



Conference on Enterprise Servers and Data Centers: Opportunities for Energy Savings

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Abstract Review Committee

Don Beaty, DLB Associates and Chair of ASHRAE Technical Committee 9.9

Don Beaty, P.E. is the Founder/President of DLB Associates, Consulting Engineers, P.C., and is a licensed Professional Engineer in over 40 states. Over the course of the past 30 years, Don's mechanical/electrical/industrial engineering firm has helped construct more than \$1 billion dollars worth of mission critical facility. He has been a member of ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) for more than 20 years and founded and is the current Chair for technical committee TC 9.9 Mission Critical Facilities, Technology Spaces and Electronic Equipment.

Neil Chauhan, M. Eng, DLB Associates

Neil Chauhan, M.Eng. is an Architectural Engineer and Program Manager for DLB Associates. He is an ASHRAE Member as well as a Member of the ASHRAE technical committee (TC9.9) for Mission Critical Facilities, Technology Spaces and Electronic Equipment.

Magnus K. Herrlin, Ph.D., CEM, ANCIS Incorporated

Dr. Magnus K. Herrlin is President of ANCIS Incorporated, a consultancy providing advanced energy and environmental solutions for data centers, telecom central offices, and other mission critical facilities. His expertise in designing the IT environment for optimal physical equipment protection and energy efficiency guides end users, equipment and HVAC vendors, and consulting engineers towards the best solution.

Prior to establishing ANCIS, Magnus served as Principal Scientist with Telcordia Technologies (Bellcore) where he led efforts in optimizing the energy and thermal efficiency in critical network environments. He established telecom industry leadership by authoring 30+ guidelines and standards, including NEBS GR-3028 "Thermal Management in Telecom Central Offices."

He serves on multiple committees and advisory boards related to energy and thermal management. Magnus is Officer of ASHRAE TC 9.9 "Mission Critical Facilities, Technology Spaces, and Electronic Equipment" and Chair of Critical Facilities Round Table's (CFRT) Committee "High Density Data Center" (HDDC). Magnus is well published; he is co-recipient of the 2004 ASHRAE Technical Paper Award for "Evolution of Data Center Environmental Guidelines."

Magnus holds a Ph.D. and an M.S. in Mechanical Engineering and is a Certified Energy Manager (CEM) by the Association of Energy Engineers.

John A. "Skip" Laitner, Senior Economist for Technology Policy, Environmental Protection Agency Office of Atmospheric Programs

Skip Laitner is a resource economist with more than 30 years experience in public policy analysis, economic impact studies, and economic development planning. He currently serves as the Senior Economist for Technology Policy for the EPA Office of Atmospheric Programs. In that capacity, Skip was awarded EPA's 1998 Gold Medal for his work with a team of EPA economists that helped lay the foundation for the recent Kyoto Protocol on Greenhouse Gas Emissions. Skip

is a frequent lecturer and has conducted technical seminars in diverse places as Australia, Canada, China, France, Germany, Korea, Mexico, Spain, and South Africa. In addition to his expert testimony, Skip has written more than 150 papers and reports in the fields of energy and technology costs, natural resource issues, community and economic development, and decision sciences. He recently served the Virginia Polytechnic Institute and State University as an adjunct faculty member, teaching a graduate course on the Economics of Technology in the Science and Technology Studies program. Skip has a master's degree in resource economics.

Kurt W. Roth, Ph.D., TIAX LLC

Dr. Roth is an Assistant Principal in the Appliance and Building Technology group of TIAX (formerly Arthur D. Little Technology & Innovation). At TIAX, his work focuses upon technology assessment and analysis of energy consumption in buildings, including information technology equipment, building controls, heating, ventilation, and air-conditioning (HVAC), and appliances. Dr. Roth has led studies funded by the U.S. Department of Energy, Building Technologies Program to quantify current and projecting future commercial and residential IT energy consumption, as well an investigation of IT energy savings opportunities. He has presented the results of these studies at several conferences and meetings and authored a chapter on "Information Technology and Energy Use" for the **Encyclopedia of Energy**, (Academic Press). Dr. Roth also supports characterizations of renewable energy technologies, notably photovoltaic (PV) and solar thermal. For the decade prior to joining Arthur D. Little, he worked on problems in the area of fluid mechanics and related phenomena, including experimental and computational investigation of turbulent, unsteady, cavitating, and aerosol-laden flows. Dr. Roth received his B.S., M.S., and Ph.D. degrees from the Massachusetts Institute of Technology (MIT), all in mechanical engineering. He is a member of Sigma Xi, the American Society of Mechanical Engineers (ASME), and the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE).

William Tschudi, Lawrence Berkeley National Laboratory

Bill Tschudi is a Program Manager for the Applications Team which is part of the Environmental Energy Technologies Division at Lawrence Berkeley National Laboratory (LBNL). The Applications Team is tasked with bridging researchers and real world application of emerging technology. Bill currently is the Principal Investigator leading LBNL's data center and cleanroom energy efficiency projects. These projects involve a number LBNL researchers and a number of subcontractors focused on research, demonstration, and technology transfer activities for these building types. Information and findings from these projects can be found on LBNL's website: <http://hightech.lbl.gov>.

Bill is a licensed mechanical engineer with over thirty five years of experience, including fourteen years involved with the design of high tech and mission critical facilities. He is a member of ASHRAE and participates in Technical Committees TC9.11 - Cleanspaces and with the data center committee, TC 9.9 - Mission Critical Facilities, Technology Spaces and Electronic Equipment. Prior to joining LBNL, Bill managed multi-disciplined engineering offices for leading firms in the design of data center and clean room facilities. Prior experience also included engineering management for industrial and power projects.