
# WCSQ
## World Congress for Software Quality

**World-Class Software Quality Creating Competitive Advantage Worldwide**

**September 15–18, 2008 • Hyatt Regency Bethesda • Bethesda, Maryland, USA**

**SCHEDULE OF EVENTS**

# World Congress for Software Quality 2008

## Registration Options

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## Accommodations and Facilities

All events take place at the beautiful Hyatt Bethesda, MD. Make your reservation early – rooms are running out! Not only is the Hyatt Bethesda extremely convenient — located directly above a Metro station — but those who stay at the conference hotel will be eligible for conference rates and exclusive drawings…for books, discount coupons, and other rewards.

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| **8:00 AM – 12 Noon morning tutorials** *(choose one)* | Software for Use: An Introduction for Software Quality Professionals *Larry Constantine* **TUT1** | Introduction to Software Quality Concepts for Novices *Herb Krasner* **TUT2** | The Recursive Nature of Requirements Development *Tim Kasse* **TUT3** | Organizational Learning for Software Process Improvement *Mark C. Paulk* **TUT4** | How to Define and Implement Practical Software Engineering Metrics *Timothy G. Olson and Jairus Hihn* **TUT5** | Test Design Techniques *Louise Tamres* **TUT6** | Using Six Sigma to Implement CMMI High Maturity practices *Dave Zubrow* **TUT7** |
| **12 Noon – 12:45 PM** | **Lunch** *(available only to those attendees taking both a morning and an afternoon tutorial)* | | | | | | |
| **1:00 – 5:00 PM afternoon tutorials** *(choose one)* | How to Define Lean Processes and Procedures *Timothy G. Olson, Steve Flanagan and Scott Lewicki* **TUT8** | Learning from the Pioneers: What Today's Software Quality Professionals Can Learn from Deming, Juran, and Ishikawa *Rebecca Staton-Reinstein* **TUT9** | Software Configuration Management *Linda Westfall* **TUT10** | Data Quality Issues in Enterprise Data Warehousing *Richard E. Biehl* **TUT11** | Measuring the Technical Quality of Software at the Systems Level *Bill Curtis* **TUT12** | The ISTQB Advanced Syllabus: Guiding the Way to Better Testing *Rex Black* **TUT13** | Fusion: Integrating Lean Six Sigma and Software Best Practices *Gary Gack* **TUT14** |

## Morning Tutorials - 8 AM - Noon

### Software for Use: An Introduction for Software Quality Professionals by Larry Constantine - TUT1

**Level: Intermediate**

The quality of user experience, particularly user performance, is a fundamental factor in software quality that is all too often ignored or short changed. Drawing on more than a decade and a half of experience with a proven, industrial-strength approach to design and development, this tutorial will focus on principles and practices that can help software quality professionals contribute to improved user experience. It will explore what makes software easier to learn in the first place and more efficient to use once learned. It will show how software can better accommodate to varied styles of interaction, more effectively communicate with users, and reduce the number and severity of user errors.

**Larry L. Constantine, IDSA, ACM Fellow,** *is an award-winning designer and design methodologist specializing in interaction design for software, Web, and embedded applications. One of the pioneers of software engineering whose current work centers on understanding and supporting human activity, he has contributed numerous concepts and techniques forming the foundations of modern practice in software engineering and applications design and development. His award-winning design innovations include multiple patents in human-machine interaction. His publications in both the computer sciences and human sciences include over 175 articles and papers plus 17 books, among them Software for Use (Addison-Wesley), written with Lucy Lockwood and winner of the prestigious Jolt Award as the best book of 1999, The Peopleware Papers (Prentice Hall), and the classic text, Structured Design (Prentice Hall), written with Ed Yourdon. His books have been translated into nine languages, including Russian, Chinese, and Japanese. A highly regarded presenter and teacher, he has lectured and taught around the world and has keynoted numerous major international conferences. Constantine is Chief Scientist with Constantine & Lockwood, Ltd., the international design consultancy he co-founded, and Director of the Laboratory for Usage-centered Software Engineering (Lab:USE) at the University of Madeira, Portugal where he is a professor in the Department of Mathematics and Engineering teaching in the Joint Master's in Human-Computer Interaction with Carnegie-Mellon University.*

### Introduction to Software Quality Concepts for Novices by Herb Krasner - TUT2

**Level: Getting Started**

You have just moved into a new role in your organization that is concerned with the quality of the software that is produced and delivered by your group/company. This role might be as a tester, as an SQE (software quality engineer) specialist, as designer of quality aspects, as a review leader, as the leader of a team whose quality needs improvement, etc. From a practical perspective, the question is how do you make quality happen? Inquiring minds need to know, and this tutorial is designed to give you the starter knowledge to do it.

