Message From The Program Chair

Thanks to the section members who provided input in developing the 2014-2015 Program. And special thanks to the speakers for accepting invitations to speak at Section 1010 and share their knowledge and expertise with our members and guests.

You don’t need to belong to ASQ to attend any of our meetings. Meetings are open to students, faculty, and anyone whose work involves Quality, or who is interested in learning more about Quality processes.

Section 1010 meets usually the first Monday of each month October through May at Gift of Life Michigan, 5:30-7:30 p.m. The presentation begins at 6:00 p.m., with refreshments and socializing starting at 5:30 p.m.

The September meeting is held jointly with the ASQ Automotive Division and ASQ Greater Detroit Section 1000.

I look forward to meeting you.

Dr. Jay Zhou

Program Chair
Duty cycle development is one of the critical elements in product development. The objective of this presentation is to explain the importance of duty cycle and the development process. A detailed example for electric vehicle regen braking will be used to demonstrate the process and how the results are used for product validation.

Bio:

- Dr. Mohammad Hijawi has 26 years of engineering, research, and managerial experience specializing in Quality and Reliability. He received a doctorate in Mechanical Engineering from the Wayne State University.

- Dr. Hijawi is a Quality and Reliability Engineering Technical Fellow at Chrysler Group LLC. He is a Chrysler/ASI Certified DFSS Master Blackbelt, and ASQ certified Six Sigma Black Belt. He is the author of multiple professional publications on the topics of reliability, statistics, vibration and DFSS.
A recognizable methodology for the minimization of process variation is one of the key elements of an effective operating system within a production process. Modern steel producing and finishing facilities are equipped with multitudes of sensors, controls and data collection systems. The challenge is to employ these vast information resources for enhancing process variable control in the most efficient way, leveraging modern capabilities for data acquisition and processing. Currently available signal processing speed can not only determine significant changes in process output, but in the case of “black box” control algorithms, can also be used to detect signal degradation for fast response ahead of discrepant production.

This presentation will show the derivation of an approach for comparing control methods and identifying improvement opportunities from a control plan comparison (CPC) framework. This methodology applies a set of clear and objective criteria in ranking quality control methods for process variables at peer facilities and applies an internally developed ranking scale. These scales assign a value on control methods from most effective to least effective which then leads to a process for creating a visual look at best practice applied to the control of specific variables in similar operating processes.

The presentation describes the proposed approach and methods for comparing Control Plans and data gathering mechanisms and usage, as well as results of implementation of this methodology in application to common intercompany global operations. The approach can be utilized by enterprises operating within a multi-plant operation for identifying improvement opportunities and best practices for process variable control and has potential to be valued in a competitive framework among peer organizations. Based on this potential for pre-competitive process benchmarking, a proposal to the WorldSteel organization was made to leverage the process among global steel operations for best practice identification. Several major global steel manufacturers expressed interest.

(Bio next page)
Christopher Kristock  
Vice President  
Quality and Advanced Technology,  
SET Enterprises  

Retired Vice President  
Quality Assurance and Product Development  
Severstal North America

Chris is an experienced Quality professional who has spent a large portion of his career applying quality system tools to situation appropriate and executable control strategies and systems in the diverse steelmaking and finishing industry.

His accomplishments include the creation and implementation of a functional, corporate wide, Quality Information System that utilizes Hyperlinks within online quality reports to provide fingertip access to quality data analysis which is distributed to line level computer terminals. His personally designed process for quality modelling and product disposition in the steelmaking area, continues to be the core system for quality control and process improvement for steelmaking operations that is emulated in commercial systems. Chris has managed the development of effective Quality Systems that satisfy TS and Automotive Industry requirements.

A distinguished graduate of Wayne State University with a Bachelor’s Degree in Metallurgical Engineering, Chris’s career as a scientist, engineer and quality assurance leader has spanned over 30 years. He has served as Chairman of the American Iron and Steel Institute’s (AISI) Committee on Manufacturing Technology focusing on technological growth in steel production practices and technologies to improve production methodologies for innovative grade development and environmental sustainability.

