutral Spectroscopy
Major, Maximillian	Microtearing Mode Characterization with Charge eXchange Imaging on the DIII-D Tokamak
Knolker, Matthias	EPED Model Validation and Progress in High Pedestal Explorations with ELM control using the Super H-mode
Mattes, Ray	Experiments and Modeling on the Influence of Main Ion Mass in the Pedestal and Scrape Off Layer of DIII-D
Leuthold, Nils	RMP ELM Control in Dimensional and Dimensionless Matched Hydrogen Plasmas
Hager, Robert	Global total-f gyrokinetic study of turbulence before and during RMP ELM-suppression in DIII-D
Lunia, Priyansh	Compatibility of RMP ELM Suppression with Double-Null Configurations

Fleishhacker, Jeremy	Characterization of Operational Phase Space and Pedestal Structure of Quiescent and ELMing H-modes in DIII-D
Dominguez Palacios, Jesus	Modeling of QH-mode DIII-D plasmas with an extended MHD code
Wilcox, Robert	Design and initial measurements from the Shape and Volume Rise Divertor in DIII-D
Maan, Anurag	Impact of 3D error fields on toroidal asymmetries and consequent erosion, deposition patterns on the divertor in DIII-D
Ronchi, Gilson	A synthetic diagnostic framework for measuring the detachment front in a close divertor slot on DIII-D
Kapat, Aveek	Turbulent particle and energy fluxes to the first wall in DIII-D L-mode plasmas
Ren, Jun	Physical Requirements and Implementation of SETC for Heat Flux Measurement in the Shape and Volume Rise Divertor of DIII-D
McLean, Adam	Core impurity spectroscopy in a complex mixed-species environment
Yadav, Nandini	Investigation of high-n Balmer lines and D2-Fulcher band during high-recycling DIII-D plasma
Fu, Yichen	Statistical inference of anomalous thermal transport with uncertainty quantification in the plasma boundary
Lee, Seungsup	First Look at Plasma Operation Data from 2D Fiber Optic Bolometer Array
Losada Rodriguez, Ulises	Ultraviolet measurements of tungsten gross-erosion and re-deposition rates during ELMs in the DIII-D tokamak
Loch, Stuart	Atomic data and UV spectroscopy of low charge states of W for use in Plasma Facing Component studies
White, Andrew	Atomic calculations, including S/XB values, and comparison to experiment for Si <sup>+</sup> and W <sup>2+</sup> erosion diagnostics
Cacheris, Alec	The Effect of Recycling C Ion Impact Energy and Angle on C/W Material Mixing and Intra-ELM W Erosion Predictions on the Small Angle Slot Divertor at DIII-D
Bergstrom, Zachary	Solution-Strengthened Nb-Based Alloys for Metal Foil Pumps Implemented for Direct Internal Recycling
Sinclair, Gregory	Suppression of high-Z leakage from closed slot divertor via precise tailoring of scrape-off layer forces
Zhao, Bingzhe	New Retarding Field Energy Analyzer for Ion Temperature and Energy Distribution Measurements at the DIII-D Lower Divertor
Hayes, Alyssa	Effect on OSP location and BxgradB drift direction on W erosion and migration in the DIII-D SAS-VW divertor using GITR and optical spectroscopy
Mehta, Christopher	Formation of Ammonia through Meteoritic Atmospheric Shock
Blandon, Gabrielle	Experimental investigation of sputtering, onset of sublimation, and spallation threshold in carbonaceous materials
Nere, Rachel*	Surface erosion models for liquid lithium inside the DIII-D tokamak

Bortolon, Alessandro	Cross-machine assessment of real-time boronization by solid boron injection
Ialovega, Mykola	Cold Spray Deposition and Additive Manufacturing of Fusion First Wall Materials
Spence, Zola	Experimental validation of graphite mass loss equations in high heat plasma conditions
Abe, Shota	Deuterium retention/removal investigations onto boron coatings for ITER using DIII-D and laboratory facilities
Coburn, Jonathan	Advancing Plasma-Facing Materials for Fusion Pilot Plants at DIII-D
Wilks, Theresa	Strategies for reaching high density and opacity conditions leveraging the Shape and Volume Rise divertor on DIII-D
Wang, Huiqian	Integration of X-Point Radiator Divertor Operation with High Beta Core Plasmas in DIII-D
Chen, Nathaniel	Real-Time Machine-Learning Enabled Emission Front Control at DIII-D
Welsh, Austin	SICAS, a new code featuring SOLPS-ITER coupled to ASTRA-STRAHL for integrated plasma transport modeling
Marshall, Ivan	Core to Edge Tokamak Impurity Transport Modeling Using Surrogate-Based Optimization
Laggner, Florian	Overview: RF ICP Ion Source Developments for the DIII-D NBI System
Ammons, Keanu	Design & Characterization of the RF Matching Network for the LUPIN Ion Source
Davda, Kirtan	Development of AMAROK: A prototype RF ICP source for the DIII-D NBI system
Mazzeo, Arthur	Development and Testing of LUPIN: A High-Density RF Ion Source for Enhanced NBI on DIII-D
Valadez, Dennise*	Modeling and Designing Modifications to the DIII-D NBI System to Minimize Beam Reionization
Shah, Miral	Impact of Faraday Shield on RF Inductive Coupling in the LUPIN Ion Source
Smith, Sterling	Accelerating DIII-D Analyses with the Integrated Research Infrastructure
Sammuli, Brian	Enhancing fusion AI/ML research with the Fusion Data Platform
Neiser, Tom	Large database validation of TGLF on DIII-D and MAST-U plasmas
Gupta, Anchal	Multi-input multi-output model predictive heat flux controller based on a time-dependent scrape-off layer simulation
Boyes, William	Simulation of KSTAR ITER scenarios with the RAPTOR code

Morosohk, Shira	Improvements to Shape Control Using Real-Time Optimization of Feedforward Coil Current Trajectories
Binks, Ashton**	Simulation of discharge initiation with runaway electrons in DIII-D
Desai, Shivam**	An Investigation of the Damping Rate of Helicon Waves on Energetic Ions
Edwardson, Carter**	Extended 0D Systems Code for Plasma Performance Predictions
Guizzo, Sophia**	Maximizing plasma confinement via shape optimization
King, Liam**	Faraday Grid Slot Optimization for Enhanced Coupling Efficiency in ICP RF Ion Sources
Krogen, Kate**	Understanding the Role of Equilibrium Uncertainty in Physics Assessments on DIII-D
Lyons, Sean**	Filtering Low-Frequency Pickup in LLAMA Diagnostic
Neill, Emily**	Investigation of Instabilities During Nonstandard Sawtooth Periods in the DIII-D Tokamak
Prince, Mark**	Expansion of EPED-NN database for DIII-D RMP ELM suppressed discharges
Schraufnagel, Kassia**	Analyzing the effects of magnetic shear and the safety factor on the sheared boundary conditions in a gyrokinetic code
Towle, Joseph**	Develop advanced calibration techniques for the LLAMA diagnostic to measure fueling properties of fusion plasmas on DIII-D
Trifoglio, Michael**	Incorporating refractometry measurements of local slope into plasma boundary reconstruction
Yanna, Kaitlyn**	Photonic waveguide investigation for development of fusion applications

Poster presentation session information can be found in the [APS-DPP Scientific Program](#)

**\*GEM Graduate Student Fellowship**

**\*\* SULI/CCI Undergraduate Student Intern**