



# Society of Manufacturing Engineers Wabash Valley Chapter 275

November, 2006

## In this issue:

SME Wabash Meetings . . .	1
Certification Corner . . . . .	3
Wabash Membership . . . . .	3
Wabash Officers . . . . .	3
Internet Web sites . . . . .	4
Question of the Month . . . . .	4
SME 275 newsletter . . . . .	4
Meeting Photos . . . . .	5
ASQ Quality Glossary . . . . .	6

## Upcoming Dates

- Nov. 17 Wabash meeting
- Dec. 7 Wabash meeting
- Jan. 11 Wabash meeting
- Jan. 25 Motorsports  
Conference Indianapolis, IN
- Feb. 8 Wabash meeting
- Mar. 8 Wabash meeting
- Mar. 26-29 WESTEC  
Los Angeles, CA
- Apr. 12 Wabash meeting
- May. 10 Wabash meeting
- May 22-24 EASTEC  
W. Springfield, MA
- Jun. TBD Wabash golf outing

## SME Wabash Valley 275 Meeting Schedule

**SPECIAL ANNOUNCEMENT FOR THE  
DECEMBER 7 MEETING, RESERVATIONS  
SUGGESTED BY OCTOBER 31. SEE  
INFORMATION ON NEXT PAGE.**

### November 17, 2006, Friday NOTE THE FRIDAY DATE

6:00 PM \$10 Deli buffet dinner, soup, salad, deli, desert in Generations at Hulman Student Center, building 26, Indiana State University, see map on next page. Park in the Visitor Pay Lot on Fifth Street at Chestnut. Bring the parking coupon from below for free parking.

6:45 PM Steel pan theory by Dr. Uwe Hansen.

7:30 PM, Steel Drum Ensemble & Percussion Ensemble, ISU Center for Performing and Fine Arts, room 159, building 39 on map on next page or at:

<http://www.indstate.edu/top/campusmap/campusmap.pdf>

Reservations required by Tuesday November 14, contact Roy Boissy (812) 237-8329 or [arrangements@asqwabashvalley.org](mailto:arrangements@asqwabashvalley.org) Joint SME, ASM and ASQ meeting. Everyone welcome.



ASM/ASQ/SME dinner & ISU Percussion Concert  
November 17, 2006

SME Chapter 275, 10037 E. Flesher Avenue, Terre Haute,  
IN 47803

COMPLIMENTARY PARKING TICKET

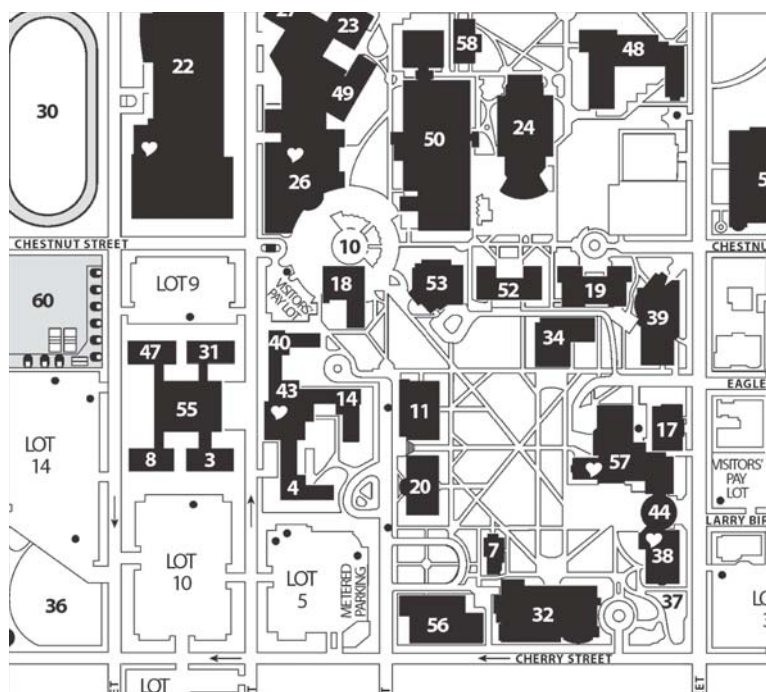
Please present to the parking attendant as you leave.

**November 17, 2006, Friday**  
Indiana State University

Park in Visitor Pay Lot on Fifth at Chestnut. Take coupon from prior page.

