

**Collaborative Fusion Energy Research in the DIII-D National Program
DE-FOA-0001762**

| Principal Investigator | Institution | Project Title |
|-------------------------------|---|--|
| Austin, Jr., Max | The University of Texas at Austin, Austin, TX, 78759-5316 | DIII-D Collaboration: Contributions to Transport Studies and Electron Temperature Measurements in DIII-D Experiments |
| Brower, David | Regents of the University of California, Los Angeles, Los Angeles, CA, 90095-1406 | Determining the role of nonlinear MHD in disrupting and hybrid-mode DIII-D tokamak plasmas |
| Chapman, Brett | Board of Regents of the University of Wisconsin System, Madison, WI, 53715-1218 | Determining the role of nonlinear MHD in disrupting and hybrid-mode DIII-D tokamak plasmas |
| King, Jacob | Tech-X Corporation, Boulder, CO, 80303-1379 | Computational exploration of DIII-D QH-mode with extended MHD |
| McKee, George | Board of Regents of the University of Wisconsin System, Madison, WI, 53715-1218 | Fluctuation Diagnostics Development and Plasma Instability Research in Advanced Tokamak Plasmas on the DIII-D Tokamak |
| Meier, Eric | University of Washington, Seattle, WA, 98195-9472 | SOLPS-ITER modeling of drift effects in DIII-D double-null AT configurations |
| Mordijck, Saskia | The College of William and Mary, Williamsburg, VA, 23187-8795 | Core-Edge integration of particle transport for burning plasma conditions on DII-D |
| Rhodes, Terry | Regents of the University of California, Los Angeles, Los Angeles, CA, 90095-1406 | Multi-field and multi-scale turbulence measurements and validation of predictive turbulence simulations in Advanced Tokamak DIII-D Plasmas |

**Collaborative Research on International and Domestic Spherical Tokamaks
DE-FOA-0001784**

| Principal Investigator | Institution | Project Title |
|-------------------------------|--|---|
| Anderson, Jay | Board of Regents of the University of Wisconsin System, Madison, WI, 53706-1390 | Neutral Beam Injection and Auxiliary rf Heating Support in LTX- β |
| Crocker, Neal | The Regents of the University of California Los Angeles, Los Angeles, CA, 90095-7099 | Advancing the physics basis for prediction and control of spherical tokamaks via experimental investigation of energetic ion driven instabilities and validation of simulations |
| Fonck, Raymond | Board of Regents of the University of Wisconsin System, Madison, WI, 53706-1609 | An Integrated Study of Non-Solenoidal Startup for Spherical and Advanced Tokamaks |
| Hansen, Christopher | University of Washington, Seattle, Washington, 98195-2250 | Reconstruction of plasma equilibrium and eddy current induced error fields in the Lithium Tokamak eXperiment- beta |

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| Heidbrink, William | The Regents of the University of California, Irvine, Irvine, CA, 92697-7600 | Fast-ion Diagnostics and Physics at MAST-Upgrade |
| Koel, Bruce | The Trustees of Princeton University, Princeton, NJ, 08544-0036 | Erosion, re-deposition, and recycling of Li PFCs in LTX- β |
| Leonard, Anthony | General Atomics, San Diego, CA, 92121-1122 | Divertor Physics and Control on the MAST-U Tokamak |
| Liu, Yueqiang | General Atomics, San Diego, CA, 91212-1122 | 3D Response and Control on the MAST-U Spherical Tokamak |
| Mahajan, Swadesh | The University of Texas at Austin, Austin, TX, 78712-1532 | Collaborating with MAST-U in exploring Divertor and Pedestal Physics |
| Myra, James | Lodestar Research Corporation, Boulder, CO, 80301-2843 | Scrape-off layer stability, turbulence and transport in MAST-U |
| Osborne, Thomas | General Atomics, San Diego, CA, 91212-1122 | H-mode Pedestal, Integrated Modeling, and Model Validation on the MAST-U Tokamak |
| Raman, Roger | University of Washington, Seattle, Washington, 98195-2400 | Optimization of Coaxial Helicity Injection to enable high-current start-up in Solenoid-less STs |
| Rhodes, Terry | The Regents of the University of California Los Angeles, Los Angeles, CA, 90095-1406 | Turbulence and transport science on MAST-U: Magnetic and density turbulence, turbulence flow, GAMs, and zonal flows |
| Sabbagh, Steven | The Trustees of Columbia University in the City of New York, New York, NY, 10027-7922 | Stability Research for Disruption Prediction and Avoidance in MAST-U Spherical Tokamak Plasmas |
| Zakharov, Leonid | LiFusion, Princeton, NJ, 08540-4366 | Confinement, Plasma Boundary, and Equilibrium Reconstruction in LTX-beta in Presence of NBI |

