Project Title	Company Name	PI	Institution	Cycle
Development of a modeling toolbox for CORC® cable performance evaluation	Advanced Conductor Technologies	Danko van der Laan	LBNL	2019b
Divertor Component Testing	Commonwealth Fusion Systems	Dan Brunner	ORNL	2019b
Superconducting Cable Quench Detection	Commonwealth Fusion Systems	Brandon Sorbom	BNL	2019b
Alpha Particle Diagnostics Simulation	Commonwealth Fusion Systems	Steve Scott	PPPL	2019b
Divertor Plasma Simulations	Commonwealth Fusion Systems	Dan Brunner	LLNL	2019b
Development of a High-Current Solid-State Switch for Magneto-Inertial Fusion	HelicitySpace [RESCINDED]	Setthivoine You	PPPL	2019b
Simulation of Plectoneme Formation	HelicitySpace	Setthivoine You	LANL	2019b
3D MHD Simulations Support for PJMIF	HyperJet Fusion Corporation	Franklin Witherspoon	LANL	2019b
Simulations of Global Stability in the C-2W Device	TAE Technologies, Inc	Sean Dettrick	PPPL	2019b
Doppler-Free Saturation Spectroscopy (DFSS) for Magnetic and Electric Field Measurements in an FR	TAE Technologies, Inc.	Deepak Gupta	ORNL	2019b
Developing high harmonic fast wave (HHFW) as an enabling electron heating actuator for an FRC plas	TAE Technologies, Inc.	Xiaokang Yang	PPPL	2019b
Baselining a Tritium Accountancy and Safety Case for a Molten Salt Liquid Immersion Fusion Blanket	Commonwealth Fusion Systems	Brandon Sorbom	INL	2020a
Development of phased-array HHFW antenna and load-resilient matching network for the C-2W FRC	TAE Technologies, Inc.	Xiaokang Yang	ORNL	2020a
Low Temperature Testing of New Lower Cost Magnum-NX HTS Cable for Fusion	Solid Material Solutions	Alexander Otto	BNL	2020a
Conceptual design of a tritium pellet injector for the ST40 spherical tokamak	Tokamak Energy Inc	David Wilson	ORNL	2020a
SPARC 3D Field Physics and Support of the Non-Axisymmetric Coil Assessment	Commonwealth Fusion Systems	Alex Creely	PPPL	2020a
Advanced Manufacturing Workflows For Tokamak Internal Components	Commonwealth Fusion Systems	Brandon Sorbom	ORNL	2020a
Tungsten Engineered Feed Stock for PFCs	Gamma Alloys, Inc [RESCINDED]	Micah Peabody	ORNL	2020a
General Fusion - Advanced Stability Analysis for Magnetized Target Fusion	General Fusion Corp.	Aaron Frose	PPPL	2020a
Investigating microstability characteristics of next step tokamaks across a range of aspect ratios	Tokamak Energy, Inc	Steven McNamara	PPPL	2020a
Development of an RF Antenna to start-up and sustain a fusion plasma in a spherical tokamak	Tokamak Energy, Inc	Vladimir Shevchenko	ORNL	2020a
General Fusion – Ion Temperature Diagnostic Improvement	General Fusion Corp.	Akbar Rohollahi	ORNL	2020b
Time-Dependent Boundary Modeling to Inform Design of SPARC Diagnostic and Actuators	Commonwealth Fusion Systems	Alex Creely	ORNL	2020b
Magnetic Field Vector Measurements Using Doppler-Free Saturation Spectroscopy	Princeton Fusion Systems, LLC	Charles Swanson	PPPL	2020b
Measurement of Magnetic Field using Doppler-Free Saturation Spectroscopy (DFSS) in C-2W FRC plas	TAE Technologies, Inc.	Deepak Gupta	ORNL	2020b
Innovative Joints for High-Temperature Superconducting Tapes	Renaissance Americas, Inc.	Francesco Volpe	BNL	2020b
Staged Z-pinch modeling with HYDRA and CHICAGO codes	Magneto Inertial Fusion Technologies, Inc.	Hafaz Raman	LLNL	2020b
Feasibility Study of High-Flux FRC Formation via Spheromak Merging for C-2W Experiments	TAE Technologies, Inc.	Hiroshi Gota	PPPL	2020b
XGC1 predictions of Scrape of Layer width in present and future high field spherical tokamaks	Tokamak Energy, Inc.	Michele Romanelli	PPPL	2020b
Characterization and Qualification of JK2LB Alloy for Additive Manufacturing of Fusion Components	Type One Energy Group, Inc.	Randall Volberg	ORNL	2020b
Fabrication and characterization of transition metal hydrides for radiation shielding in tokamak devic	Tokamak Energy, Inc.	Thomas Davis	LANL	2020b
Performance Testing of Low-Resistance Demountable HTS Joints for Large Segmented Magnets	General Atomics	Zbigniew Piec	LBNL	2021a
Simulation of the Helicity Drive Magneto-Inertial Fusion Concept	HelicitySpace	Setthivoine You	LANL	2021a
