

4 ways to register:



On-Line:

www.michiganivc.org
with a secure credit card payment.



By Phone:

(517) 394-4614 or
(866) 423-7233



By Mail:

Fill out application below
and mail to:

Industrial Ventilation Conference

3315 S. Pennsylvania Ave.
Lansing, Michigan 48910



By Fax:

Fax application to:
(517) 394-1117

Yes! Enroll me today!

Industrial Ventilation Conference

February 7–10 • 2011

Kellogg Hotel &
Conference Center
Michigan State University
East Lansing, Michigan

4-Day Conference Course Fees:

Before 1-6-2011 Fee: \$850

After 1-6-2011 Fee: \$895

Lunch included Monday-Thursday

Workshops: February 11:

TROUBLESHOOTING

Fee: \$130 (no lunch)

COMBUSTIBLE DUST

Fee: \$175 (includes lunch)

Further Conference information
(517) 322-6560

Registration Information and Form

Cancellation Policy: An administrative fee of \$25 per person will be charged for refund requests received in writing by January 6, 2010. An administrative fee of \$200 per person will be charged for refund requests received after January 6, 2010. No-shows will not receive a refund. However, you may send a substitute participant. In the unlikely event of cancellation by the sponsors, liability to the participants is limited to the refund of the registration fee.

On-site Registration: Registration hours at Kellogg Center are 5:00 p.m. to 7:00 p.m. Sunday, February 6, 2011. The registration desk will also be open Monday from 7:00 a.m. to 8:30 a.m. For registration information, call (517) 394-4614 or toll-free (866) 423-7233.

Fee: The fee includes all course supplies, refreshments during breaks, and lunches Monday through Thursday. The additional fee for the Friday workshop includes the workshop materials and mid-morning refreshments. Full payment should be made payable in U.S. funds to **Lansing Area Safety Council**. Since class sizes are limited, early registration is suggested.

Location: The conference will be held at the Kellogg Hotel & Conference Center, Michigan State University, East Lansing, Michigan. It is readily accessible from all expressways via US-127 or I-496. Travelers should take Exit 9 onto Trowbridge Road, turn left on Harrison Road, and travel north 3/4 of a mile to the parking ramp adjacent to the center. Free bus transportation will be available between Lansing's Capital City Airport and the Kellogg Center on Sunday through Friday from 7 a.m. to 10:30 p.m.

Certification Credits: The American Board of Industrial Hygiene has awarded 4.0 Certification Maintenance (CM) points to Certified Industrial Hygienists (CIH) who has satisfactorily completed the four-day conference. CM points are also available for both optional workshops.

clip below and mail

Please provide the following information: (If you wish to send more than one person, please duplicate this form.)

Name _____

Title _____

Employer's Name _____

Mailing Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____

E-mail Address _____

Check **PROBLEM SESSION** (Monday–Thursday, Feb. 7–10) AND/OR **WORKSHOP** desired:

PHASE I Introductory Ventilation System Design

PHASE II Advanced Ventilation System Design

NONSTANDARD AIR DESIGN

OPERATION AND MAINTENANCE

TROUBLESHOOTING WORKSHOP Friday, Feb. 11, 8:00 a.m. – 12:00 p.m. (no lunch)

COMBUSTIBLE DUST WORKSHOP Friday, Feb. 11, 8:00 a.m. – 3:00 p.m. (includes lunch)

Note: If you are unsure about what DESIGN CLASS to attend, see the SELF-PLACEMENT QUESTIONNAIRE for DESIGN CLASSES in this brochure. DESIGN CLASS changes can be made on the first day of the conference.

Registration Fees:

\$895 4-day Conference Course, 4-day Course paid **after** January 6, 2011

\$850 EARLY BIRD REGISTRATION. 4-day Course paid **before** January 6, 2011

\$130 TROUBLESHOOTING WORKSHOP, Friday, February 11

\$175 COMBUSTIBLE DUST WORKSHOP, Friday, February 11

Group Rate: 10% discount when registering three or more people from the same company. Call for details.

Payment Method:

Charge this registration to:

