Industry Conference & NSF/DOE Annual Site Visit

December 4-7, 2018

PRE-CONFERENCE EVENT
Monday, December 3, 2018
Downtown Hilton, 501 W. Church Ave., Knoxville, TN 37902

6:00 -9:00	**Reception** (informal event for industry/SAB guests) (Ocoee)

INDUSTRY CONFERENCE
Tuesday, December 4, 2018
Downtown Hilton, Knoxville, TN

7:00 - 8:00	Registration and Breakfast (Mezzanine, Salons D & E, overflow in Sequoyah 3)	
8:00 - 8:15	**Opening & Welcome -** Kevin Tomsovic, *Center Director* **(**Salons A, B & C)	
8:15 - 12:00	**Invited Speakers Presentations**	
8:15 - 8:45	Sonja Glavaski, Program Director, ARPA-E - *Building Efficient, Sustainable & Resilient Grid by Controlling the Edge*	
8:45 - 9:15	Robert W. Cummings, Senior Director of Engineering and Reliability Initiatives, NERC - *From Here to There – Reliability in the Grid of the Future*	
9:15 - 9:45	Ben Kroposki, Director of the Power Systems Engineering Center, NREL - *Integrating Ultra-high Levels of Variable Renewable Energy into Electric Power Grids*	
9:45 - 10:00	Break	
10:00 - 10:30	Sandra McLeod, Senior Manager in Advanced Security Initiatives Group, CISCO - *Securing Connected Critical Infrastructure*	
10:30 -11:00	John Grosh, Deputy Associate Director in the Computation Directorate, Lawrence Livermore National Laboratory (LLNL) - *New Directions in Modeling Infrastructure Resilience*	
11:00 -11:30	George Stefopoulos, Director, Advanced Grid Innovation Lab for Energy (AGILe) - *AGILe: A collaborative program of the New York Power Authority*	
11:30 -1:00	Lunch (Salons D & E, and Sequoyah 3)	
1:00 - 3:40	**Technical Paper Presentations** (Parallel Sessions in Salons C and Salons A & B)	
1:00 - 2:00	**Power System Modeling** (Salons A&B) Session Chair: Jesmin Khan, TU	**Power Electronics (**Salon C) Session Chair: Kevin Bai, UTK
1:00 – 1:10	Analytical method to aggregate multi-machine SFR model with applications in power system dynamic studies **Qingxin Shi, UTK**	Optimal dead-time setting and loss analysis for GaN-based voltage source converter **Paige Williford, UTK**

1:10 – 1:20	Fast security assessment based on deep convolutional neural network **Yan Du, UTK**	Zero sequence circulating current analysis and reduction in paralleled three-level active neutral point clamped inverters **Ruirui Chen, UTK**
1:20 – 1:30	Power system simulation using a differential transformation method **Yang Liu, UTK**	Inductor design and ZVS control for a GaN-based high efficiency CRM totem-pole PFC converter **Jingjing Sun, UTK**
1:30 – 1:40	Market dispatch with high renewable penetration on New York academic model **Stephen Burchett, RPI**	A high-efficiency SiC three-phase four-wire inverter with virtual resistor control strategy running at V2H mode **Yang Huang, UTK**
1:40 – 1:50	Modeling and simulation of hybrid single-phase/three-phase power systems **Marcelo de Castro Fernandes, RPI**	Noise mitigation and delay compensation in high frequency dual current programmed mode control **Kamal Sabi, UTK**
1:50 – 2:00		Modeling dual active bridge converter considering the effect of magnetizing inductance for electric vehicle application **Saeed Anwar, UTK**
2:00 – 2:30	Break	
2:30-4:00	**Power System Monitoring and Estimation** Session Chair: Meng Wang, RPI	**Power System Control and HVDC** Session Chair: Kai Sun, UTK
2:30 – 2:40	Sensor placement optimization tool (SPOT): enhancing distribution system monitoring and resiliency **Jiaojiao Dong, UTK**	Analysis of MTDC inertia emulation impact on connected AC systems **Shuyao Wang, UTK**
2:40 – 2:50	False data injection attack through PMU **Jiangnan Li, UTK**	Stability of wide area power system control with intermittent information transmission **Fatima Taousser, UTK**
2:50 – 3:00	Fault location using sparse L1 estimator and phasor measurement units **Arthur Mouco, NEU**	Estimation of closest unstable equilibrium points via nonlinear modal decoupling **Xin Xu, UTK**
3:00 – 3:10	Avoiding divergence in multi-area state estimation **Pengxiang Ren, NEU**	Chance-constrained optimal location of damping control actuators under wind power variability **Horacio Silva, UTK**
3:10 – 3:20	Equation-free system level modeling, analytics and model reduction **Gang Wang, Tufts**	Adaptive wide-area damping control using transfer function model derived from ring-down measurements **Lin Zhu, UTK**
3:20 – 3:30	Speeding up the dissipating energy flow based oscillation source detection **Stavros Konstantinopoulos, RPI**	Control and load balancing with the IRIS IPWR in a high renewables penetration grid **Richard Bisson, UTK**
3:30 – 3:40	Identifying overlapping successive events using a shallow convolutional neural network **Wenting Li, RPI**	Converter-grid resonance analysis considering DC bus dynamics and coupling over frequency **Ignacio Vieto, RPI**
3:40 – 4:00	Break	

