

Luncheon Speaker  
Tuesday March 20, 2018

**ASHRAE Technical Committee 9.9 (TC9.9) Mission Critical Facilities, Data Centers,  
Technology Spaces and Electronic Equipment  
Presenter: Dustin W. Demetriou**

ASHRAE Technical Committee 9.9 (TC9.9) on Mission Critical Facilities, Data Centers, Technology Spaces, and Electronic Equipment acts as the unbiased engineering leader in datacom heating, ventilation and air conditioning (HVAC) and an effective provider of technical datacom information. This committee was formed in response to the lack of effective information transfer between the building, HVAC and IT industries. TC9.9 expertise includes manufacturers, consultants, researchers, universities, utilities, regulators, contractors and government. These volunteers influence ASHRAE Standards, Research, Programs and Technical Activities (including a series of 13 datacom books).

In response to industry needs, ASHRAE TC9.9 has been very active in updating and producing new publications and standards to help bridge the gap between data center and datacom equipment designers and data center owner/operators. This presentation will specifically highlight and provide insight into three substantial publications produced by TC9.9 over the last year: Thermal Guidelines of Data Processing Environments: Fourth Edition, ANSI/ASHRAE Standard 90.4-2016 Energy Standard for Data Centers, and IT Equipment Power Trends: Third Edition. The presentation will also discuss current and future research underway within ASHRAE, including data center infrastructure management (DCIM), the impact of gaseous contamination and high humidity in IT equipment corrosion and CFD modeling of data centers, and what impact these efforts could have on future TC9.9 standards and guidelines.



**Dr. Dustin W. Demetriou** is a Senior Engineer at IBM Corporation in the IBM Systems Advanced Thermal Energy Efficiency Lab. He received a Ph.D. in Mechanical and Aerospace Engineering from Syracuse University. His research is focused on the analysis, application, and optimization of energy conversion systems, particularly in the area of high-density data centers and high-performance buildings, and the development of advanced electronics cooling technologies. He has co-authored two books in the ASHRAE Datacom Series, authored or coauthored over thirty journal and peer-reviewed conference publications in the areas of building simulation and energy efficient data centers and has been granted fourteen United States patents. He is the Vice Chair and a voting member of ASHRAE Technical Committee 9.9 on Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment. He serves as the Finance Chair for the IEEE ITherm (Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems) conference. Dr. Demetriou's work has been awarded numerous honors, including the ASHRAE Willis H. Carrier Award, All-University Doctoral Prize at Syracuse University, IEEE TCPMT Best Paper Award, the ASME Journal of Electronics Packaging Best Paper Award, ASME InterPACK best paper in Data Centers and Energy Efficient Electronic Systems and the best paper in the International Journal of Building Simulations. He also holds a MS in Mechanical and Aerospace Engineering from Syracuse University and a BS in Mechanical Engineering from Manhattan College.

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