VISA



MasterCard



Credit Card Number _____

Expiration Date _____

Signature _____

Conference Staff

Nella Davis-Ray

Conference Chairman Emeritus
MIOSHA
Lansing, Michigan

William Lykes

Conference Co-chair
MIOSHA
Lansing, Michigan

Gregg Grubb

Conference Co-chair
MIOSHA
Lansing, Michigan

Jeremy Kapalla

Conference Assistant
MIOSHA
Lansing, Michigan

Bob Allen

Delphi Corporation
Hudsonville, Michigan

Kirt Boston

Torit Division of Donaldson
Minneapolis, Minnesota

William Cleary

Ventilation Consulting Services
East Lansing, Michigan

Robert Dayringer

MIOSHA
Lansing, Michigan

Doug Edwards

KBD/Technic, Inc.
Cincinnati, Ohio

James Friedman

AMEC
Minneapolis, Minnesota

Tom Godbey

Donaldson-DCE, Inc.
Louisville, Kentucky

Jonathan Hale

Air Systems Corporation
Clemmons, NC

John Hodgson

MIOSHA
Lansing, Michigan

Dan Josephs

American Air Filter International
Louisville, Kentucky

Richard Kline

Consultant
Louisville, Kentucky

Gerhard Knutson

Knutson Ventilation, Inc.
Edina, Minnesota

Ted Knutson

Knutson Ventilation, Inc.
Edina, Minnesota

Lodging

A block of rooms has been reserved at the Kellogg Center. Single occupancy is \$96. Shared occupancy is \$48 per person. **Call 1 (800) 875-5090 to make reservations.** Requests must be received by **January 6, 2011 to guarantee housing priority at the Kellogg Center.** If a shared room is requested, please indicate choice of roommate. Kellogg Center reservations will not be held past 6 p.m. unless a guarantee or advance payment is made. Because Kellogg Center housing is limited, reservations are available on a first-come, first-served basis until rooms are filled. **Maps and further details will be provided in a registration confirmation letter.**

Gregory Kozak

MIOSHA
Lansing, Michigan

Thomas H. Kroeger

Kirk & Blum
Columbia, Tennessee

Tim O'Hare

New York Blower Co.
Willowbrook, Illinois

Kristin Osterkamp

MIOSHA
Lansing, Michigan

Cynthia Penabaker

GM Worldwide
Facilities Group
Pontiac, Michigan

Jon Weeks

Twin City Fan Companies, LTD
Minneapolis, Minnesota

Robert Shearer

KBD/Technic, Inc.
Cincinnati, Ohio

Raymond Tedford

Schust Engineering, Inc.
McKees Rocks, Pennsylvania

Timothy Theeuwes

Industrial Air Solutions, Inc.
Grandville, Michigan

Richard Walli

Walli Engineering, Inc.
Oshawa, Ontario, Canada

P. Gaston White

PGW Consulting Services
Birmingham, Alabama

Self-Placement Questionnaire – REQUIRED FOR DESIGN CLASSES ONLY

Registrants should pick the class session that best fits their ability, past experience and their goals in ventilation design. To make a selection, please fill out this *Self-Placement Questionnaire* and indicate your selection on the *Registration Form* on the reverse side. If you have not

attended an industrial ventilation conference previously and do not have significant ventilation system design experience, it is **highly recommended** that you attend a **PHASE I** Introductory Ventilation System Design class (i.e., the introductory-level course).

Question	Response	Score
1. The number of contaminant control hoods, ductwork, fan, and/or collector systems that I have actually designed (as distinguished from drafting) is:	None	1
	One or two	2
	Several	3
2. When it comes to psychrometric charts, I:	Don't understand	1
	Can cope	2
	Know it well	3
3. Concerning the relationship between VP, SP, and TP, I:	Don't understand	1
	Think I understand	2
	Know it well	3
4. Regarding formal courses in fluid dynamics, fluid flow, and/or hydraulics, I have had:	None	1
	One	2
	Two or more	3
5. I have actually designed make-up air or air conditioning for the following situations:	None	1
	Commercial or light industry	2
	Heavy industry	3
Total Score		

Please compare your total score with the following table. **We strongly recommend that you attend the type of course identified by the table.**

PHASE I Introductory Ventilation System Design	0 to 9
PHASE II Advanced Ventilation System Design	10 to 12
NONSTANDARD AIR DESIGN	13 to 15

Math or Psychrometric Review

A math and psychrometric refresher will both be held at 5:30 p.m. on Monday night. The math review class will help students with the calculations relevant to industrial ventilation design. The psychrometric review discusses how to chart and defines the terms used on a chart such as dry-bulb, wet-bulb and dew point temperatures, density factor, humid volume, etc.

“Abundant information—well worth my time”

A great value!

Four days of advanced training

NEW for 2011!

- **Operations and Maintenance Class**
- **Computer-Aided Phase II Class**
- **Optional Combustible Dust Workshop on Friday**

Plus, each registration includes:
Eastwood Towne Center coupons
and access to MSU IM West
athletic facilities!

60th Annual Industrial Ventilation Conference

February 7–10, 2011

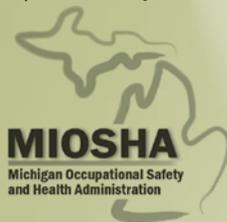
Kellogg Hotel & Conference Center
Michigan State University
East Lansing, Michigan

Who Should Attend?

