



AMERICAN SOCIETY
FOR QUALITY™

ASQ Greater Detroit Section 1000

QUALITY HERALD

www.asqdetroit.org

November 2007

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ASQ Greater Detroit Section November Events *by Peter Vadhanasindhu*

The ASQ Greater Detroit Section will be offering several events this month.

On Thursday, November 15, 2007, the General Membership Meeting will feature Bob Doering, who will be speaking on the topic of SPC.

Mr. Doering has over 28 years of experience in various industries, including aerospace, automotive, retail, and medical fields.

He is also an adjunct instructor in Engineering Technology and Enrollment Services at Lorain County Community College, Ohio. He holds a BA and MBA from Baldwin-Wallace College, in addition to several associates degrees.

The meeting will be held at Madonna University in Livonia. Doors open at 5:30 PM and the presentation starts at 6:00 PM.

A plant tour of RCO Engineering will be offered at 5:30 PM on Monday, Nov. 19, 2007.

RCO Engineering offers design, prototype, and production services for many types of manufacturing processes, including injection molding, stamping, and welding.

RCO Engineering is located at 29200 Calahan St., Roseville, MI.

ASQ Calendar

Date	Time	Event, Location	RUs	Cost, Contact
11/15/07	6:00 PM (presentation)	General Membership Meeting SPC: When Normal is Not Typical - Bob Doering Madonna Univ., Livonia	0.3	Free. Register online at www.asqdetroit.org
11/17/07 - 3/01/08	8:00 AM - 1:00 PM	Certified Six Sigma Black Belt Refresher Course Macomb Community College, Warren (course starts 11/17; 10 sessions on Saturdays)	5.0	\$1000. Contact Rajinder Kapur, rajinderkapur@yahoo.com for additional information
11/17/07 - 3/01/08	8:00 AM - 12:00 PM	Certified Quality Technician Refresher Course Macomb Community College, Warren (course starts 11/17; 10 sessions on Saturdays)	4.0	\$325. Contact Glinda Mantyk, glinda.b.mantyk@gm.com for additional information
11/17/07 - 3/01/08	8:00 AM - 12:00 PM	Certified Quality Inspector Refresher Course Macomb Community College, Warren (course starts 11/17; 10 sessions on Saturdays)	4.0	\$325. Contact Steve Leggett, steve.leggett@gm.com for additional information
11/19/07	5:30 PM	Presentation & Tour of RCO Engineering Warren, Michigan (more info above)	0.4	Free; contact Steve Leggett, steve.leggett@gm.com for info
1/17/08	6:00 PM (presentation)	General Membership Meeting SPC Case Studies - Clem Goebel Macomb Community College, Warren	0.3	Free. Register online at www.asqdetroit.org

Any views or opinions expressed in articles are those of the author(s) and do not necessarily represent the views or opinions of the American Society for Quality (ASQ), the ASQ Greater Detroit Section, or its board members.

Getting the Most from Your Membership *by Steve Leggett*

Do you know what your ASQ benefits are and do you use them? The ASQ Greater Detroit Section #1000 offers so many benefits; it is hard to keep track of them. There are refresher courses for certification exams and free tutoring, daylong Quality Seminars, free plant tours, and excellent, well-known speakers at the monthly general membership meetings. There are also many benefits at the national level; you can visit the ASQ website (www.asq.org) to learn more about your great benefits.

Your ASQ Greater Detroit Section Executive Committee is meeting monthly to help plan even more events for the membership. Your new Chair, Kush Shah, is leading the team to develop new and creative ideas to offer more value for your membership dollars, enhance professional development, retain members and grow the ASQ Greater Detroit Section (GDS) membership. The GDS is offering more classes, seminars, tours and meetings than ever before. In 2008, we are asking that all ASQ-GDS members to try to recruit a new member. The Executive Committee is challenging its membership, and we all know what our GDS membership can do!

It seems we are losing ASQ members yearly; the numbers have dropped over the last five years. It could be because the companies that we work for don't pay for our membership, or we just forget to renew. Everyone may slip once in a while,

but please make sure that you pay your dues so you don't lose any of your benefits. Please keep your own membership current and try to recruit one new member. If every member asks one person to join ASQ, we should begin to see an increase in our membership. Have you asked any of your coworkers if they are members of ASQ? Next year, we will be having an ASQ Membership Drive, and if you can recruit any new members, you will be rewarded with a very special gift from ASQ.

