



Come visit our new website: newiashrae.org

What: Greenheck Tour / Distinguished Lecturer / Tech Sessions

Where: Greenheck Education Center (1000 Greenheck Drive Schofield, WI 54476)

*** See Page 5 for Map of Greenheck Campus ***

When: Tuesday, March 14th

10-10:45 – Registration, welcome and refreshments

11-12 – Distinguished Lecturer - Chris Muller: The Real Cost of Free Cooling (see pages 2-3 for more information)

12-12:45 – Lunch (provided)

12:45 – 1:45 – Innovation Center Tour

1:45 – 2 – Break

2 – 3 –Kitchen Ventilation Systems: Meeting Codes and Standards

3 – 4 – Strategies for Improving Indoor Air Quality

4 – Social hour, wrap up and depart

Please visit our [website](http://newiashrae.org) to RSVP for this event.

Please contact Tyler Mancl with any questions regarding this event:
Tyler Mancl (Tyler.Mancl@greenheck.com | (715) 574-0839)

Sincerely,

Alex Krizek

2022-23 SCHEDULE

March 14th - Greenheck Tour / Distinguished Lecturer / Tech Sessions

April 11th - Rapid Water Technologies

May 4-7 - 2023 Region VI CRC (La Crosse, WI)

June 2023 - Golf Outing



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ASHRAE Distinguished Lecturer: Chris Muller

Chris Muller is recognized as a global expert on the topics of indoor/environmental air quality, the application and use of gas-phase air filtration, filtration and enhanced air cleaning, corrosion control and monitoring, and electronic equipment reliability. With more than 30 years in the industry, he has written and spoken extensively on these and related topics with more than 250 articles and peer-reviewed papers, more than 150 seminars, and 8 handbooks to his credit. He has contributed to chapters in two handbooks on the application and use of gas-phase air filtration, wrote the chapter on contamination control in the ASHRAE Datacom Series Handbook – *Particulate and Gaseous Contamination in Datacom Environments*, wrote a chapter on gas-phase air filtration in the *NAFA Air Filtration Handbook*, a chapter on airborne molecular contamination in the *Semiconductor Manufacturing Handbook, 2nd Ed.* published by McGraw-Hill, and on Contamination Control in the upcoming *Data Center Handbook* edited by Hwaiyu Geng.



Mr. Muller testified before the U.S. Occupational Safety and Health Administration (OSHA) on a proposed Indoor Air Quality (IAQ) Standard, consulted on the preparation of Dutch and Italian governmental standards for indoor environments, and worked closely with many state and national agencies in the U.S. and abroad to develop and implement indoor environmental control strategies for airborne contaminants.

Mr. Muller is designated as an ASHRAE Distinguished Lecturer and is a frequent speaker at ASHRAE Chapter and Regional meetings both domestically and abroad and received ASHRAE's Distinguished Service Award. He is a co-author on ASHRAE's *Position Document on Filtration and Air Cleaning*, *ASHRAE IAQ Guideline*, and *ASHRAE Guideline 42P: Indoor Air Quality in Commercial and Institutional Buildings*. ASHRAE committee activities include:

Standing Standard Project Committee 62.1 – Ventilation for Acceptable Indoor Air Quality, the Research and Education subcommittee, and co-authored the *ASHRAE Standard 62.1 User's Manual*.

Standing Standard Project Committee 145 – Test Methods for Assessing Performance of Gas Phase Air Cleaning Equipment (published first industry standards for assessing the performance of gas-phase air filtration systems media and equipment).

Technical Committee 2.3 – Gaseous Air Contaminants and Gas Contaminant Removal Equipment

Technical Committee 9.9 – Mission Critical Facilities, Technology Spaces and Electronic Equipment

Technical committee 9.11 – Clean Spaces

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ASHRAE Distinguished Lecturer: Chris Muller Con't:

Mr. Muller is the current Chair of the International Society of Automation (ISA) 71 committee on Environmental Conditions for Process Measurement and Control Systems and was responsible for updating Standard 71.04 on Airborne Contaminants to account for the changes in electronic equipment and their reliability brought about by global "lead-free" (REACH) manufacturing regulations.

Distinguished Lecture:

THERE'S NO SUCH THING AS A FREE RIDE: THE REAL COSTS OF FREE COOLING

The use of outdoor air for free cooling to reduce energy costs has reached the mainstream of data center design and for many companies it is now the standard design approach for all new facilities. This coupled with an increase in the maximum allowable temperature ranges for IT / datacom equipment means free cooling can and is being used in more locations than ever before. While this has led to dramatic energy savings and overall lower operational costs, in growing numbers of applications, it has come at the cost of equipment reliability. Although climatic conditions may allow for the use free cooling, other factors now must be considered. Primary among these is local and regional air quality.

This presentation will provide:

- An overview of free cooling with respect to issues affecting electronic equipment reliability
- Updates on ongoing environmental concerns
- Air quality standards
- Free cooling case studies with and without application of contamination assessment, control, and monitoring programs

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Greenheck Tech Session Course info:

2 – 3 – Kitchen Ventilation Systems: Meeting Codes and Standards

KVS-001: Based on good kitchen design principles, this course focuses on products and concepts that promote energy efficient kitchen ventilation design. The value of demand ventilation (variable volume) systems and strategies regarding the application and selection of the right system configuration for various applications is discussed. Other topics include payback analysis, the integration with building management systems, and electronically commutated (EC) motors.

3 – 4 – Strategies for Improving Indoor Air Quality

Strategies for Improving Indoor Air Quality: Indoor air quality (IAQ) has become a mainstream topic in the wake of the COVID pandemic, but it's not a new concept. Building owners and tenants are searching for solutions on improving the quality and safety of their building's air to ensure the safety of the occupants. In this course, we will dive into the vast array of indoor air contaminants and discuss three primary strategies for improving indoor air quality in existing buildings.

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- 1 Facility 1**
400 Ross Ave.
Schofield, WI 54476
- 2 Facility 2**
4720 Alderson St.
Schofield, WI 54476
- 3 Machine Development Center (MDC)**
740 Ross Ave.
Schofield, WI 54476
- 4 Manufacturing Excellence Center (MEC)**
1136 Greenheck Dr.
Schofield, WI 54476
- 5 Facility 5**
525 Western Rd.
Schofield, WI 54476
- 6 Human Resources**
2103 Ross Ave.
Schofield, WI 54476
- 8 Facility 8**
1100 Greenheck Dr.
Schofield, WI 54476
- 9 Education Center**
1000 Greenheck Dr.
Schofield, WI 54476
- 10 National Distribution Center (NDC)**
4545 Alderson St.
Schofield, WI 54476
- 11 Facility 11-Mosinee**
990 South Park View Circle,
Mosinee WI 54455
- 12 Mud Hut**
307 Ross Ave.
Schofield, WI 54476
- 13 Facility 13**
102 Northern Rd.
Schofield, WI 54476
- 14 Innovation Center**
1110 Greenheck Dr.
Schofield, WI 54476
- 15 Facility 15**
8300 Highland Dr.
Wausau, WI 54401
- 16 QuadMed Health & Wellness Center**
734 Ross Ave.
Schofield, WI 54476
- 17 Facility 17**
405 Alderson St.
Schofield, WI 54476
- 18 Facility 18**
411 Grossman Dr.
Schofield, WI 54476
- 20 Facility 20**
726 Ross Ave.
Schofield, WI 54476

**10AM Registration
@ Education Center**

**Contact Tyler Mancl with any
day of questions:**

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(715) 574-0839**