Improving Plasma Control Capabilities in Magnetically-Confined Tokamak Systems with Transformer	Microsoft Corp.	Alexey Svyatkovskiy	PPPL	2021a
Extending Operational Boundaries in the Advanced FRC	TAE Technologies, Inc	Sean Dettrick	PPPL	2021a
Phase Diagram of Li-LiH,D,(T) Mixtures and Implications for Tritium Retention and Extraction	Renaissance Americas Inc.	Francesco Volpe	SRNL	2021a
Informing Layout and Performance Requirements for SPARC Massive Gas Injection	Commonwealth Fusion Systems	Matthew Reinke	PPPL	2021a
Active Redox Control of Molten Salts For Fusion Blankets	Commonwealth Fusion Systems	Brandon Sorbom	SRNL	2021a
X-ray Diagnostic for C-2W FRC Plasma	TAE Technologies, Inc.	Deepak Gupta	LANL	2021a
Neutron Ion Handshake for Fusion Materials	Commonwealth Fusion Systems	Brandon Sorbom	SNL	2021b
Magnetic Pumps for Molten Salt Fusion Devices	Commonwealth Fusion Systems	Brandon Sorbom	ORNL	2021b
High Heat Flux Exposure of PFC Candidate Fine-Grain Dispersion-Strengthened Tungsten Materials	Energy Driven Technologies, LLC.	Zachariah Koyn	ORNL	2021b
Mechanical Characterization of PFC Candidate Fine-Grain Dispersion-Strengthened Tungsten Materia	Energy Driven Technologies, LLC.	Zachariah Koyn	ORNL	2021b
In-Field Performance Testing of a Novel HTS CICC for Practical and Cost-Effective Fusion Magnet Syst	General Atomics	Zbigniew Piec	BNL	2021b
Thermonuclear fusion verification of Staged Z-pinch fusion on a 0.5 MA LTD pulsed power generator	Magneto-Inertial Fusion Technologies, Inc. (	Emil Ruskov	LLNL	2021b
Artificially intelligent optimization of alpha particle transport in stellarators	Renaissance Americas Inc.	Christopher Smiet	PPPL	2021b
Extension of MCNP® Mesh Based Weight Windows to Support Unstructured Mesh Topologies	Silver-Fir Software, Inc.	Eugeny Sosnovsky	LANL	2021b
Characterization of Turbulent Transport and Confinement in ARC with STEP and CGYRO	Commonwealth Fusion Systems	Alex Creely	University-UCSD	2022a
Machine learning assisted prediction of tungsten heavy alloy plasma facing component performance	Commonwealth Fusion Systems	Dina Yuryev	University-MIT	2022a
Assessing ELM mitigation by pellet triggering in SPARC low-collisionality discharges	Commonwealth Fusion Systems	Christopher Chrobak	ORNL	2022a
Agile design workflow for plasma-facing fusion components with coupled thermofluidic and structura	Commonwealth Fusion Systems	Caroline Sorensen	ORNL	2022a
Fuel Cycle and Tritium Plant Model for Fusion Pilot Plant	General Atomics	David Weisberg	SRNL	2022a
Tritium Fuel Cycle Modelling and Optimization to Enable Fusion Pilot Plant Development	General Fusion Corp.	Ryan Guerrero	SRNL	2022a
Beyond Neoclassical Closures for MHD Simulation of General Fusion Devices via Kinetic Monte Carlo	General Fusion Corp.	Colin McNally	ORNL	2022a
Observing Density Evolution During Merging of Plectonemic Taylor states	Helicity Space Corporation	Setthivoine You	University-Swarthmore	2022a
3D modeling of the Staged Z-pinch with the FLASH code	Magneto-Inertial Fusion Technologies, Inc.	Emil Ruskov	University-Rochester	2022a
Hard x-ray imaging and characterization of staged z-pinch plasmas in order to exclude ion beams as c	Magneto-Inertial Fusion Technologies, Inc	Hafiz Rahman	University-CalTech	2022a
Electron density profiles on PFRC with USPR	Princeton Fusion Systems, Inc.	Chris Galea	University-UCDavis	2022a
Evaluating RF antenna designs for PFRC plasma heating and sustainment	Princeton Fusion Systems, Inc.	Michael Paluszek	PPPL	2022a
Stabilizing PFRC plasmas against macroscopic low-frequency modes	Princeton Fusion Systems, Inc.	Stephanie Thomas	PPPL	2022a
Performance-structure characterization to improve REBCO Fusion conductor production at SuperPow	SuperPower Inc	Yifei Zhang	University-FSU	2022a
Development of a High-Flux Inductive Spheromak Gun for FRC Formation via Counter-Helicity Mergin	TAE Technologies, Inc.	Hiroshi Gota	PPPL	2022a
THz Radiation Generation to Enable Internal Magnetic Field Measurement of Burning Plasmas	TAE Technologies, Inc.	Ales Necas	University-Rochester	2022a