Plant Engineers
Industrial Hygienists
Plant Managers
Sheet Metal Contractors
Consulting Engineers
Risk Managers
Anyone involved in
ventilation system design,
maintenance and performance

**Certification Maintenance
points available!**

Sponsored by



All meetings are accessible and barrier free. Please contact the Lansing Area Safety Council at least two weeks in advance to request necessary accommodations. The meeting site and parking is accessible. Individuals attending the meeting are requested to refrain from using heavily scented personal care products, in order to enhance accessibility for everyone. People with disabilities requiring additional services (such as materials in alternative format) in order to participate in the meeting should call 517-394-4614. The Michigan Department of Energy, Labor and Economic Growth (DELEG) is an equal opportunity employer/program.



Industrial ventilation experts from across the U.S. and Canada will provide instruction and lectures on the design, construction, use, and testing of ventilation systems. The conference offers an introductory course and two advanced courses of instruction.

Register today!

On line: www.michiganivc.org

By phone: (517) 394-4614 or (866) 423-7233

Lodging at the Kellogg Center (800) 875-5090
Further Conference Information (517) 322-6560

DESIGN SECTION CLASSES

The design conference includes more than 20 hours of classroom experience in which the registrant will have the opportunity to work out actual design problems. At least two staff members will lead each classroom design section of about 20 registrants.

Each registrant will receive classroom materials that include the most recent edition of the ACGIH publication *Industrial Ventilation, a Manual of Recommended Practice for Design*, various other technical publications, and plans and specifications for specific ventilation systems to be designed.

Registrants must bring a scientific calculator capable of performing square root and exponent functions for use during classroom sessions. All PHASE II track registrants are encouraged to bring a computer.

Registrants should select the class session that best fits their ventilation design abilities, past experiences, and their goals. To help make a selection, please fill out the *Self-Placement Questionnaire* in this flyer and indicate your selection on the *Registration Form*.

Description of Design Classes

PHASE I

Introductory Ventilation System Design This class is intended for participants who have ventilation system maintenance responsibilities. Participants who have had limited prior experience or specific education in ventilation system design or who do not design ventilation systems regularly are also recommended to attend this class. The problems will emphasize fundamentals of airflow in systems, and will include selection of exhaust hoods, determination of air volume and minimum duct velocity, sizing of ducts, calculation of system pressure losses, and selection of fans and air cleaning devices.

PHASE II

Advanced Ventilation System Design—Computer-Aided Participants selecting this class should be thoroughly familiar with exhaust system design procedures or have satisfactorily completed a Phase I Ventilation System Design class at a prior conference. **A computer aided tool will be provided and used during this class. While not required, all Phase II registrants are encouraged to bring a computer as the class will be taught using a computer-aided tool.**

NONSTANDARD AIR DESIGN

This class will deal with exhaust systems that involve elevated air temperatures and/or moisture where air density may vary significantly from standard conditions. Such variations often occur in emission control systems, as well as product drying and cooling applications. Air volume and pressure calculations will be made using psychrometric charts in order to determine duct sizes, fan characteristics, and adequate motor horsepower. Alternative starting schemes to bridge standard to nonstandard conditions will be explored.

Conference Program – DESIGN CLASSES

Sunday, February 6

5:00 p.m. – 7:00 p.m. Registration

Monday, February 7

7:00 a.m. Registration
8:30 a.m. Principles of Air Movement
9:45 a.m. Principles of Hood Design
10:30 a.m. Classroom Session—Introduction
12:00 p.m. Lunch
1:00 p.m. Classroom Sessions
2:15 p.m. Strategies for Reducing Energy Use of Industrial Ventilation Systems
3:30 – 5:00 p.m. Classroom Sessions
5:30 p.m. Mathematics Review or Psychrometric Review

Tuesday, February 8

8:00 a.m. Classroom Sessions
10:00 a.m. Fan Selection
11:00 a.m. Classroom Sessions
12:00 p.m. Lunch
1:00 p.m. Classroom Sessions
2:15 p.m. Fan System Effects
3:30 – 5:00 p.m. Classroom Sessions

Wednesday, February 9

8:00 a.m. Classroom Sessions
10:00 a.m. Fan Installation, Operation, and Maintenance
OR Ventilation: An Exhaustive Look at Hazards
11:00 a.m. Classroom Sessions
12:00 p.m. Lunch
1:00 p.m. Classroom Sessions
2:15 p.m. Mechanical Collection & Baghouses
OR Recirculation of Exhaust Air
3:30 – 5:00 p.m. Classroom Sessions
5:30 – 7:30 p.m. Reception for students & staff

Thursday, February 10

8:30 a.m. Classroom Sessions
10:00 a.m. Applied Industrial Ventilation
OR Scrubbers, ESPs and other Cleaners
11:45 a.m. Classroom Sessions
12:00 p.m. Lunch
1:00 p.m. Classroom Sessions
2:15 p.m. Stack Design
OR Ventilating Combustible Dusts
3:15 p.m. Classroom Sessions
5:00 p.m. Adjourn

Note: Ventilation system testing lab will be scheduled on Tuesday and Wednesday.