**Herb Krasner** *is currently a Senior Lecturer in Software Engineering at the University of Texas at Austin where he teaches undergraduate and graduate classes in software engineering,*

*data structures, database engineering, agile methods and software process improvement. Also, he performs and supervises research in the science of design, the economics of software engineering, and software quality and process improvement. As Founder, Chairman and former Director of the Software Quality Institute (SQI) at the University of Texas, he was largely responsible for creating and shaping the software engineering educational outreach organization into a successful business entity. He is also the founder of the Austin Software Process Improvement Network.*

## The Recursive Nature of Requirements Development by Tim Kasse - TUT3

**Level: Intermediate**

Collecting and understanding requirements is the necessary but not necessarily sufficient start of a successful project. Large projects involving systems and software components are required to collect and understand requirements using a more incremental or recursive approach. The SEI's CMMI-DEV v1.2 illustrates this point:

> The Analyze and Validate Requirements specific goal addresses the necessary analysis to define, derive, and understand the requirements. The specific practices of the third specific goal are intended to assist the specific practices in the first two specific goals.
>
> The processes associated with the Requirements Development process area and with the Technical Solution process area may interact recursively with one another.
>
> Analyses are used to understand, define, and select the requirements at all levels from competing alternatives.
>
> Analyses occur recursively at successively more detailed layers of a product's architecture until sufficient detail is available to enable detailed design, acquisition, and testing of the product to proceed.

**Tim Kasse** *is the CEO and Principal Consultant of Kasse Initiatives. Mr. Kasse was a major contributor to the development of the CMM, led the evolution of the SEI assessment method and led the development of the SEI's Intermediate CMMI® Workshop. His latest book A Practical Insight Into CMMI was published by Artech House in May 2004. He has participated in over 100 CMM/CMMI Process Assessments in North America, South America, Europe, the Middle East, and Asia. Tim holds a Master's degree in Computer Science and a Bachelor's degree in Systems Engineering with over 38 years of systems/software related experience.*

## Organizational Learning for Software Process Improvement by Mark Paulk - TUT4

**Level: Intermediate**

This tutorial describes lessons learned in analyzing, defining, and deploying organizational software processes. Models such as the Capability Maturity Model® for Software and the staged representation of CMMI® are intended at Level 3 to transform organizations by instilling a capacity for organizational learning – coming to understand what processes work well in your business environment, capturing those lessons in the form of defined processes, and deploying tailored processes that incorporate those lessons across projects, while catering to the unique needs of the projects.

**Mark Paulk** *is a Senior Systems Scientist at the IT Services Qualification Center at Carnegie Mellon University, where he works on best practices for IT-enabled services. From 1987 to 2002, Mark was with the Software Engineering Institute at Carnegie Mellon, where he led the work on the Capability Maturity Model for Software. Mark's research interests revolve around high maturity practices, statistical process control, and agile methods. Mark received his Ph.D. in industrial engineering from the University of Pittsburgh. He is a Senior Member of the IEEE, a Senior Member of the ASQ, and an ASQ Certified Software Quality Engineer.*

## How to Define and Implement Practical Software Engineering Metrics by Timothy G. Olson and Jairus Hihn - TUT5

**Level: Intermediate**

Most organizations struggle with metrics. Some metrics are easy to collect but are not very useful. Other metrics are too expensive to collect. Some organizations collect too many metrics, and then don't use them effectively. What is a good metric? What are the vital few metrics? This half-day tutorial will describe, "what is a good metric", provide a baseline of the vital few software engineering metrics, and provide a detailed example of the implementation and evolution of a software engineering metrics system at NASA's Jet Propulsion Laboratory (JPL). This tutorial is based on an ASQ best paper entitled, "Successfully Using a Measurement Framework to Rapidly Achieve Measurable Results."