Collaborative Research in Magnetic Fusion Energy Sciences on Long-Pulse International Stellarator Facilities
DE-FOA-0001811

| Principal Investigator | Institution | Project Title |
|-------------------------------|--|--|
| Demers, Diane | Xantho Technologies LLC; Madison, WI | An Ion Beam Probe to Advance Understanding of Electric Fields and Turbulence in the Wendelstein 7-X Stellarator |
| Maurer, David | Auburn University; Auburn, AL | Three-Dimensional Equilibrium and Stability and its Impact on Edge Transport and Divertor Performance in Wendelstein 7-X |
| Porkolab, Miklos | Massachusetts Institute of Technology; Cambridge, MA | Phase Contrast Imaging for Wendelstein 7-X |
| Schmitz, Oliver | University of Wisconsin; Madison, WI | Three-Dimensional Equilibrium and Stability and its Impact on Edge Transport and Divertor Performance in Wendelstein 7-X |

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| Smith, David | University of Wisconsin; Madison, WI | A Feasibility Study for 2D Multi-Field Turbulence Measurements on Wendelstein 7-X with Fluctuation Beam Emission Spectroscopy |
| Terry, James | Massachusetts Institute of Technology; Cambridge, MA | Gas-Puff Imaging for Diagnosis of Boundary and Scrape-Off Layer Physics in Wendelstein 7-X |

Scientific Discovery through Advanced Computing: Runaway Electron Avoidance and Mitigation in Tokamak Plasmas

DE-FOA-0001844 / LAB 18-1844

| Principal Investigator | Institution | Project Title |
|-------------------------------|---|---|
| Adams, Mark | Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA 94720 | Simulation Center for Runaway Electron Avoidance and Mitigation |
| Bhattacharjee, Amitava | Princeton Plasma Physics Laboratory (PPPL), Princeton, NJ, 08543-0451 | Simulation Center for Runaway Electron Avoidance and Mitigation |
| Boozer, Allen | The Trustees of Columbia University in the City of New York, New York, NY, 10027-7922 | Simulation Center for Runaway Electron Avoidance and Mitigation |
| Breizman, Boris | The University of Texas at Austin, Austin, TX, 78712-0262 | Collaborative Research: Simulation Center for Runaway Electron Avoidance and Mitigation |
| Brennan, Dylan | The Trustees of Princeton University, Princeton, NJ, 08544-0036 | Simulation Center for Runaway Electron Avoidance and Mitigation |
| del-Castillo-Negrete, Diego | Oak Ridge National Laboratory (ORNL), Oak Ridge, TN, 37831-6169 | Simulation Center for Runaway Electron Avoidance and Mitigation |
| Lao, Lang | General Atomics, San Diego, CA, 92121-1122 | SciDAC Simulation Center for Runaway Electron Avoidance and Mitigation 2 (SCREAM 2) |
| Tang, Xianzhu | Los Alamos National Laboratory (LANL), Los Alamos, NM 87545 | Simulation Center for Runaway Electron Avoidance and Mitigation |