Poster List for National Science Foundation, Annual Site Visit
Tallahassee, FL on June 2, 2016

System Demonstration Posters

S.No	Title of the Poster	Authors Name	Thrust Area	Sub-Thust Area	Poster No.
1	Implementation of Droop Control in LSSS for Islanding Applications	Phani Marthi, Dr. Mariesa L.Crow	System Demonstration	Large Scale System Simulation	Y8.LSSS.2
2	Verification of Wireless Pilot Differential Protection operation using RTDS simulation	George G Karady PI, Qiushi Wang, Zhenmin Tang	System Demonstration	Large Scale System Simulation	Y8.LSSS.3
3	Automated Analysis of Control Algorithms Using the HIL Testbed	Sindhuja Sundararajan,Mark Stanovich, Harsha Ravindra, Isaac Leonard, Mike Sloderbeck, Michael Steurer	System Demonstration	Hardware In Loop	Y8.HIL.1
4	Real Time Networking with ECN and Security for DGIs	Jonathan Ng, Ming Yu	Enabling Technology	Hardware In Loop	Y8.HIL.2
5	Decentralized Volt/Var Optimization on HIL Testbed	Yue Shi, Mesut Baran	System Demonstration	Hardware In Loop	Y8.HIL.3
6	Cooperative Distributed Energy Scheduling (CoDES) for FREEDM System	Yuan Zhang, Mo-Yuen Chow	System Demonstration	Hardware In Loop	Y8.HIL.4
7	SST as an Energy Router: Frequency Based Real Time Pricing and Energy Dispatch	Sarah Hambridge, Alex Q. Huang, Ning Lu	System Demonstration	Green Energy Hub	Y8.GEH1.2
8	Autonomous Control of FREEDM System: From SST to Solid State Synchronous Machine	Dong Chen, Yizhe Xu, Alex Q. Huang	System Demonstration	Green Energy Hub	Y8.GEH1.2
9	GEH Test Bed Enhancements for Commercial Home Energy Management Projects and GEH Industry	Jiahong Yan, Xiangqi Zhu, Ning Lu, David Lubkeman	System Demonstration	Green Energy Hub	Y8.GEH1.4
10	Seamless Black Start Strategy for SST based Microgrid System	Yonghwan Cho, Richard Byron Beddingfield, Subhashish Bhattacharya	System Demonstration	Green Energy Hub	Y8.GEH1.5
11	System Cost Benefit Analysis - Tradeoff Analysis by an Innovative Probabilisitic Method	G. Heydt, A. Dinakar	System Demonstration	Cost Benefit Analysis	Y8.GEH2.1
12	FREEDM System Deployment Scenarios	Dr. Mesut Baran, Shashwat Singh	System Demonstration	Cost Benefit Analysis	Y8.GEH2.2
13	FREEDM Cost Benefit Analysis based on Detailed Utility Circuit Models	Lisha Sun, Daixi Li	System Demonstration	Cost Benefit Analysis	Y8.GEH2.3
14	Use of Utility Scale Energy Storage in a FREEDM System	Fanjing Guo	System Demonstration	Cost Benefit Analysis	Y8.GEH2.4
15	System Level Cost Benefit Analysis	Jeff Thomas, Joe DeCarolis, Anderson Rodrigo de Queiroz	System Demonstration	Cost Benefit Analysis	Y8.GEH2.4
16	The Business of Distributed Energy	Rafael Estevez Carl Kerchmar Stephanie White Zachary Williams Anirudh Shenoy	System Demonstration	Cost Benefit Analysis	Y8.GEH2.7