**Timothy G. Olson** *is Founder and President of Lean Solutions institute, Inc. (LSI). While performing training and consulting, Mr. Olson has helped numerous organizations measurably improve quality, productivity, and performance, save millions of dollars in costs of poor quality, and has helped numerous organizations reach higher Software Engineering Institute (SEI) maturity levels. Mr. Olson is a leader of applying Lean Solutions™ (e.g., lean processes, metrics, requirements) to systems and software engineering. Mr. Olson has been formally trained in Baldrige, Crosby, Deming, Juran, ISO, CMMI® and Six Sigma quality approaches. Mr. Olson is a Malcom Baldrige National Quality Award (MBNQA) Examiner (2008) and a Juran Institute Associate. Mr. Olson was a lead-author of a Software Quality Course for the University of Minnesota, and he is currently a senior member of ASQ, and a member of IEEE and NDIA.*

**Dr. Jairus Hihn** *is a Principal Member of the Engineering staff at NASA's Jet Propulsion Laboratory and is currently the manager for the Software Quality Improvement Projects Measurement Estimation and Analysis Element, which is establishing a*

*laboratory wide software metrics and software estimation program at JPL. M&E's objective is to enable the emergence of a quantitative software management culture at JPL. He has a Ph.D. in Economics from the University of Maryland. He has been developing estimation models and providing software and mission level cost estimation support to JPL's Deep Space Network and flight projects since 1988. He has over 60 publications and regularly presents at international management and software conferences. Jairus has extensive experience in simulation and Monte Carlo methods with applications in the areas of decision analysis, institutional change, R&D project selection cost modeling, and process models.*

### Test Design Techniques by Louise Tamres - TUT6

**Level: Getting Started**

So you've received, yet again, another requirements document that's confusing, incomplete, and ambiguous. And somehow, you have to translate this mess into software designs and test cases. It's not all that mysterious if you know how to model requirements. Louise Tamres describes several test design techniques that pinpoint the key features and their intended behavior. In fact, once you've applied these techniques, test cases practically write themselves. These same techniques can also assist developers to identify the key functionality to implement. Now that you've defined numerous tests, you'll then apply prioritization strategies to select a meaningful subset of tests.

**Louise Tamres** *has over 24 years experience in software engineering, specializing in software testing and software process improvement. Ms. Tamres has established software quality initiatives at many companies, including GE Medical Systems, General Motors, Nortel, Electro Scientific Industries, as well as assisting start-up companies with their software quality needs. An enthusiastic speaker, she has taught many courses in software quality principles and methods. She is the founding member of Ann Arbor Software Quality Professionals, a group that meets regularly in southeastern Michigan. Her frequent role in mentoring fledgling testers led to the development of her book Introducing Software Testing published by Addison-Wesley. As part of the ASQ, Ms. Tamres is a Certified Software Quality Engineer, a member of the editorial board for Software Quality Professional, and the Software Division Councilor for Region 10. Ms. Tamres received her BS and MS degrees from the University of Michigan.*

### Using Six Sigma to Implement CMMI High Maturity Practices by Dave Zubrow - TUT7

**Level: Intermediate**

This tutorial provides an overview "flavors" of Six Sigma, DMAIC and DMADV, and demonstrates how they map to CMMI high maturity practices. Practical illustrations of a variety of analytical techniques as they can be used to implement high maturity project and process management as well as engineering and support practices will be discussed. The techniques are statistical (e.g., regression analysis) and probabilistic (e.g., Monte Carlo simulation) in nature.

**Dave Zubrow** *is Team Leader for the Software Engineering Measurement and Analysis (SEMA) group within the Software Engineering Institute (SEI). His areas of expertise include establishing measurement infrastructures, data analysis, data management, and empirical research methods. During his 15 years at the SEI he has assisted numerous organizations with software measurement and process improvement. Dave serves is a member of the Editorial Boards for Empirical Software Engineering, the Software Quality Professional, the Journal of Systems and Software, and Crosstalk and is a senior member of the American Society for Quality and member of the IEEE Computer Society.*

## Afternoon Tutorials

### How to Define Lean Processes and Procedures by Tim Olson, Steve Flanagan, and Scott Lewicki - TUT8

**Level: Intermediate**

Many organizations suffer from processes that are too large, too complex, and too hard to use. Most organizations are struggling with how to define "good processes" that are lean (e.g., short, usable, value added). This half-day tutorial will describe what is a "good process", and describe how to define lean systems and software engineering processes. When a pilot flies an airplane, he or she doesn't pull out volumes of process manuals. Pilots use short and concise "expert mode" checklists. This half-day tutorial will discuss common problems with process documentation, discuss the human aspects of using documentation, provide some lessons learned of "what works" and "what doesn't work" in organizations, and provide some lean examples of good processes from industry. Real lean examples from NASA JPL will also be presented. The best practices described in this tutorial also scale up to defining complex systems engineering processes. There will also be time for questions and answers.