He delivered the keynote address to Severstal’s Global Automotive Customer Conference, in Antalya, Turkey, in October 2008 and recently made a presentation on CO2 generation and mitigation in the modern steel industry to the Detroit chapter of the Association for Iron and Steel Technology. He also sponsored Severstal’s participation in WorldAutoSteel’s, Future Steel Vehicle (FSV) initiative and supported Severstal’s Global Technology System as the North American Technical Advisor and the Head of the Global Center of Competence for Quality System development. Chris retired from Severstal at the end of 2013 and is now employed by SET Enterprises, a minority owned Sheet Metal processing company, where he leads technology development related to the processing of new automotive lightweighting materials, namely AHSS and Aluminum.
Throughout his career in quality Management, Chris has focused on the use of Statistical Tools and precise execution of quality processes for effective variable management and product quality capability improvement. He is passionate about “controlling the process” as the key to effective manufacturing operations, both in terms of process efficiency and outgoing product quality.

Chris has developed two particularly insightful observations related to control plan benchmarking and modern high speed quality data monitoring and control applications that he will share with us this evening. His expressed reason for volunteering his presentation this evening is the hope that you might be able to take the concepts presented and generate improvement in the manner in which you execute product and process quality management.
December 1, 2014

The Quality Success Handbook – The Missing Chapter “Trust”

David Butler
Global Director
TI Automotive

This discussion will be an “informal” sometimes funny look at the past 40 years David has spent in the quality profession and specifically, the automotive industry. It will focus a great deal on “Trust” and why that is important to both the profession and to our industry. There will be short discussions, some with audience participation relating to why more young people are not choosing quality as a career path and what is viewed as wrong with the quality profession. David will present a short summary of what being a quality professional in the 1970s was like and how it has changed and/or remained the same over more than 4 decades. He will share some of his experiences with the gurus of quality and demonstrate how much of what they taught is still very relevant today; especially when it comes to having trust and forming solid working relationships in the quality world.

There will be a review of how some of the recent events have impacted the industry and the profession and how changes in the way we communicate today affects us all. David will give his thoughts regarding some of the improvements and some of the declines in trust and relationships over the past few decades. We will discuss the new involvement in our profession by the media and by politicians. How trust or lack of trust affects standards and conducting business with customers, suppliers and even within our own company. And we will discuss the way being a “global” industry has impacted trust and relationships with business partners. This will be an “open air” informal view of an old quality guy’s view of a recurring problem that has affected him personally, professionally and is often overlooked by everyone.

David Butler has been a quality professional for more than 38 years and has worked at several Tier 1 Automotive suppliers during his career including, TRW, Robert Bosch, Champion Spark Plug, Eagle Picher, ThyssenKrupp and his current employer TI Automotive. His current role at TI Automotive is Global Director- Quality Systems.

David has attended more than 250 training seminars and classes and has taught about the same amount.

David first joined the ASQ in 1976 and is a Senior Member of the ASQ, Certified Quality Engineer, Six Sigma Black Belt and has served on various standards and test committees over the years.

David is currently Chair-Elect for the Automotive Division Council and is also a member of the Customer/Supplier Division and Quality Management Division of the ASQ.

David has a BSMB in Business Management and is past Chair of the National Management Association. During his career David has been lucky enough to personally
meet and train under many of the key quality “gurus” including Dr. Deming, Joseph Juran, Phillip Crosby and many others. He considers the highlight of his career learning from two of his favorite mentors; Dorian Shanin and Dr. John Hromi. Both of these men were “personable” and both respected the person more than the process or method. “Quality is never better than the honor and intent of the men and women that are assuring it”
January 12, 2015

Spread – from local improvement to system-wide change

Robert (Bob) Thomas
Statistical Engineering Technical Leader, Ford Motor Company

Mr. Robert (Bob) Thomas works at Ford Motor Company in the Vehicle Engineering Department applying statistical methods to product development. Through his experiment design work he helped bring solid film lubricant coating technology to engine piston design for improved fuel economy and subsequently received the Henry Ford Technology Award (the highest technical award in Ford Motor Company). His reliability work to avoid potential customer vehicle vibration failure modes received the “best paper” award from the Society of Automotive Engineers and resulted in reducing customer concerns by over 70%, and most recently he has reverse-engineered, globally, several 3rd party vehicle rating systems which provide feedback to engineering during product development.