Enabling Technology Posters

S.No	Title of the Poster	Authors Name	Thrust Area	Sub-Thust Area	Poster No.
1	The Interconnection between the protection system FID and DGI system	George Karady; Alex Huang; Michael Steurerr; Bruce McMillin; Zhenmin Tang	Enabling Technology	Distributed Grid Intelligence and Reliable and Secure Communication (DGI/RSC)	Y8.ET1.1
2	Resilient Cooperative Energy Scheduling (CoDES) against Data Integrity Attack	Jie Duan, Wente Zeng, and Mo-Yuen Chow	Enabling Technology	Distributed Grid Intelligence and Reliable and Secure Communication (DGI/RSC)	Y8.ET1.3
3	Real-time Sensor Monitoring	Huawei Yang, Dr. El-Mezyani Touria, and Dr. Chris Edrington	Enabling Technology	Distributed Grid Intelligence and Reliable and Secure Communication (DGI/RSC)	Y8.ET1.4
4	FREEDM Architecture Working Group	Tong Yao, Ziwei Yu, Raja Ayyanar	Enabling Technology	FREEDM Architecture Working Group (FAWG)	Y8.ET2.2
5	Design and Development of Gen III SST	Li Wang, Qianlai Zhu, Alex Q. Huang	Enabling Technology	Solid State Transformer	Y8.ET3.1
6	Investigation of lighting effect on SST insulation by PSCAD symulation	G. Karady, G Heydt, Xuuening Rong, Dongdong Zhang	Enabling Technology	Solid State Transformer	Y8.ET3.1
7	SST Modeling, Robust Controller Design and CHIL Validation	Tong Yao, Isaac Leonard, Raja Ayyanar, Mischa Steurer, Alex Huang	Enabling Technology	Solid State Transformer	Y8.ET3.2
8	Hybrid Fault Isolation Device (FID) Development – Power Electronics Innovation	Chang Peng, Xiaoqing Song, Alex Huang	Enabling Technology	Fault Isolation Device	Y8.ET4.2
9	Innovative Means of Resolution of Issues Relating to the Basic Impulse Level (BIL)	G. Heydt	Enabling Technology	Fault Isolation Device	Y8.ET4.3
10	1kWh distributed energy storage device based on 650V GaN device	Fei Xue, Ruiyang Yu, Wensong Yu, Alex Huang	Enabling Technology	Distributed Energy Storage Devices	Y8.ET5.1
11	Real Time Health Estimation of DESD	Yuhua Du	Enabling Technology	Distributed Energy Storage Devices	Y8.ET5.3