6:00 PM Dinner in Generations, building 26.

7:30 PM Percussion concert in ISU Center for Performing and Fine Arts, room 159, building 39.



**December 7, 2006, Thursday**

Indiana State University, Madrigal Singers and dinner, at St. Stephens Episcopal Church, 215 N. 7th Street, Terre Haute, IN 47807.

This is a non-denominational event that is well worth attending. The cost is \$15 each for a value of about \$30 each, with the ASQ, ASM and SME groups paying the difference. Reservations recommended by **October 31, 2006**, because general tickets will go on sale November 1. Availability on a first come, first served basis. Contact Roy Boissy (812) 237-8329 or [arrangements@asqwabashvalley.org](mailto:arrangements@asqwabashvalley.org) Joint SME, ASM and ASQ meeting. Everyone welcome.

**January 11, 2007, Thursday**

Aleris Blanking and Rim Products, 1140 Crawford Street, Terre Haute, IN 47803. Park on the West side of the plant, between the building and the pond, which are on the North side of Crawford Street. Times will be given later.

Reservations required by Monday, January 8, contact Roy Boissy (812) 237-8329 or [arrangements@asqwabashvalley.org](mailto:arrangements@asqwabashvalley.org) Joint SME, ASM and ASQ meeting. Everyone welcome.

**January 25 - 27, 2007**

SME Motorsports Indianapolis Conference & Exposition, Indiana Convention Center, Indianapolis, IN. More information is on the SME web site.

**February 8, 2007, Thursday**

Location is Richards Farm Restaurant, in Illinois, I-70 Exit 129, then South on Hwy 49. Go 1 mile, then turn left (East) on US 40. Go about 1/2 mile, then turn left at the first road, and continue to the barn.

5:30 PM Social and registration

6:00 PM Dinner BBQ Pork Loin or Roast Turkey and dressing

7:00 PM Dr. LeRoy Franklin talk on Statistics

Dinner cost is \$10 each, students \$6 each. Reservations required by Monday, February 5, indicate meal choice and contact Roy Boissy (812) 237-8329 or [arrangements@asqwabashvalley.org](mailto:arrangements@asqwabashvalley.org) Joint SME, ASM and ASQ meeting. Everyone welcome.

**March 8, 2007, Thursday**

Novelis tour, 5901 North 13th Street, Terre Haute, IN 47805. Steel toed shoes required. Safety glasses and earplugs will be provided. This is the former Alcan facility. Times will be given later.

Reservations required by Monday, March 5, contact Roy Boissy (812) 237-8329 or [arrangements@asqwabashvalley.org](mailto:arrangements@asqwabashvalley.org) Joint SME, ASM and ASQ meeting. Everyone welcome.

**March 26 - 29, 2007**

SME WESTEC, Los Angeles, CA. More information is on the SME web site.

**April 12, 2007, Thursday**

Student donation night  
Times and location will be given later.

Reservations required by Monday, April 9, contact Roy Boissy (812) 237-8329 or [arrangements@asqwabashvalley.org](mailto:arrangements@asqwabashvalley.org) Joint SME, ASM and ASQ meeting. Everyone welcome.

**May 10, 2007, Thursday**

Challenge X update, Rose-Hulman Institute of Technology  
Times and location will be given later.

Reservations required by Monday, May 7, contact Roy Boissy (812) 237-8329 or [arrangements@asqwabashvalley.org](mailto:arrangements@asqwabashvalley.org) Joint SME, ASM and ASQ meeting. Everyone welcome.

**May 22 - 24, 2007**

SME EASTEC, W. Springfield, MA. More information is on the SME web site.

**June, 2007**

Golf outing at the Country Club of Terre Haute, 57 Allendale Street, Terre Haute, IN 47802. Picnic to follow after the golf outing. Times will be given later.

For reservations, contact Roy Boissy (812) 237-8329 or [arrangements@asqwabashvalley.org](mailto:arrangements@asqwabashvalley.org) Joint SME, ASM and ASQ meeting. Everyone welcome.

**Certification Corner**

If you are interested in participating in a study group for the CMfgE - Certified Manufacturing Engineer, please send an e-mail to [smewabash@yahoo.com](mailto:smewabash@yahoo.com) and provide your contact information. The tentative plans are to start up in January, 2006, and take the exam in April or May.