OPERATIONS AND MAINTENANCE (O&M) CLASS

This class will be limited to not more than 20 participants!

The goal of this new track is to focus less on performing calculations for designing sample ventilation systems and more on the hands-on application of basic ventilation system design, operation, and maintenance principles. This course will be taught using the American Conference of Governmental Industrial Hygienists' book, "Industrial Ventilation: A Manual of Recommended Practice for Operation and Maintenance." O&M classroom sessions will consist of a combination of seminars, classroom lectures, and hands-on sessions. Seminars designed specifically for and only provided in the O&M Class include:

- Ventilation Pollution Control Equipment
- Balancing Ventilation Systems with Dampers
- Ventilation System Troubleshooting

Other topics to be covered in the classroom sessions include:

- Introductory Ventilation System Design Principles and Concepts:
 $Q = VA$; VP , SP , and TP ; and system design procedure
- Testing Methods and System Characterization:
Introduction and calibration of testing equipment; system characterization
- Hood Analysis:
Smoke tube diagnostics; capture velocity and cross draft impacts; damper adjustment impacts; etc.
- System Analysis:
The impact of select design choices and system modification on system performance

Conference Program – O&M CLASS

Sunday, February 6

5:00 p.m. – 7:00 p.m. Registration

Monday, February 7

7:00 a.m.	Registration
8:30 a.m.	Principles of Air Movement
9:45 a.m.	Principles of Hood Design
10:30 a.m.	Classroom Sessions – Introduction
12:00 p.m.	Lunch
1:00 – 5:00 p.m.	Classroom Sessions
5:30 p.m.	Mathematics Review or Psychrometric Review

Tuesday, February 8

8:00 a.m.	Classroom Sessions
10:00 a.m.	Fan Selection
11:00 a.m.	Classroom Sessions
12:00 p.m.	Lunch
1:00 p.m.	Classroom Sessions
2:15 p.m.	Fan System Effects
3:30 – 5:00 p.m.	Classroom Sessions

Wednesday, February 9

8:00 a.m.	Classroom Sessions
10:00 a.m.	Fan Installation, Operation, and Maintenance
11:00 a.m.	Classroom Sessions
12:00 p.m.	Lunch
1:00 – 5:00 p.m.	Classroom Sessions
5:30 – 7:30 p.m.	Reception for students and staff

Thursday, February 10

8:00 a.m.	Classroom Sessions
12:00 p.m.	Lunch
1:00 p.m.	Classroom Sessions
2:15 p.m.	Ventilating Combustible Dusts
3:30 – 5:00 p.m.	Classroom Sessions



"This is one of the two best technical or business conferences I have ever attended in 40 years"

OPTIONAL WORKSHOPS

Troubleshooting Workshop

Topics

- Welcome and Introduction
- Need for maintenance, maintenance scheduling, technical documentation, and base-line at system start-up
- Procedure for Troubleshooting a System using the Static Pressure Method
- Application of Troubleshooting
- Baghouse and Fan Troubleshooting

Presenter

Doug Edwards, KBD/Technic Inc., Cincinnati, OH

This optional workshop is devoted to procedures for troubleshooting common system problems by using the static pressure method.

Combustible Dust Workshop

Topics

- Welcome and Introduction
- OSHA and Combustible Dust – A Historical Perspective
- Common Industrial Dust Terminology and Properties
- NFPA Requirements for Combustible Dusts
- Dust Collector Requirements
- Risk Assessment and Deflagration Protection System Options

Presenters

Gregg Grubb, MIOSHA, CET Division, Lansing, MI

Jonathan Hale, Air Systems Corporation, Clemmons, NC

Marty Schloss, Schloss Engineering, Greenville, SC

Kirt Boston, Torit Division of Donaldson Corp., Minneapolis, MN

Mark Kennedy, BS&B Pressure Safety Management LLC, Bloomington, MN

This optional workshop will be taught by experts in the industry. It has been designed to address regulatory and enforcement impacts on industry, NFPA consensus standards, and measures for protecting against the explosive hazards presented by combustible dusts.

All presenters will be available for questions throughout the session.

“Instructors were extremely knowledgeable and helpful.”

Conference Program – WORKSHOPS

Friday, February 11

Optional Workshops – Additional Fee Required

8:00 a.m.– 12:00 p.m. Troubleshooting Workshop (no lunch)

OR

8:00 a.m.– 3:00 p.m. Combustible Dust Workshop (includes lunch)

“Good flow,
very refined schedule”

