# SEMI-THERM® 35

**Thursday March 21, 2019 12:30 p.m.**

## The 2018 Harvey Rosten Award



## Compact Cooling-System Model for Transient Data Center Simulations
### Jim VanGilder, Chris Healey, Wei Tian, Michael Condor, Quentin Menusier
For Outstanding Work in the Field of Thermal Analysis of Electronic Equipment.

**Jim VanGilder** received a BS from the University of Maine (1992) and an MS from Duke University (1993) in Mechanical Engineering. He joined Flomerics in 1997 where he initially focused on CFD for traditional electronics thermal applications and later on building-scale applications and, ultimately, data centers. He joined Schneider Electric (APC at the time) in 2003 where he focused on developing practical and fast tools to assist the thermal design and operation of data centers; Jim currently directs CFD development and related research. He has authored over 50 technical publications and holds more than 30 US patents related to data-center and electronics cooling. Jim is a long-time member and former chair of ASHRAE TC 4.10, Indoor Environmental Modeling, and a frequent contributor to the ASME InterPack and IEEE ITherm conferences. Jim is also a licensed professional engineer in the state of Massachusetts.

**Chris Healey** is a graduate of the College of William and Mary (2005, BS Math) and Georgia Institute of Technology (2010, PhD Industrial Engineering). He is a Data Science Team Leader in Schneider Electric, working in thermal analytics and data science in the goal of efficiency and reliability of data center systems through optimal design, efficient control, and predictive maintenance. He has authored or co-authored seven journal papers and numerous conference proceedings.

**Michael Condor** received a BS from Bucknell University (2000) in Computer Science. Michael has nearly 20 years of experience developing software for data center management technology (DCIM) as well as thermal analytics software. Michael is currently the lead software engineer for the Thermal Analytics team in Schneider-Electric.

**Wei Tian** received a PhD in Civil Engineering from the University of Miami. He is currently a research engineer at Schneider Electric, working in developing numerical models and tools to analyze thermal performance of data centers. His research interests include computational fluid dynamics, energy system modeling, and dynamic simulation and optimization. Wei has authored over 20 technical papers.

**Quentin Menusier** received an MS from ENSMM (2018), a French Engineering School in Computational Mechanics. He had the opportunity to work in Schneider Electric as a Computational Fluid Dynamics intern. He currently works in France as an Engineering Consultant.

### The Harvey Rosten Award
The Award is for outstanding work, recently published or in the public domain, which advances the analysis or modeling of thermal or thermomechanical effects in electronic equipment or components, including experiments aimed specifically at the validation of numerical models. The award is in the form of a plaque and a $1000 cash prize. The Award was established by the family and friends of Harvey Rosten, to commemorate his achievements in the field of thermal analysis of electronics equipment, and the thermal modeling of electronics parts and packages. The Award is made annually to encourage innovation and excellence in these and closely related fields.

The recipient is selected by the Selection Committee, made up of eminent practitioners in the electronics-thermal field. The criteria for selection are:
- The work represents an advance in thermal analysis or thermal modeling of electronics equipment or components, including experiments aimed specifically at validating numerical models.
- The work demonstrates clear application to practical electronics design.
- The work demonstrates insight into the physical processes affecting the thermal behavior of electronics components, parts and systems.
- The work is innovative in embodying this understanding in either thermal analysis or thermal modeling.
- A pragmatic approach is taken in the application of the work.