More information on all SME Certifications may be found at <http://www.sme.org> then click on Professional Development drop down menu Certification. More information on the SME Lean Certification may be found by then clicking on Lean Certification, from that page.

**SME Wabash Valley 275 Membership**

Welcome new SME Wabash Valley Chapter members:

Mr. Daniel L. Heikes  
Dr. David W. Melton

**SME Wabash Valley Officers for 2006**

Hank Leonhardt, Chair  
Michael Hayden, Vice Chair  
Bill Wortman, Secretary  
Wes Richardson, Treasurer

You may send an e-mail to any of the above individuals by sending to [smewabash@yahoo.com](mailto:smewabash@yahoo.com) and including the name of the person you wish to contact. Place SME Wabash Valley in the Subject line. Your e-mail will be forwarded to the indicated person.

James K. McNeely, Membership Consultant  
Natalie Lowell, Member Relations Manager  
Ronald P. Harrelson, Member Council Representative

## Internet Information and Web Sites

This month we will describe how to locate information about SME Chapters and Student Chapters.

Go to the SME International web site at <http://www.sme.org>. Hold the mouse over "About SME" then click on "Chapters/Local Communities" on the drop-down menu.

Scroll down to U.S. Chapters, then click on a State of interest, for example, Indiana. Contact information for Senior and Student Chapters in that State are shown. If the Chapter has a web site, it will be underlined and linked by clicking on the name of the Chapter.

The next time you are traveling, try going to the Chapter web site or contacting the person shown, to see if they will be having a meeting during the time that you are in their city.

---

## Relevant Internet Web Sites

SME Wabash Valley, Chapter 275

<http://chapters.sme.org/275/>

SME Indiana State University, Chapter S089

<http://chapters.sme.org/s089/>

SME International

<http://www.sme.org>

ASQ Wabash Valley, Section 0919

<http://www.asqwabashvalley.org/>

ASQ International

<http://www.asq.org>

ASM Wabash Valley

<http://chapters.sme.org/275/asm.htm>

ASM International

<http://www.asminternatinal.org>

---

## Question of the Month

What are SME Blue Books?

If you think you know the answer, send an e-mail to [smewabash@yahoo.com](mailto:smewabash@yahoo.com). The first person with the correct answer will have their name listed in next month's newsletter.

The answer will be given next month.

## Answer for October's Question

WESTEC is the West Coast's main manufacturing resource. It's the place to find the emerging technologies and applications, networking opportunities, and business development ideas you need to compete. It will be held at the Los Angeles Convention Center, March 26 to 29, 2007.

More information is at:

<http://www.sme.org/cgi-bin/get-event.pl?--001658-000007-020163--SME->

---

**The SME Wabash Valley Newsletter** newsletter is a publication of SME Wabash Valley, Chapter 275, located in Terre Haute, Indiana.

Articles, comments or other feedback may be sent to:

Wesley Richardson, Newsletter Editor  
10037 E. Flesher Avenue  
Terre Haute, IN 47803-9638  
[smewabash@yahoo.com](mailto:smewabash@yahoo.com)

Deadline for submitting information for the December newsletter is November 20.



**Dr. McGarvey talk on Measurement Errors and Uncertainty**



**Dr. McGarvey talk on Measurement Errors and Uncertainty**

## ASQ Quality Glossary

<http://www.asq.org/glossary>

**Control plan (CP):** A document that describes the required characteristics for the quality of a product or service, including measures and control methods.

**Coordinate measuring machine (CMM):** A device that dimensionally measures 3-D products, tools and components with an accuracy approaching 0.0001 in.

**Corrective action:** The implementation of solutions resulting in the reduction or elimination of an identified problem.

**Corrective action recommendation (CAR):** The full cycle corrective action tool that offers ease and simplicity for employee involvement in the corrective action/process improvement cycle.

**Correlation (statistical):** A measure of the relationship between two data sets of variables.

**Cost of poor quality (COPQ):** The costs associated with providing poor quality products or services. There are four categories of costs: internal failure costs (costs associated with defects found before the customer receives the product or service), external failure costs (costs associated with defects found after the customer receives the product or service), appraisal costs (costs incurred to determine the degree of conformance to quality requirements) and prevention costs (costs incurred to keep failure and appraisal costs to a minimum).