Fundamental Science Posters

S.No	Title of the Poster	Authors Name	Thrust Area	Sub-Thust Area	Poster No.
1	10-kV 4H-SiC MPS Rectifier For High Temperature Application	Yifan Jiang, Woongje Sung, Jayant Baliga, Alex Huang	Fundamental Science	Post Silicon Devices	Y8.FS1.1
2	Understanding High Temperature Static and Dynamic Characteristics of 1.2 kV SiC Power MOSFETs	Siyang Liu; B. J. Baliga	Fundamental Science	Post Silicon Devices	Y8.FS1.1
3	TCAD simulation and design of vertical GaNJBS diode with MFZ-JTE termination	Sizhen Wang, Woongje Sung, Alex Huang	Fundamental Science	Post Silicon Devices	Y8.FS1.2
4	High Voltage AlGaN/GaNMIS-HEMT with ALD SiO2Passivation and Dry Etch Gate	Sizhen Wang, Inhwan Ji, Alex Huang	Fundamental Science	Post Silicon Devices	Y8.FS1.2
5	High Temp GaNMOS-HEMT Reliabillity	Faisal Azam, Narayanan Ramanan, Bongmook Lee, Veena Misra	Fundamental Science	Post Silicon Devices	Y8.FS1.2
6	A High Performance Power Module with >10kV capability to Characterize and Test In Situ SiC Devices at >200 C Ambient	Xin Zhao, Haotao Ke, Yifan Jiang, Adam Morgan, Yang Xu, Douglas C. Hopkins	Fundamental Science	Post Silicon Devices	Y8.FS1.3
7	Power Sharing Algorithms for Feasible Operation of Multi-SST FREEDM System	Alireza A. Milani, Md Tanvir A. Khan, Aranya Chakrabortty, Iqbal Husain	Fundamental Science	System Theory, Modeling and Control	Y8.FS2.1
8	Stabilizing Control Design for a multi-SST FREEDM Distribution System	Alireza A. Milani, Md Tanvir A. Khan, Aranya Chakrabortty, Iqbal Husain	Fundamental Science	System Theory, Modeling and Control	Y8.FS2.1
9	Load Regulation of a Smart Household with PV-Storage and Electric Vehicle by Dynamic Programming Successive Algorithm Technique	Faeza, Dr. Iqbal Husain	Fundamental Science	System Theory, Modeling and Control	Y8.FS2.1
10	Finding Sets of Feasible Equilibria for FREEDM Distribution System Operation: A Nonlinear Dynamical Approach	Md Tanvir A. Khan, Alireza A. Milani, Aranya Chakrabortty, Iqbal Husain	Fundamental Science	System Theory, Modeling and Control	Y8.FS2.1
11	Development of reduced-order models of SST	Ziwei Yu, Raja Ayyanar	Fundamental Science	System Theory, Modeling and Control	Y8.FS2.2
12	Distributed MPC-based Intelligent Energy Management for the FREEDM System	Sanaz Paran, Touria El-Mezyani, Farzad Ferdowsi, Chris Edrington	Fundamental Science	System Theory, Modeling and Control	Y8.FS2.3
13	Real-time Dynamic Behavioral Assessment for FREEDM Systems	Farzad Ferdowsi, Touria El-mezyani, Chris S. Edrington	Fundamental Science	System Theory, Modeling and Control	Y8.FS2.4
14	Steady-state feasibility analysis of a power distribution system based on SSTs	Daniele Zonetti , Romeo Ortega and Iqbal Husain	Fundamental Science	System Theory, Modeling and Controls	Y8.FS2.5
15	Dynamic phasor based robust control for solid state transformer	M. Bhagwat, R. Meshram, M. Rane, S. Wagh, and A. Stankovic	Fundamental Science	System Theory, Modeling and Controls	Y8.FS2.6
16	IDA-PBC Control for port-controlled phasor Hamiltonian model of solid state transformer	R. Meshram, S. Khade, M. Bhagwat, S. Wagh, N. Singh, and A. Stankovic	Fundamental Science	System Theory, Modeling and Controls	Y8.FS2.6
17	Hamiltonian formulation and control of 3-stage SST using bond graph approach	S. Khade, R. Meshram, S. Wagh, N. Singh, and A. Stankovic	Fundamental Science	System Theory, Modeling and Controls	Y8.FS2.6

Associated Project Posters

S.No	Title of the Poster	Authors Name	Thrust Area	Sub-Thust Area	Poster No.
1	Implementation of a Modular Electric Generator in the Dominican Republic	Landon Mackey, Eric Green, Di Zhu, Taha Arif, Di Zhu, Dr. Ewan Pritchard	Associate Project	Associate Project	Y8.AP.B
2	Diagnostics and Prognostics for the Electric Grid Using Temporal Causal Models	Rishabh Jain, Srdjan Lukic	Associate Project	Associate Project	Y8.AP.C
3	Transverse flux permanent magnet motor for low speed high torque applications	Adeeb Ahmed (PI : Iqbal Husain)	Associate Project	Associate Project	Y8.AP.D
4	Community Energy Storage System with Smart Inverter	Hao Tu, Dr. Srdjan Lukic	Associate Project	Associate Project	Y8.AP.E
5	Low Cost NMP-Free Lithium Electrode Synthesis	Jim P. Zheng, Pedro Moss, Annadanesh Shellikeri, Venroy Watson, Olivier Barbier	Associate Project	Associate Project	Y8.AP.F
6	Effect of Temperature on the Electrochemical Performance of N-methyl Pyrrolidone (NMP)-free LiFePO4 (LFP) Cathodes	Kendall Parker, Venroy Watson, Olivier Barbier, Annadanesh Shellikeri, Dr. Eric Egwu Kalu	Associate Project	Associate Project	Y8.AP.G
7	Modeling Lithium-Ion Battery Degradation	Eugene N. Moss Jr., Ruben Nelson, Mark H. Weatherspoon	Associate Project	Associate Project	Y8.AP.H
8	Cost Analysis Modeling of Energy Storage Devices and Effective Battery Sizing Strategy for Peak Shaving	R. Scott, L. Morris, M.H. Weatherspoon	Associate Project	Associate Project	Y8.AP.I