Every ASQ member needs to visit our www.asqdetroit.org website and read your bi-monthly *Quality Herald (QH)*. We are looking for more technical articles to be published in the next *QH*, as this will help expand the knowledge of each ASQ member. If you would like to submit a technical article, contact the *Quality Herald* editor, Peter Vadhanasindhu, at cocoavad@earthlink.net.

The economy is getting better and there are more job opportunities that will fit any ASQ member. If you are looking for a new job, you can now post your resume on the website. Corporations and recruiters can advertise their positions on the website for a small fee, and they can advertise in the *Quality Herald*. Please take a very close look at their ads and contact the corporations to help you increase your knowledge and improve yourself.

There are also plenty of opportunities to

keep your training skills updated or take a refresher course that will help you if you would like to take one of the certification exams. This ASQ section offers more classes than any other section in Michigan. Please take look at the education classes offered on the back page of the *Quality Herald*. Whatever your interests, ASQ can fill your needs.

Please also take a close look at the Calendar of Events on the front page of the *Quality Herald* (or online at our website). We have monthly meetings with great speakers and topics coming up. Don't forget to register for the upcoming quality events. There are a few free plant tours that are being scheduled over the next few months, so every member needs to visit your website, too. There are some special things being planned, and you don't want to miss these events.

There are also a few open positions on the Executive Committee as well as other committees, and we need your help. Please consider one of these very important and necessary positions. If you need recertification units (RU's), this is a great way to help you achieve your goals towards your recertification. If you wish to volunteer for an event or committee, please contact our section Vice-Chair, Larry D'Agostino, at ladmalta@aol.com.

Have a Quality Day!

ASQ Refresher Courses *Register Early and \$ave*

Classes held at Macomb Community College,
South Campus, Building "T", Warren, Michigan

Certified Six Sigma Black Belt Refresher Course starts Saturday, November 17, 2007.
For more information, contact Rajinder Kapur, rajinderkapur@yahoo.com

Certified Quality Technician Refresher Course starts Saturday, November 17, 2007.
For more information, contact Glinda Mantyk, glinda.b.mantyk@gm.com

Certified Quality Inspector Refresher Course starts Saturday, November 17, 2007.
For more information, contact Steve Leggett, steve.leggett@gm.com

More Courses Available on Page 8!

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For more information about refresher courses, see schedule on page 8.

The personal data is submitted for Section use only

Please register me for the course indicated below:

**ASQ REFRESHER COURSE
 REGISTRATION FORM**

Name Last First Middle Initial

Home Address

City State ZIP Phone (circle: home / cell)

Employer

Employer Address

City State ZIP Work

ASQ MEMBER Member No:

COURSE NAME AND NUMBER

Payment: Make check payable to: **Greater Detroit Section, ASQ**

**Mail to: Greater Detroit Section 1000
 27350 Southfield Rd., Suite 102
 Lathrup Village, MI 48076**

Personal Check #		Amount		Company Check No.		Amount	
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Health Care and Tools from the Auto Industry *by Ruan Varney*

Similarities exist between the auto manufacturing industry and hospital laboratories. Both are services that deliver goods to customers. Both strive to deliver defect-free products to specified customers in a minimal amount of time.

Such is a comparison made between the Rouge Plant and the surgical pathology laboratory at Henry Ford Hospital. In the early 1900s, Henry Ford, our founder, demonstrated that, starting with raw material “iron ore” shipped from the Upper

Peninsula, he could deliver an automobile to a customer just three days later. Thus the first automated production line was born. He further perfected the line to reduce waste and shorten the production cycle.

Similarly, the surgical pathology laboratory uses human tissue as raw material and generates a diagnostic report. Under the leadership of Dr. Richard J. Zarbo, we have adopted this philosophy and the principles of the Toyota Production Sys-

tem and have created a continuous improvement initiative called the Henry Ford Production System. This unique process reduces waste by empowering the workers at all levels.

To learn more about the Henry Ford Production System, please visit our website at <http://www.henryford.com/HFProductionSystem>, or you may contact Ruan Varney at rvarney1@hfhs.org or (313) 916-2595.



Quality Systems Technology

Macomb Community College is pleased to make the members of ASQ Greater Detroit Section aware of the quality related courses that will be offered this Winter term starting 1/10/08.