**Cost of quality (COQ):** A term coined by Philip Crosby referring to the cost of poor quality.

**Count chart:** A control chart for evaluating the stability of a process in terms of the count of events of a given classification occurring in a sample.

**Count per unit chart:** A control chart for evaluating the stability of a process in terms of the average count of events of a given classification per unit occurring in a sample.

**C<sub>p</sub>:** The ratio of tolerance to six sigma, or the USL (upper specification limit) minus the LSL (lower specification limit) divided by six sigma. It is sometimes referred to as the engineering tolerance divided by the natural tolerance and is only a measure of dispersion.

**C<sub>pk</sub> index:** Equals the lesser of the USL minus the mean divided by three sigma (or the mean) minus the LSL divided by three sigma. The greater the C<sub>pk</sub> value, the better.

**Critical processes:** Processes that present serious potential dangers to human life, health and the environment or that risk the loss of very large sums of money or customers.

**Crosby, Philip (deceased):** The founder and chairman of the board of Career IV, an executive management consulting firm. Crosby also founded Philip Crosby Associates Inc. and the Quality College. He wrote many books including *Quality Is Free*, *Quality Without Tears*, *Let's Talk Quality*, and *Leading: The Art of Becoming an Executive*. Crosby, who originated the zero defects concept, was an ASQ Honorary Member and past president.

**Cross functional:** A term used to describe a process or an activity that crosses the boundary between functions. A cross functional team consists of individuals from more than one organizational unit or function.

**Cross pilot:** See "scatter diagram."

**Cultural resistance:** A form of resistance based on opposition to the possible social and organizational consequences associated with change.

**Culture change:** A major shift in the attitudes, norms, sentiments, beliefs, values, operating principles and behavior of an organization.

**Culture, organizational:** A common set of values, beliefs, attitudes, perceptions and accepted behaviors shared by individuals within an organization.

**Cumulative sum control chart (CUSUM):** A control chart on which the plotted value is the cumulative sum of deviations of successive samples from a target value. The ordinate of each plotted point represents the algebraic sum of the previous ordinate and the most recent deviations from the target.

**Current good manufacturing practices (CGMP):** Regulations enforced by the U.S. Food and Drug Administration for food and chemical manufacturers and packagers.

**Customer:** See "external customer" and

"internal customer."

**Customer delight:** The result of delivering a product or service that exceeds customer expectations.

**Customer relationship management (CRM):** A strategy used to learn more about customers' needs and behaviors to develop stronger relationships with them. It brings together information about customers, sales, marketing effectiveness, responsiveness and market trends. It helps businesses use technology and human resources to gain insight into the behavior of customers and the value of those customers.

**Customer satisfaction (CS):** The result of delivering a product or service that meets customer requirements.

**Customer-supplier model (CSM):** A model depicting inputs flowing into a work process that, in turn, add value and produce outputs delivered to a customer. Also called customer-supplier methodology.

**Customer supplier partnership:** A long-term relationship between a buyer and supplier characterized by teamwork and mutual confidence. The supplier is considered an extension of the buyer's organization. The partnership is based on several commitments. The buyer provides long-term contracts and uses fewer suppliers. The supplier implements quality assurance processes so incoming inspection can be minimized. The supplier also helps the buyer reduce costs and improve product and process designs.

**Cycle time:** The elapsed time between the start and completion of a task or an entire process; for example, in order processing it can be the time between receipt and delivery of an order.

## D

**Data:** A set of collected facts. There are two basic kinds of numerical data: measured or variable data, such as "16 ounces," "4 miles" and "0.75 inches," and counted or attribute data, such as "162 defects."

**D chart:** See "demerit chart."

**Decision matrix:** A matrix used by teams to evaluate problems or possible solutions. After a matrix is drawn to evaluate possible solutions, for example, the team lists them in the far left vertical column. Next, the team

selects criteria to rate the possible solutions, writing them across the top row. Third, each possible solution is rated on a scale of 1 to 5 for each criterion, and the rating is recorded in the corresponding grid. Finally, the ratings of all the criteria for each possible solution are added to determine its total score. The total score is then used to help decide which solution deserves the most attention.