4:00-5:00	**Industry / Student Mixer** (Smoky)
5:30–9:00	**Student Orientation and Pizza Dinner** (MHK 622, then MHK 647)
6:30-9:00	**Industry / SAB / Faculty Dinner & Meeting** (Hiwassee)
4:00	**SVT airport pick up and check-in to Hilton begins** (Vans will pick SVT up)
6:00-10:00	**SVT Working Dinner and Discussion** (Sequoyah 1)
9:00 – later	**SLC Sponsored Bowling** (Maple Hall Bowling Alley)

NSF-DOE SITE VISIT: DAY ONE
Wednesday, December 5, 2018
Downtown Hilton, Knoxville, TN
All sessions – 60% presentation /40% Q&A

7:00-8:00	Registration and Breakfast (Salons D & E, overflow in Sequoyah 3)		
8:00-8:20	**Welcome –** Kevin Tomsovic, *Center Director*; Wayne Davis, *Interim Chancellor;* Denis Osipov, *Student Chair;* Deans' Introduction; SVT Introduction (Salons A, B & C)		
8:20-9:00	**CURENT Overview**		
9:00-11:45	**Research Thrust Overviews**		
9:00-9:25	Monitoring Thrust Overview –Yilu Liu, *Deputy Director & Thrust Leader*		
9:25-9:50	Modeling Thrust Overview – Ali Abur, *NEU Campus Director & Thrust Leader*		
9:50-10:05	Break		
10:05-10:30	Control Thrust Overview – Joe Chow, *RPI Campus Director & Thrust Leader*		
10:30-10:55	Actuation Thrust Overview – Fred Wang, *Technical Director and Thrust Leader*		
10:55-11:45	CURENT Engineered Systems Overview – Leon Tolbert, *Thrust Leader*		
11:45-12:30	**Site Visit Team Private Session** (Sequoyah 1)	**Industry Feedback Session** (Salons A, B & C)	**Deans' Meeting** (Boardroom)
12:30-1:30	Lunch (Salons D & E, overflow in Sequoyah 3)		
1:30-2:00	**Innovation and Industry Collaboration Program Overview** – Tom King, *Innovation & Industry Director*		
2:00-3:00	**SVT Private Session with Industry**		
Move to Min H. Kao Building			
3:15-6:00	**Lab Tour & Poster Session** (Min H. Kao)		
7:00–9:30	**Student Awards Dinner** (UT Conference Center)		
7:30-10:00	**SVT Working Dinner and Discussion** (Café 4)		

NSF-DOE SITE VISIT: DAY TWO

Thursday, December 6, 2018

Downtown Hilton, Knoxville, TN
All sessions – 60% presentation /40% Q&A

7:45-8:15	**SVT/University Officials' Breakfast** (Salons D & E)	**Faculty Breakfast** (Sequoyah 3)
8:15-9:00	**SVT/University Officials' Meeting** (Salons D & E)	
9:00-9:45	**Culture of Inclusion and Diversity –** Daniel Costinett, *Co-Director of Education & Diversity* (Salons A, B & C)	
9:45-10:15	**Culture of Inclusion and Diversity –** Private Session (SVT and CURENT Leadership)	
10:15-10:30	Break	
10:30-11:15	**Assessment and Infrastructure –** Kevin Tomsovic, *Center Director*	
11:15-12:00	**University Education** – Chien-fei Chen, *Director of Education & Diversity*	
12:00- 1:15	SVT/SAB Private Lunch (Smoky)	General Group Lunch (Salons D &E)
1:15-1:45	**SVT Executive Session** (Sequoyah 1)	**Student / Faculty Session** (Salons A, B &C)
1:45-2:15	**Pre-College Education** - Anne Skutnik, *Education Coordinator* (Salons A, B & C)	
2:15-3:00	**SVT/ Student Private Session**	
3:00-3:15	Break	
3:15-4:15	**SVT Executive Session** (Sequoyah 1)	
4:15-4:45	**SVT Question Presentation** (Sequoyah 1)	
6:00-10:00	**SVT Working Dinner and Discussion** (Sequoyah 1)	

NSF-DOE SITE VISIT: DAY THREE

Friday, December 7, 2018

Downtown Hilton, Knoxville, TN

7:30 – 8:00	**SVT and Faculty Breakfast** (Sequoyah 3)
8:00-9:00	**Question Response Session** (SVT and CURENT Faculty, Sequoyah 3)
9:00-5:00	**SVT Report Writing** (Sequoyah 1)
5:00	**SVT Departure** (vans transport SVT to airport)