**Timothy G. Olson** *is Founder and President of Lean Solutions institute, Inc. (LSI). While performing training and consulting, Mr. Olson has helped numerous organizations measurably improve quality, productivity, and performance, save millions of dollars in costs of poor quality, and has helped numerous organizations reach higher Software Engineering Institute (SEI) maturity levels. Mr. Olson is a leader of applying Lean Solutions™ (e.g., lean processes, metrics, requirements) to systems and software engineering. Mr. Olson has been formally trained in Baldrige, Crosby, Deming, Juran, ISO, CMMI® and Six Sigma quality approaches. Mr. Olson is a Malcom Baldrige National Quality Award (MBNQA) Examiner (2008) and a Juran Institute Associate. Mr. Olson was a lead-author of a Software Quality Course for the University of Minnesota, and he is currently a senior member of ASQ, and a member of IEEE and NDIA.*

**Dr. Steve Flanagan** *holds a Ph.D. in Aerospace Engineering from the University of Tennessee and has worked at JPL for 17 years. He is currently the Deputy Manger of the Quality Assurance Office at JPL, which includes both hardware and software quality assurance. Prior to his current position he was the Deputy Manager of the Software Quality Improvement Project, where he led JPL's successful CMMI implementation for the Engineering and Science Directorate. Previously, as a member of the Navigation and Mission Design Section, he managed the development of a new interplanetary navigation software system, led the Mission Analysis Software task, and was the lead interplanetary trajectory analyst for JPL's Cassini mission, which is currently in orbit around Saturn.*

**Scott Lewicki** *is a Senior Member of the Engineering staff at NASA's Jet Propulsion Laboratory (JPL) and currently works for the Software Quality Improvement Project in the areas of Product and Process Development and Software Process Engineering. Recently, he was instrumental in helping JPL's Engineer and Science Directorate (ESD) Mission Software achieve CMMI Maturity Level 3. He has over 20 years of experience at JPL supporting software intensive tasks including Earth Observing System instruments and the Magellan Venus Radar Mapper, and has taken on the roles of software manager, subsystem and interfaces engineer, and developer. He has a B.S. in Physics from the California Institute of Technology.*

## Learning from the Pioneers: What Today's Software Quality Professionals can Learn from Deming, Juran, and Ishikawa by Rebecca Staton-Reinstein

**Level: Intermediate - TUT9**

The breakthrough thinking of giants in the quality field such as Drs. W. Edwards Deming, Joseph Juran, Kaoru Ishikawa and others are as applicable today as they ever were. Unfortunately, their profound knowledge is often missing from discussions of practical applications for improving software. Learn the basics taught by these pioneers and how to apply them in today's demanding technical and business environment. Learn how to improve you own effectiveness and efficiency in Software Quality Assurance or Testing by getting back to basics. Learn how to get the results that your company demands with lower costs and less frustration by embracing the wisdom of the Pioneers.

**Rebecca Staton-Reinstein,** *president of Advantage Leadership, Inc. works with companies that want to improve software quality though strategic initiatives that impact efficiency, effectiveness and the bottom line. Her clients include all economic sectors and circle the globe. Her company performs assessments of current performance and budgetary impact and works with you to change these results. She is the author of several books on improving software quality as well as those on strategic leadership and planning. The St. Petersburg Engineering Academy in Russia honored her for her contributions to software quality improvement.*

## Software Configuration Management by Linda Westfall - TUT10

**Level: Getting Started**

This Software Configuration Management (SCM) tutorial is designed to provide a knowledge base and practical skills for anyone interested in implementing or improving SCM techniques and practices in their organization. This tutorial starts with an overview of SCM basics and discusses establishing an SCM infrastructure. This tutorial explores methods and techniques for effective implementation of software configuration identification, control, status accounting and auditing, and covers software release management. In addition to providing SCM knowledge and skills, this tutorial supplies an excellent review mechanism for the Software Configuration Management section of the Certified Software Quality Engineer (CSQE) Body of Knowledge for attendees preparing for that exam.