Course No	Description	Day	Time	Dates	Cost*
QUAL-1011	Quality Fundamentals	Thursday	6:00 - 9:55 pm	1/10/08 - 5/8/08	\$261.00
QUAL-1021	Inspection Techniques	Tuesday	6:00 - 9:55 pm	1/15/08 - 5/6/08	\$261.00
QUAL-1030	Statistical Quality Control	Wednesday	6:00 - 9:55 pm	1/16/08 - 5/7/08	\$311.00
QUAL-1051	Standards-AIAG, ANSI/ASQC, ASME, ISO	Tues - Thurs	4:30 - 5:55 pm	1/10/08 - 5/8/08	\$241.00
QUAL-1051	Standards-AIAG, ANSI/ASQC, ASME, ISO	Friday	5:00 - 7:55 pm	1/11/08 - 5/9/08	\$241.00
QUAL-1201	Geometric Dimensioning & Tolerancing with Applications Lab	Thursday	6:00 - 9:55 pm	1/10/08 - 5/8/08	\$241.00
QUAL-1201	Geometric Dimensioning & Tolerancing with Applications Lab	Monday	6:00 - 9:55 pm	1/14/08 - 5/5/08	\$241.00
QUAL-2111	Advanced Metrology Laboratory	Monday	6:00 - 9:55 pm	1/14/08 - 5/5/08	\$284.00
QUAL-2211	Calibration, ISO 17025 and Uncertainty	Saturday	9:00 - 4:55 pm	2/2/08 - 3/29/08	\$284.00
QUAL-2400	Project Management	Monday	6:00 - 8:55 pm	1/14/08 - 5/5/08	\$241.00
QUAL-2451	Applied Problem Solving and Design of Experiments	Friday (every other)	6:00 - 9:55 pm	1/11/08 - 5/2/08	\$171.00
QUAL 2550	Continuous Improvement	Wednesday	6:00 - 9:55 pm	1/16/08 - 5/7/08	\$241.00

*Costs shown include tuition and fees for Macomb County residents. Costs for non-Macomb County residents are slightly higher.

All Quality classes are held at Macomb Community College, South Campus (located between 12 Mile Road and Martin Road, west of Hayes Road) in R, S, or T building, conveniently located near the Martin Road entrance.

CAD classes being offered for Winter 2008:

- CATIA V5: Intro & Solid Modeling, Assemblies & Drafting, Generative Shape Design, and Intro to Surfacing
- Unigraphics NX3: Intro to Solid Modeling, Assemblies & Drafting, Hybrid Modeling, and Freeform Modeling
- AutoCAD Release 2006/2007: Intro to 2D & 3D AutoCAD and Detailing & Assemblies
- SolidWorks: Parametric Solid Modeling and Components & Assemblies

Whether you are pursuing a degree, one of our certificate options or updating your skills, Macomb Community College offers a superior education at an affordable price.

To register, go to macomb.edu and click on the web registration link or call 586-445-7435.

ASQ Quality Seminar Features Quality Function Deployment, Design of Experiments, and Health Care Quality Topics *by Peter Vadhanasindhu*

On Saturday, October 13, 2007, the ASQ Greater Detroit Section hosted another one-day Quality Seminar. These seminars are an excellent way for members to gain an overview of important subjects in the quality profession.

The October Quality Seminar featured

speakers on Quality Function Deployment (QFD), Design of Experiments (DoE), and Health Care Quality.

The morning session was devoted to QFD. This topic was presented by **Chad Johnson** and **Glenn Mazur** of the QFD Institute.

The afternoon session featured **Larry Scott**, who spoke on Design of Experiments, and **Dr. Ranjit Roy**, who spoke on simultaneous evaluation of multiple objectives in the health care industry.

More information about the speakers is available below.

About the Speakers

Chad Johnson is a Six Sigma Master Black Belt with the TRW Automotive Braking Division World Headquarters in Livonia, MI.

Mr. Johnson is an ASQ Certified Six Sigma Black Belt and has held the position of Master Black Belt for the last four years leading 6Sigma strategy, material development, training, and project implementation across global TRW sites. Mr. Johnson focuses primarily on DFSS Optimization and QFD.

Mr. Johnson holds a Bachelor of Science degree from General Motors Institute in Mechanical Engineering. He began his engineering career with the Allison Gas Turbine division of General Motors in 1984 as a undergraduate co-op student in Quality. He remained a full time employee until 1991 when he transferred to Hughes Aircraft in Troy, MI developing Noise & Vibration diagnostic & test systems. He moved to TRW Automotive in 1993 as a braking slip-control systems engineer and naturally returned to his Quality "roots" by moving into the Six Sigma program in 2001 upon its inception within TRW.

