



IEEE-NCS, IAS/PES Presents

Wednesday, March 8th, 2017, 6:00 to 8:30pm, doors open at 5:30pm

Wednesday Back-to-Back Technical Seminars

First hour: *“Variable Voltage Transformers for MV Heater Control”*

Presented by Timothy Bichler

“Variable Voltage Transformers for MV Heater Control” Abstract:

Abstract – Power electronic devices are the standard solution for low voltage heater control, however, cost and harmonic issues are amplified for medium voltage heater applications. To provide a medium voltage alternative at significantly less cost, this paper details modifications and testing that evolved part range, load tap changing, voltage regulators into full range variable voltage transformers for medium voltage heater control. From the initial minor modifications that converted autotransformers into 16 tap isolation transformers, the development moves on to inclusion of secondary base windings that bring 32 taps into play for refined control. Three-phase solutions and addition of medium voltage interrupters from the utility industry round out an economical solution for stand-alone, medium voltage heater operation that avoids the harmonic issues of other heater control technologies.

Second hour: *“Power and Instrument Transformer Failures – Root Causes and Modern Methods Used to Mitigate Risk”*

Presented by Dr. Tamer Mellik and Scott Basinger

“Power and Instrument Transformer Failures” Abstract:

This presentation will examine recent power and instrument transformer failures involving primary circuit switching. Risk factors including circuit breaker current chop /re-strike, system configurations, transformer characteristics as well as transient and ferroresonance effects that contributed to these equipment failures will be explained. This presentation will share experiences gained from fifty world-wide distribution system studies using EMTP and PSCAD transient analysis software. The presenter will describe actual equipment failure case studies (power transformers and voltage transformers) to illustrate root causes, simulations, field measurements, and recommended solutions that have proven successful in mitigating breaker switching transients. This seminar is directed to those EE professionals involved in the design, specification, implementation and protection of critical industrial power systems with inherent characteristics associated with switching transient events.



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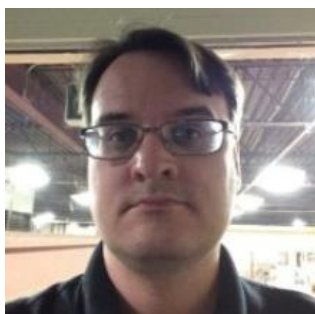
About the Speakers:



Tim Bichler, Senior Application Engineer. Tim is responsible for application engineering and the growth of new product development for the Voltage Regulator product line and controls. Tim's most recent assignment was a Value Stream Manager role in Waukesha, WI within the Power Systems Division – Electrical Sector. Before joining Eaton, Tim worked for Harley-Davidson in various engineering roles in both manufacturing and new product development. Tim possesses a strong knowledge across all aspects of manufacturing, electrical, and mechanical engineering practices and holds a Bachelor of Science degree in Mechanical Engineering from the University of Wisconsin Platteville.



Tamer Mellik, P.Eng., Ph.D., (S'02-M'06-SM'14) received the BSc. degree from Suez Canal University, in 1995, and the Ph.D. degree from the University of Calgary, Calgary, AB, in 2005. He has over 20 years of power system experience involving modeling, simulation, and R&D/algorithm design of industrial and utility power systems. He is a registered Professional Engineer in the provinces of Alberta and Manitoba. He has authored or co-authored over 35 technical and white papers, completed 400 power systems studies as well has received various awards throughout his career. His countries of work experience include USA, Canada, the UK, Australia, Brazil, The Netherlands, Egypt, Puerto Rico, Kuwait, and United Arab Emirates. He is interested in transient and steady state studies, utility studies, renewable energy and special filtering techniques for ESP applications.



Scott Basinger, P. Eng. Senior Member IEEE is a Senior Application Engineer with Eaton Corporation in Edmonton, Alberta, Canada. He has over 20 years of power systems engineering experience including application of medium and low voltage electrical switchgear and protection, electrical control, electrical safety (including arc flash), electrical systems design, and electrical systems studies. He is a Professional Engineer (APEGA) registered in Alberta, and a Senior Member of the IEEE. He is very active in the Technical community, volunteering with many IEEE technical conferences, including various Chair positions in the IEEE ESTMP Technical Conference, and IEEE / PCA Cement Industry Conference. Scott is currently Vice Chair (North) of the Safety Codes Council (Alberta) Electrical Sub-Council, and is Chair of the Safety Codes Council (Alberta) Canadian Electrical Code Working Group.



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When: Date: 8-March-2017 Time: 5:30PM to 8:30PM All times are: Canada/Mountain	
Where: University of Alberta ETLC Room E1 017	
Agenda: 5.30pm: Doors open and light meal 6:00pm: Seminar #1 7:00pm: Q&A 7:15pm: Break 7:30pm: Seminar #2 8:30pm: Q&A	

Online Registration (Open from February 14 to March 7, 2017)

<https://events.vtools.ieee.org/m/43863>

Early bird online registration fee

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Carl (CARLLAM@ieee.org) or Kyle (Kyle@altelec.net)

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