**Linda Westfall** *is the president of The Westfall Team, which provides software engineering, software quality engineering, and software project management training and consulting services. Prior to starting her own business, Westfall was the senior manager of quality metrics and analysis at DSC Communications. Westfall has more than 30 years of experience in real time software engineering, quality, and metrics. She has worked as a software engineer, systems analyst, process engineer, and manager.*

*Westfall is a past chair of the ASQ Software Division and has served as the Division's Program Chair and Certification Chair and on the ASQ National Certification Board.*

## Data Quality Issues in Enterprise Data Warehousing by Rick Biehl - TUT11

**Level: Intermediate**

A partnership between software quality professionals and data warehousing specialists can provide synergy that helps identify, manage, and resolve data quality problems that arise when an enterprise attempts to consolidate large amounts of data into a consolidated data warehouse. This tutorial teaches how to adapt conventional software quality disciplines to the challenges of data warehouse quality management. Much more than just testing, an effective data quality program must become an integral part of the operational environment for a data warehouse. Anything less, and the quality of a successful data warehouse implementation quickly degrades as dirty data get loaded over time. Preventing such degradation requires a strong quality philosophy to be built into the warehouse design. This tutorial offers examples of such integration at a large academic medical center.

**Rick Biehl** *is a senior quality consultant with 30 years of experience specializing in quality assurance, logical and physical data architectures, and strategic planning for the business application of information technology. He holds a Ph.D. in management from Walden University, as well as CSSBB and CSQE certifications from ASQ.*

## Measuring the Technical Quality of Software at the Systems Level by Bill Curtis - TUT12

**Level: Advanced**

The tutorial will begin by describing six trends that are accelerating the importance of software quality in business applications. It will argue that based on these trends, defining quality as the removal of defects is no longer sufficient. Different sources of business value will be related to different aspects of software quality such as robustness, maintainability, security, and other such measures. A more comprehensive definition of software quality will be presented that can be related to international standards such as ISO 9126. It will also be argued that software quality needs to be measured at a level above simple code analysis, which often misses problems in interactions between application components written in different languages such as the database, the user interface, and the application logic. Different methods for measuring software quality, especially at the systems level, will be presented along with guidelines for their interpretation. Next the tutorial will discuss the processes that need to be deployed in order to analyze software quality issues at the systems level. These processes will be discussed in terms of the maturity of the application development organization as well as how quality roles can be incorporated into the existing structure of application development and maintenance functions. Case studies will be used to demonstrate how software quality issues have been addressed at the system level by best practice companies and the business benefits they achieved.

**Bill Curtis** *is Senior Vice President and Chief Scientist with Cast Software, a leader in measuring application software quality. He co-authored the Capability Maturity Model (CMM), the People Capability Maturity Model, and the Business Process Maturity Model. Until its acquisition by Borland he was Co-founder and Chief Scientist of TeraQuest, the global leader in CMM-based services. He is a former Director of the Software Process Program in the Software Engineering Institute at Carnegie Mellon University. He previously worked for MCC, GE, ITT, and the University of Washington He has published four books, over 150 articles, and is an IEEE Fellow.*

## The ISTQB Advanced Syllabus: Guiding the Way to Better Testing by Rex Black - TUT13

**Level: Intermediate**

The International Software Testing Qualification Board (ISTQB) has already effected profound change in the software testing field, with almost 100,000 people having attained Foundation certification. But a Foundation certification is just that: only a Foundation. With the release of the new Advanced syllabus in October 2007, the ISTQB has expanded and improved the next rung on the ladder of test professionalism. In this tutorial, you can talk to Rex Black, President of the ISTQB, about how the ISTQB Advanced syllabus can guide you, your testing colleagues, and your organization toward better testing, reduced risk, and higher quality.