Outside of his automotive work Bob has also consulted for the Institute for Healthcare Improvement, an independent not-for-profit organization that is a leading innovator in health and health care improvement and for Optimized Ortho who provide orthopedic surgeons with state of the art dynamic, functional, and patient specific planning and simulation solutions.

Bob has been married to his lovely wife Maureen for over 31 years and has two children Nate and Darcie who both graduated with Biomedical Engineering Degrees. He is especially excited about being a new grandfather, cycling in Vermont, and coaching competitive 18 and under fast pitch softball.

Bob received a M. Sc. Degree in Applied Statistics from Oakland University in 1989 and a B.M.E. Degree in Mechanical Engineering from the University of Detroit in 1982.
Using the Voice of the Customer in the Application of Lean

Frank Murdock
FKM Consulting, LLC

This presentation is an overview and a how to guide for implementing and using the Voice of the Customer in the application of Lean principles and methods to improve organizational systems and processes. It describes the Voice of the Customer in terms of the ongoing and regular measurement of customer needs and expectations. Understanding the Voice of the Customer, however, is critical to the success of any application of Lean since waste can only be defined from the customers’ perspective. Learning outcomes include: 1) What is the Voice of the Customer and what it can and cannot provide, 2) Why the Voice of the Customer is important, particularly in the application of Lean, and 3) How to measure the Voice of the Customer in different applications including healthcare, service and manufacturing.

Biography: Frank Murdock is an independent consultant and industrial engineer with over thirty-five years of experience in a variety of businesses including aerospace, automotive, banking, construction, distribution and manufacturing. He spent 28 years with Ford Motor Company in a variety of engineering positions, working with teams throughout the U.S., in Europe and in the Asia-Pacific region from Senior Management to the plant floor on process improvement and organizational change. Frank has also been an adjunct professor teaching quality systems and project management. A Senior Member of ASQ, Frank is Chair of the Lean Enterprise Division as well as a member of the ASQ Voice of the Customer Committee and the TCC Best Practices Committee. He is an ASQ Certified Six Sigma Black Belt and is also a member of the American Statistical Association, Systems Dynamics Society and the Project Management Institute.
CorrectSPC: the correct use of SPC in precision machining. This presentation is very controversial, as it destroys the myth of the normal curve in precision machining! It covers an analysis of the variation relating to precision machining. It then illustrates the correct distribution for tool wear, and the proper setup of control charts that allow absolute control of the process! From there, it shows how Cpk's cannot be calculated for precision diameters and lengths - because the distribution is non-normal (see AIAG PPAP 4th edition 2.2.11.5, NOTE), and how compression control limits increases variation, and is not continuous improvement! It sounds like blasphemy, but it is all true - and once you see the facts, it is impossible to argue!

Bob Doering has been in the quality field for over 16 years. He is currently a quality engineer for an automotive component manufacturing firm. He has industrial experience for over 34 years, many of which were in precision machining of automotive and medical components. He is an adjunct instructor at Lorain County Community College in Engineering Technology and Enrollment Services departments, and has lectured classes in Metrology and Quality Management. He holds associates degrees from Lorain County Community College of Elyria, Ohio and The University of Akron of Akron, Ohio; BA in Business and MBA in Systems Management from Baldwin-Wallace College, Berea, Ohio. He holds CMQ/OE, CQE, CQA, CMI (ASQ) certifications. He has implemented the CorrectSPC concepts in precision machining for over 10 years with significant success.
May 11, 2015

Game Changing Quality Strategies for Organizational Excellence and Enthusiastic Customer Experience

Kush Shah

ASQ Fellow

Quality in the past was more related to conforming to requirements, in lot of cases as it relates to engineering requirements and not necessarily enthusiastic customer experience. It was a very narrow definition of quality and focused more on Things Gone Wrong. Goal was to reach a level of customer accepted.

