

## Sunday, 5 May 2024

1:00 pm – 8:00 pm

5:30 pm – 8:30 pm

On-Site Registration (Location: Atrium)

Sherwood Reception (Location: Atrium)

## Monday, 6 May 2024

8:15 am – 8:30 am

*Welcome and Announcements*

### Invited Session 1

8:30 am – 9:00 am

Steven Sabbagh  
(Columbia/PPPL)

**Chair: Scott Parker (Colorado)**  
High Accuracy Physics-Based Tokamak  
Disruption Event Characterization and  
Forecasting with First Real-Time  
Application

9:00 am – 9:30 am

Hank Strauss (HRS  
Fusion)

Preventing RWTM Disruptions with  
Feedback

9:30 am – 10:00 am

Elena Belova (PPPL)

Effects of global Alfvén eigenmodes on  
the beam ions in NSTX-U

10:00 am – 10:30 am

*Coffee Break*

(Location: Atrium)

### Invited Session 2

10:30 am – 11:00 am

Timothy Stolfus-  
Dueck (PPPL)

**Chair: Chang Liu (PPPL)**  
Self-consistent orbit-flux drive for  
electric field and toroidal rotation  
Extended-MHD simulations of  
disruption mitigation via massive gas  
injection in SPARC

11:00 am – 11:30 am

Andreas Kleiner  
(PPPL)

11:30 am – 12:00 pm

Rinkle Juneja (ORNL)

Machine learning informed multi-scale  
fracture modeling in tungsten plasma-  
facing materials

12:00 pm – 1:30 pm

*Lunch Break*

1:30 pm – 3:30 pm

Poster Session 1

(Location: Atrium)

3:30 pm – 4:00 pm

*Beer Break*

(Location: Atrium)

4:00 pm – 6:00 pm

Poster Session 2

(Location: Atrium)

## Tuesday, 7 May 2024

### Invited Session 3

**Chair: Ben Zhu (LLNL)**

8:30 am – 9:00 am	Xin Zhang (Tokamak Energy)	Core-Edge Integrated Predictive Studies of ST40 Plasmas in Preparation for Compact Fusion Pilot Plant Design
9:00 am – 9:30 am	David Hatch (Texas)	Enhancing fusion performance by control of edge density and temperature: a novel approach to core edge integration
9:30 am – 10:00 am	Haley Wilson (Columbia)	Using integrated modeling to explore the core operational space around a reactor-class negative triangularity tokamak
10:00 am – 10:30 am	<i>Coffee Break</i>	(Location: Atrium)
<b>Invited Session 4</b>		<b>Chair: Adelle Wright (Wisconsin)</b>
10:30 am – 11:00 am	Georgia Acton (Oxford)	Optimisation of Gyrokinetic Microstability Using Adjoint Methods
11:00 am – 11:30 am	Joseph Duff (Wisconsin)	Suppressing Trapped-Electron-Mode-Driven Turbulence in Quasisymmetric Equilibria via Optimization
11:30 am – 12:00 pm	Rahul Gaur (Princeton)	Novel Stellarator Design using the DESC Optimization Suite
12:00 pm – 1:30 pm	<i>Lunch Break</i>	
<b>Invited Session 5</b>		<b>Chair: Cami Collins (ORNL)</b>
1:30 pm – 2:00 pm	Orso Meneghini (GA)	The FUSE framework and its use for fusion power plant design optimization
2:00 pm – 2:30 pm	Kyungijn Kim (ORNL)	Coupled core, edge pedestal and SOL modeling in super H-mode experiments on DIII-D towards self-consistent simulation
2:30 pm – 3:30 pm	Panel Discussion	Integrated Modeling
3:30 pm – 4:00 pm	<i>Beer Break</i>	
4:00 pm – 6:00 pm	Poster Session 3	(Location: Atrium)
7:00 pm – 8:30 pm	<i>Dinner</i>	(Location: Atrium)

**Wednesday, 8 May 2024**

**Invited Session 6**

8:30 am – 9:00 am	Alexandre Sainternie (Wisconsin)	<b>Chair: Eric Howell (Tech-X)</b> Resistive Hose Modes in Tokamak Runaway Electron Beams
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9:00 am – 9:30 am	Chang Liu (PPPL)	Nonlinear Simulation of Alfvénmodes in Tokamak Disruptions and Impact on Runaway Electron Transport
9:30 am – 10:00 am	Chris McDevitt (Florida)	Physics constrained deep learning of runaway electron generation in tokamak plasmas
10:00 am – 10:30 am	<i>Coffee Break</i>	(Location: Atrium)
<b>Invited Session 7</b>		<b>Chair: Jacobo Varela-Rodriguez (Texas)</b>
10:30 am – 11:00 am	Ilon Joseph (LLNL)	On Electric and Thermodynamic Polarization of Magnetically Confined Plasmas
11:00 am – 11:30 am	Brad Shadwick (Nebraska)	Gauge Invariance
11:30 am – 12:00 pm	Stefan Tirkas (Colorado)	A Subgrid Model for Electron-Scale Turbulence in Global Ion-Scale Gyrokinetic Simulations
12:00 pm – 1:30 pm	<i>Lunch Break</i>	
<b>Invited Session 8</b>		<b>Chair: Andrew Ware (Montana)</b>
1:30 pm – 2:00 pm	Diego Del-Castillo-Negrete (ORNL)	A generative artificial intelligence surrogate model of plasma turbulence
2:00 pm – 2:30 pm	Richard Nies (Princeton/PPPL)	Turbulence saturation by propagating zonal flows
2:30 pm – 3:00 pm	Mark Cianciosa (ORNL)	Verification of 3D Free boundary equilibrium calculations
3:00 pm – 3:30 pm	Nikita Nikulsin (Princeton)	High-beta Grad-Shafranov model for quasisymmetric stellarators