About the QFD Institute:

QFD was developed in Japan in the 1960s to improve customer satisfaction and value by improving the upstream design and development process (quality assurance) in addition to improving the downstream manufacturing process (quality control). Today, we might loosely label DFSS as quality assurance and Six Sigma as quality control. Within the DFSS envelope we can place QFD as one of the main engines.

When QFD was brought to the US by the auto industry in the mid 1980s, several important shortcuts were made to expedite adoption, particularly in the supplier base. These became known as the 4-Phase QFD model that relied heavily on the House of Quality as the main document. HoQ assumed as its input an accurate and complete understanding of customer needs as well as a proper organization of product data. These shortcuts were not always appropriate for end product manufacturers, service providers, software developers, and other industries. When the Big 3 outsourced some design responsibility, the 4-Phase model became inappropriate even to many of its suppliers. This led to improper use and abandonment by many companies who mis-equated QFD with the HoQ, and found even that too time consuming in their Lean initiatives.

In 2000, Dr. Yoji Akao, the co-founder of QFD, tasked the QFD Institute (a non-profit research organization to advance QFD in North America) with developing a modern QFD approach that would address global business needs as well as the resource and time constraints of companies in the 21st century. We broadened our Blitz QFD® model which we developed in the mid-1990s for rapid software development to apply to manufacturing and service applications.

The QFD Institute continues the annual Symposium started by ASQ, ASI, and GOAL/QPC. We will be holding the 20th Symposium on QFD in Santa Fe, NM in October 2008.

Larry A. Scott possesses a Bachelors degree in Education, a Masters degree in the Physical Sciences, and holds a Six Sigma Black Belt and CQE certification from ASQ. Larry's background includes ten years of materials R&D in alternative fuels research and eight years as a Process Development Engineer and Quality Team Leader with Philips Display Components Company. Areas of application include and manufacturing process enhancement and materials research within the electronics, automotive, bio & medical device industries.

In 1996, Mr. Scott established Process Technologies providing support in applied statistical methods and DOE project facilitation. Larry has trained over 6000 engineers, technicians and managers in the application of DOE methods, statistical techniques and related software.

Dr. Ranjit Roy is president of Nutek, Inc. an engineering training and consulting firm in Bloomfield Hills. After working for General Motors over a decade, Ranjit has been helping the manufacturing industries learn and apply the Taguchi experimental design technique for last 20 years. His current involvement is mainly in Design for Six Sigma (DFSS) and Project Management trainings activities. Dr. Roy is the author of numerous books and articles on quality methods.

ASQ Members Tour NTS Detroit Laboratory *by Peter Vadhanasindhu*

ASQ Greater Detroit Section had a fascinating and informative tour of the National Technical Systems (NTS) testing lab in Detroit.

The tour was conducted by NTS Vice President and Chief Engineer, Loren D. Isley, PE, and John Meser, an NTS Regional Sales Manager.

ASQ members observed a wide range of product testing and validation activities, including full-scale climatic testing (see photo), vibration testing, corrosion testing, cyclical load/vibration testing, and

combined climatic-vibration and climatic-corrosion testing. Members had a chance to step into an anechoic chamber used to measure acoustical properties of components for NVH characteristics.



ASQ members also witnessed dynamometer tests on components such as engine and driveline systems.

The tour was preceded by a brief overview presentation explaining some of the corporate capabilities of National Technical Systems. NTS serves a numerous industries with highly specialized laboratory and field locations. The numerous methods offered include electronic/electrical, environmental, shock, and acoustical testing.

For more information about NTS, visit their website at: www.ntscorp.com

The Analytic Logic Map of Topographic Problem Solving *by John Allen*

Note: To get the most from this article, see the graphics at <http://www.tnsft.com/seminars/analytic-logic-map.htm>

Most problems, whether technical, logistical, or other are solved by one person, working alone. A foreman or a technician might recognize a problem, figure out why the problem occurred based on the symptoms, quickly identify the cause, implement a solution then move on. Those older and more experienced might be better and faster. Experts who have had the luxury of a good mentor or have been trained in a guild or at a professional school, are the often the best. "There is nothing he can't fix," is a comment I often heard about an old toolmaker a long time ago.

This efficient and ancient way of solving problems is based on *symptomatic*, or case-based knowledge. An expert at *symptomatic* problem solving can quickly answer the question, "What is wrong?" An expert makes associations with what he or she has seen before, drawing upon a wealth of experience, knowledge, and training. You don't need a meeting or a team if you can call on an expert. Expert knowledge is powerful and fast way to solve problems, but training an expert takes a long time and a lot of case studies. To compete, a company must build case studies and systematically teach captured knowledge from those cases to create experts.