FLARED -- Flowing Lithium's Adsorption and Release Experiment for Deuterium	Tokamak Energy, Inc.	Mark Koepke	University-UIUC	2022a
Simulation of Direct-Drive Hybrid Using Two Opposed Beams for Inertial Fusion Energy	VWG Inc. dba Xcimer Energy	Conner Galloway	University-Rochester	2022a
A modern neutronics-modeling uncertainty methodology towards a future fusion neutronics handbo	Commonwealth Fusion Systems	Corinne Mitchell	ORNL	2022b
Oxide Dispersion Strengthened Ferritic Steel Wire Feedstock Development for Large-Format Additive	Commonwealth Fusion Systems	Cody Dennett	PNNL	2022b
Retention of Fusion Plasma Species in PFC Candidate Fine-Grain Dispersion-Strengthened Tungsten M	Energy Driven Technologies LLC	Zachariah Koyn	SNL	2022b
Simulation study for risk assessment of laser-plasma instabilities in proton fast ignition	Focused Energy Inc.	Pravesh Patel	LANL	2022b
Model validation of low-density foams wetted with liquid deuterium and tritium for inertial fusion ta	Focused Energy Inc.	Leonard Jarrott	LLNL	2022b
Machine learning-accelerated predictions of power and particle exhaust in a fusion pilot plant	General Atomics	Jonathan Yu	LLNL	2022b
Determining fast particle behavior in a reactor-relevant Quasi-Axisymmetric stellarator equilibrium	Princeton Stellarators, Inc	Charles Swanson	PPPL	2022b
Stellarator evolution modelling	Princeton Stellarators, Inc.	Mike Martin	PPPL	2022b
Evaluation of the effect of coolant purity on the corrosion resistance of Castable Nanostructured Allo	Tokamak Energy, Inc.	Naomi Mburu	ORNL	2022b
High-temperature superconducting CORC® conductors for stellarator magnet applications	Type One Energy Group Inc.	Paul Harris	LBNL	2022b
Development of Tritium Sensors for Enabling Low-Carbon Technologies for FUSION (DETECT – FUSION	Baker Hughes	Christopher Freeman	University-Penn State	2023
A low AC loss, fast ramp HTS solenoid prototype for compact Spherical Tokamak	Bruker OST	Yibing Huang	PPPL	2023
Electrochemical Evaluation of Hydrogen Concentration and Diffusivity in FLiBe	Commonwealth Fusion Systems	Caroline Sorensen	University-UC Berkeley	2023
Deuterium retention in boron dust	Commonwealth Fusion Systems	Adam Kuang	PPPL	2023
Informing ARC divertor design and plasma facing material selection through integrated modeling	Commonwealth Fusion Systems	Lauren Garrison	University-UCLA	2023
Design of proton diagnostics operating at high repetition rate to advance proton fast ignition	Focused Energy Inc.	Andrea Hannasch	PPPL	2023
Opportunities for Fusion Coil System in a Compact Spherical Tokamak using Low Cost, High Field Sup	Gauss Fusion Inc.	Lawrence Masur	PPPL	2023
Design and simulation of innovative p-11B targets for IFE	HB11 Energy USA LLC	Thomas Mehlhorn	University-Rochester	2023
Nonlinear kinetic simulation study of non-equilibrium and merging FRCs	Helion Energy	Anthony Pancotti	PPPL	2023
A Multiphysics Simulation of Magnetohydrodynamic Li-Pb Flow in a Blanket Module with SiCf/SiC as	Kyoto Fusioneering America Ltd.	Bibake Uppal	PPPL	2023
Evaluating Lithium-Lead Mixtures for Increased Tritium Breeding in Fusion Energy Blanket Systems: E	Kyoto Fusioneering America Ltd.	Chris Dorn	ORNL	2023
Evaluating Lithium Compatibility for Electrode Materials Used in an Electrolysis-Based Tritium Extract	Kyoto Fusioneering America Ltd.	Chris Dorn	SRNL	2023
Developing a renewable first wall with boron pebbles	Princeton Stellarators, Inc.	Santhosh Kumar	University-UCSD	2023
ORNL Portable Diagnostic Package for Evaluating Mirror Performance	Realta Fusion	Kieran Furlong	ORNL	2023
Efficient Tritium Extraction from Liquid Lithium	Stellarex, Inc.	Michael Zarnstorff	SRNL	2023
Integrated kinetic modeling of a biased expander using Aleph code	TAE Technologies	Ales Necas	SNL	2023
In-situ measurements of hydrogen-titanium plasma-material interactions for model validation	TAE Technologies	Jon Drobny	University-UIUC	2023
Post irradiation examination of nickel doped fusion steels irradiated in the High Flux Isotope Reactor	Tokamak Energy Inc	Mark Koepke	ORNL	2023