*With a quarter-century of systems engineering experience,* **Rex Black** *is President of RBCS (www.rbcs-us.com), which delivers worldwide consulting, outsourcing and training services for software and hardware testing. Rex's popular first book, Managing the Testing Process, has sold over 30,000 copies, including Japanese, Chinese, and Indian editions. His three other books, Critical Testing Processes, Foundations of Software Testing, and Pragmatic Software Testing, have also sold tens of thousands of copies, including Hebrew, Indian, Chinese, Japanese and Russian editions. He has written over 30 articles, presented hundreds of papers and seminars, and given about 40 keynote speeches. Rex is the President of the International Software Testing Qualifications Board.*

## Fusion: Integrating Lean Six Sigma and Software Best Practices by Gary Gack - TUT14

**Level: Getting Started**

This session will examine issues and opportunities that arise in today's "multi-model" world of software process improvement. Each of the most common models (Lean Six Sigma, CMMI, PMBoK and Agile) will be briefly described, and synergies will be examined. Measures essential for software process improvement will be explored, including the Cost of Quality concept as it applies to software processes.

**Gary Gack** *is the founder and President of Process-Fusion.net, a provider of Assessments, Strategy Advice, Training, and Coaching relating to integration and deployment of software and IT industry best practices. Mr. Gack holds an MBA from the Wharton School and is a Lean Six Sigma Black Belt. In addition he is an ASQ Certified Software Quality Engineer (CSQE), a Certified Scrum Master, a Visiting Scientist with the Software Engineering Institute (2006) where he co-authored the "Measuring for Performance Driven Improvement 1" course for which he is an authorized instructor, and he holds the ITIL Foundation Certification. He has more than 40 years of diverse experience in the software and IT industry, including more than 20 years focused on process improvement.*

***Join us Tuesday, September 16th for the Recognition and Awards Reception at 5:30 p.m.***

# WCSQ 2008 Confe

## Tuesday, 16 September (subject to change)

**7:00 AM – 5:00 PM** – registration/bookstore open
**7:00 - 8:00 AM** continental breakfast

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| **8:00 - 9:15 AM opening plenary and keynote** | Welcome by Dr. Linwood H. Rose, President of James Madison University<br>Capers Jones<br>**Software Quality in 2008: A Survey of the State of the Art** | | | |
| **9:30 - 10:30 AM concurrent sessions** | *Joe Schofield*<br>The Statistical Case Against Using Lines of Code in Software Estimation<br>**A1** | *Jeff Dalton*<br>Agile CMMI<br>**A2** | *Tim Kasse*<br>Twenty Points for Quality and Process Improvement – An Updated Look at the Principles from Deming and Crosby<br>**A3** | *Rex Black*<br>Stranger in a Strange Land: The IT Professional in an Outsourced Project<br>**A4** |
| **11:00 AM - 12 Noon concurrent sessions** | *John Balza*<br>Management Commitment to Quality Requires Measures<br>**B1** | *Taku Fujii*<br>Design Quality with Different Design Strategies in Agile Software Development<br>**B2** | *Gregory Wust*<br>Software Quality Improvement using the Identity-Measure-Improvement Approach<br>**B3** | *Xin Li*<br>Practice in Software Metrics Processes for Outsourcing Projects<br>**B4** |
| **12 Noon - 12:45 PM** | **Lunch** | | | |
| **12:45 - 1:30 PM keynote** | Larry Constantine<br>**User Experience, User Performance, and Software Quality** | | | |
| **1:30 - 2:30 PM concurrent sessions** | *Stephen Kan*<br>Manage and Measure In-Process Software Quality<br>**C1** | *Richard Messnarz*<br>Team Assessments and Learning Organizations in Automotive – Learning from Best Projects<br>**C2** | *Celeste Yeakley*<br>Mapping for Quality – Past, Present, and Future<br>**C3** | *Noriko Iizumi*<br>The Effective Method for Offshore Software Development<br>**C4** |
| **3:00 - 4:00 PM concurrent sessions** | *Guenther Limboeck*<br>Measuring the Quality of Standard Software: The SAP Quality Index<br>**D1** | *Hironobu Aoki*<br>Workshop-driven Software Process Improvement<br>**D2** | *Trudy Howles*<br>The Declining Interest and Persistence in University Computing Programs<br>**D3** | *Dehua Ju*<br>Software Quality Movement in China<br>**D4** |
| **4:15 - 5:15 PM concurrent sessions** | *Zhejiong Fan*<br>Quantitative Process Improvement Should be Done to Help Business, Not for its Own Sake<br>**E1** | *Xi Xiang*<br>Prediction Model of Iterative Development<br>**E2** | *Luigi Buglione*<br>An Ecological View on Process Improvement: Some Thoughts on Improving Process Appraisals<br>**E3** | *Suzuko Hirofuji*<br>An Application and Improvement of Process QA for System Development Work<br>**E4** |
| | *Atsuko Ishida*<br>Information Systems Quality Management Processes Including Users' Point of View<br>**E5** | *Zhou Lu*<br>The Establishment of Organizational Performance Baselines and Applications<br>**E6** | *Takayuki Ishida*<br>Developing Minds to Improve Customer Satisfaction: Training Engineers with Heart<br>**E7** | *Naveed Nour*<br>Art in Technology<br>**E8** |
| **5:15 - 7:00 PM reception** | Reception, Recognitions, and Awards | | | |