We need to recognize when the *symptomatic* approach has broken down and be

ready to change tactics. Maybe we have no case study to fall back on, because we have a new, or novel problem. If, when asking the question, "What is wrong?" one person gives two answers, or two people different answers, or a group of people say, "we don't know," we need to change tactics. *Symptomatic* is not always the proper way. If we don't change the approach, then well-intentioned people will try to help, resulting in the bane of expert problem solving: disorganized brainstorming and guessing.

When the symptomatic approach breaks down, a *topographic*, or model-based, approach is called for. There are three integrated tactics necessary to effectively employ the *topographic*, model-based approach. They are *functional*, *structural*, and *probabilistic*.

The first, and most important subset of *topographic* is *functional*. At TNSFT, Ltd. we use *functional* to build models using a very disciplined approach to answer the question, "How is this supposed to work?" to decompose how machines use energy. We integrate bond graphs (see <http://www.bondgraph.info/about.html> for more info) and FAST (Functional Analysis Systems Technique). We think you have to know "how stuff works" before you can try to figure out why it won't work! *Functional* is the foundation for the other tactics.

Second is *structural*, helpful in answering the question, "What is different?"

between two captured parts or machines from the opposite ends of performance distributions. *Structural* is based on what things are made of, instead of how they are made. There are a series of well-known algorithms to help. (The tactics are described at <http://www.tnsft.com/news/> in the Convergent Diagnostics for Variation Reduction trifold.)

Third is *probabilistic*. This help answer the question, "What has changed?" and to identify useful patterns to help decompose causal systems. The *probabilistic* approach also is used to help confirm answers to the important questions with significance testing. *Probabilistic* works best when combined with *functional* and *structural*. That way, we know how things are supposed to work, and how they are made, so non-random patterns can be even more helpful in system decomposition.

Topographic tactics are all about system decomposition when the symptoms alone are not enough to diagnose a problem. Actually, building *topographic* models can be thought of as doing on paper what an expert does in his/her head, when he/she can't, and capturing what we learn, so the next time, we all can.

John Allen (john.allen@tnsft.com) and David Hartshorne (david.hartshorne@tnsft.com) are founders of The New Science of Fixing Things, Ltd. which focuses on ways to teach technical people how to solve problems faster and make machines run better, longer.

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ASQ Greater Detroit Section, 2007 / 2008 Schedule of Refresher Courses

All classes are held on Saturday at Macomb Community College South Campus, T Building (located between 12 Mile Rd & Martin Rd, west of Hayes Rd). Refresher course starting dates are subject to change, students should verify.

Certification <i>Contact: Rajinder Kapur</i> 248-703-7148	Refresher Course #	Refresher Course Start Date	Examination Application (Last) Date	Examination Date	Pre-Registration FEE*	On-Site Registration FEE*
Certified (CQE) Quality Engineer 12 Sessions Saturday 8 a.m. - Noon	CQE208 CQE808	2-9-08 8-9-08	4-4-08 10-3-08	6-7-08 12-6-08	\$450	\$500
Certified (CQT) Quality Technician 10 Sessions Saturday 8 a.m. - Noon	CQT1107 CQT708	11-17-07 7-12-08	1-11-08 8-15-08	3-1-08 10-18-08	\$325	\$350
Certified (CQI) <i>formally CMI</i> Quality Inspector 10 Sessions Saturday 8 a.m. - Noon	CQI1107 CQI708	11-17-07 7-12-08	1-11-08 8-15-08	3-1-08 10-18-08	\$325	\$350
Certified (CSSBB) Six Sigma Black Belt 10 Sessions Saturday 8 a.m. - 1 p.m.	CSSBB1107 CSSBB608	11-17-07 6-21-08	1-11-08 8-15-08	3-1-08 10-18-08	\$1000	\$1100
Certified (CSSGB) Six Sigma Green Belt 7 Sessions Saturday 8 a.m. - 1 p.m.	CSSGB308 CSSGB0908	3-15-08 9-20-08	4-4-08 10-3-08	6-7-08 12-6-08	\$500	\$550


For more information on Body of Knowledge and Registration forms, follow: www.asqdetroit.org/courses.php

*NOTE: This fee for the refresher course **includes** course materials. The fee does **not** include membership fees and/or Exam Application fees. You will be considered pre-registered if your application and full fee are received 1 week before the course start.

For address, phone number or e-mail changes, contact ASQ Headquarters at 1-800-248-1949

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