**Defect:** A product's or service's nonfulfillment of an intended requirement or reasonable expectation for use, including safety considerations. There are four classes of defects: class 1, very serious, leads directly to severe injury or catastrophic economic loss; class 2, serious, leads directly to significant injury or significant economic loss; class 3, major, is related to major problems with respect to intended normal or reasonably foreseeable use; and class 4, minor, is related to minor problems with respect to intended normal or reasonably foreseeable use (see also "blemish," "imperfection" and "nonconformity").

**Defective:** A defective unit; a unit of product that contains one or more defects with respect to the quality characteristic(s) under consideration.

**Delighter:** A feature of a product or service that a customer does not expect to receive but that gives pleasure to the customer when received.

**Demerit chart:** A control chart for evaluating a process in terms of a demerit (or quality score), in other words, a weighted sum of counts of various classified nonconformities.

**Deming cycle:** Sometimes called the Shewhart cycle (see "plan-do-check-act cycle").

**Deming Prize:** Award given annually to organizations that, according to the award guidelines, have successfully applied companywide quality control based on statistical quality control and will keep up with it in the future. Although the award is named in honor of W. Edwards Deming, its criteria are not specifically related to Deming's teachings. There are three separate divisions for the award: the Deming Application Prize, the Deming Prize for Individuals and the Deming Prize for Overseas Companies. The award process

is overseen by the Deming Prize Committee of the Union of Japanese Scientists and Engineers in Tokyo.

**Deming, W. Edwards (deceased):** A prominent consultant, teacher and author on the subject of quality. After Deming shared his expertise in statistical quality control to help the U.S. war effort during World War II, the War Department sent him to Japan in 1946 to help that nation recover from its wartime losses. Deming published more than 200 works, including the well-known books *Quality, Productivity, and Competitive Position* and *Out of the Crisis*. Deming, who developed the 14 points for managing, was an ASQ Honorary Member.

**Dependability:** The degree to which a product is operable and capable of performing its required function at any randomly chosen time during its specified operating time, provided that the product is available at the start of that period. (Nonoperation related influences are not included.) Dependability can be expressed by the ratio: time available divided by (time available + time required).

**Deployment:** Dispersion, dissemination, broadcasting or spreading of a communication throughout an organization, downward and laterally.

**Design of experiments (DOE):** A branch of applied statistics dealing with planning, conducting, analyzing and interpreting controlled tests to evaluate the factors that control the value of a parameter or group of parameters.

**Design for Six Sigma (DFSS):** See "DMADV."

**Designing in quality vs. inspecting in quality:** See "prevention vs. detection."

**Deviation:** In numerical data sets, the difference or distance of an individual observation or data value from the center point (often the mean) of the set distribution.

**Diagnosis:** The activity of discovering the cause(s) of quality deficiencies; the process of investigating symptoms, collecting and analyzing data, and conducting experiments to test theories to determine the root cause(s) of deficiencies.

**Diagnostic journey and remedial journey:** A two-phase investigation used by teams to solve chronic quality problems. In the first

phase, the diagnostic journey, the team journeys from the symptom of a chronic problem to its cause. In the second phase, the remedial journey, the team journeys from the cause to its remedy.

**Dissatisfiers:** The features or functions a customer expects that either are not present or are present but not adequate; also pertains to employees' expectations.

**Distribution (statistical):** The amount of potential variation in the outputs of a process, typically expressed by its shape, average or standard deviation.

**DMADV:** A data driven quality strategy for designing products and processes, it is an integral part of a Six Sigma quality initiative. It consists of five interconnected phases: define, measure, analyze, design and verify.

**DMAIC:** A data driven quality strategy for improving processes and an integral part of a Six Sigma quality initiative. DMAIC is an acronym for define, measure, analyze, improve and control.

**Dodge, Harold F. (deceased):** An ASQ founder and Honorary Member. His work with acceptance sampling plans scientifically standardized inspection operations and provided controllable risks. Although he usually is remembered for the Dodge-Romig sampling plans developed with Harry G. Romig, Dodge also helped develop other basic acceptance sampling concepts (consumer's risk, producer's risk, average outgoing quality level) and several acceptance sampling schemes.

**Dodge-Romig sampling plans:** Plans for acceptance sampling developed by Harold F. Dodge and Harry G. Romig. Four sets of tables were published in 1940: single sampling lot tolerance tables, double sampling lot tolerance tables, single sampling average outgoing quality limit tables and double sampling average outgoing quality limit tables.

**Driving forces:** Forces that tend to change a situation in desirable ways.