Quality definition today is much broader. For example, customer’s definition of automotive quality includes safety, styling, features, ease of use, reliability, driving & handling and customer service. Overall customer experience defines quality. We will discuss how to infuse the voice of the customer into the way we design our products and services so that they exceed customer expectations. Organizations that engage all functions within enterprise and are customer centric will differentiate themselves from the rest of the competition. This presentation will provide an integrated roadmap on how to integrate proactive quality strategies such as Design for Six Sigma (DFSS), Advanced Product Quality Planning (APQP), Design Failure Modes and Effects Analysis (DFMEA), Process Failure Modes and Effects Analysis (PFMEA) along with reactive strategies such as Six Sigma and control plans to achieve organizational excellence.

Kush Shah is globally recognized for his expertise, professionalism and outstanding contributions to the field of quality. He has a proven track record for solving tough quality problems. He has demonstrated his unwavering dedication in advancement of organizational excellence by introducing quality concepts for many organizations and individuals that resulted in significant improvement in organizational performance and customer experience.

Kush is currently the Manager of Long Term Reliability at General Motors (GM) effective June 1 2014. He was recognized as GM Professional Fellow for his significant professional contributions and endorsement by both internal and external experts in the field of quality. He has held leadership positions in manufacturing, Manufacturing Engineering, R&D and quality functions over his 30 years at GM. Kush has received the Chairman’s Honor Award, People Make Quality Happen Award, Quality Driver Award and GM Trade Secret Award. He co-authored a U.S. Patent. Kush has led deployment of problem solving methodology that resulted in millions of dollars in cost avoidance.

He has served in many leadership positions at the American Society for Quality (ASQ) including National Director on the ASQ Board of Directors, the Chair of Automotive Division and the Chair of Detroit Section. ASQ serves more than 70,000 quality professionals in 140 countries. Kush
was recognized as an ASQ Fellow (< 1% of ASQ members globally receive this distinction). He has received the Distinguished Service Award from Detroit Section and the Judson C. Jarvis Award from the Automotive Division for his leadership and contribution to these organizations. He also received the ASQ Testimonial Award for his outstanding leadership and distinguished service to the Society. He was selected to participate in the development of the first ASQ Certified Six Sigma Master Black Belt (MBB) exam.

He holds many quality certifications through ASQ including Certified Six Sigma Black Belt (CSSBB), Certified Manager of Quality and Organizational Excellence (CMQ/OE), Certified Quality Auditor (CQA), Certified Biomedical Auditor (CBA) and Certified Quality Engineer (CQE). He is also certified as Red X (Statistical Engineering) Master by Shainin LLC. Recently he has received Design for Six Sigma (DFSS) Green Belt Certification from the University of Michigan and then DFSS Black Belt Certification from GM.

In March 2014, Kush Shah was awarded Gold Award by the Engineering Society of Detroit, the most prestigious award that recognizes an outstanding engineer or scientist for their trailblazing efforts and commitment to their professions.

Kush is a preeminent quality professional who has applied his expertise to advance innovative application of quality systems and methodologies to diverse audiences as a mentor, teacher and speaker. He has trained thousands of individuals at all levels of organizations across a variety of businesses globally. He has been a speaker at many global conferences. His contribution to improve healthcare quality was featured in the Detroit Free Press.

Mr. Shah has received Master of Science degree in Mechanical Engineering from the University of Michigan, Ann Arbor and Bachelor of Engineering degree in Mechanical Engineering from Maharaja Sayajirao University, Vadodara, India.