**Register today at http://www.asq.org/conferences/wcsq**

# rence-at-a-Glance

## Wednesday, 17 September (subject to change)

**7:00 AM – 5:00 PM** registration/bookstore open
**7:00 - 8:00 AM** continental breakfast

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|---|---|---|---|---|
| **8:00 - 9:15 AM keynote** | Watts Humphrey **Faster, Cheaper, Worse!** | | | |
| **9:30 - 10:30 AM concurrent sessions** | *Mike Kress* ISO 25012: An International Standard for Data Quality **F1** | *Tim Olson* Defining Lean Service and Maintenance Processes that are Best-In-Class **F2** | *Linda Ibrahim* Improving Process Capability Across your Enterprise **F3** | *Elfriede Dustin* State of Software Testing and How to Improve It **F4** |
| **11:00 AM - 12 Noon concurrent sessions** | *Rick Biehl* Data Quality Measurements in a Hospital Data Warehouse **G1** | *Camargo Cruz Ana Erika* Quality Prediction Model for Object Oriented Software Using UML Metrics **G2** | *Wen-Kui Chang* A SPICE Approach for Integrity-Enhanced Process Improvement **G3** | *Thom Garrett* Automated Test Environment Management **G4** |
| **12 Noon - 12:45 PM** | **Lunch** | | | |
| **12:45 PM - 1:30 PM keynote** | Bernie Gauf **Implementing Automated Software Testing** | | | |
| **1:30 PM - 2:30 PM concurrent sessions** | *Herb Krasner* Modeling and Forecasting the Cost of Software Quality: What's Next? **H1** | *Simon Mills* Appropriate Timing for Deployment of Software Test Automation in Operational Environments **H2** | *Mark Paulk* Taxonomy of Improvement Frameworks **H3** | *Nobuhiro Hosokawa* Data-driven Quality Inspection: Human-Centered Defect Lifecycle Management from Industry Practice **H4** |
| **3:00 - 4:00 PM concurrent sessions** | *Gary Gack* Lean Six Sigma and Cost of Quality: Partners for Progress **I1** | *Adam Wolszczak* Automation in Data Warehouse Testing: Where is it Applicable? **I2** | *Yasuko Okazaki* Software Quality Body of Knowledge (SQuBOK) project **I3** | *Kurt Schneider* Improving Feedback on Requirements through Heuristics **I4** |
| **4:15 - 5:15 PM concurrent sessions** | *Pekka Forselius* Quality of Benchmarking Data **J1** | *Vijay Upadya* A Case for Test Generation Approach Feedback, Analysis, and Synthesis Based Testing **J2** | *Naomi Honda* A Study of Factors to Improve Real Quality: Analysis of Two CMI Level 5 Organizations **J3** | *Andrew Kumeiga* A Cross-function Methodology: Software Development for Analytics-Driven Firms **J4** |
| | *Stephan Goericke* Quality Assurance Management Professional: A Next-Generation Certificate for IT Personnel Certification **J5** | *Patricia McQuaid* Software Testing Qualifications Certification **J6** | *Yoshinori Itabashi* Prediction of Project-Specific Process Defects **J7** | *Kunitoshi Yamamoto* Model Checking of Asynchronous System in Multifunction Printer **J8** |
| **5:30 – 6:30 PM keynote** | Yasuyuki Katsumaru **Embedded Software Technology Utilizing Product Quality** | | | |

**For full descriptions of concurrent sessions, go to http://www.asq.conferences.wcsq**

# WCSQ 2008 Conference-at-a-Glance

## Thursday, 18 September (subject to change)

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|---|---|---|---|---|
| 7:00 AM – 12 Noon registration/bookstore open<br>7:00 - 8:00 AM continental breakfast | | | | |
| **8:00 - 9:15 AM keynote** | Gary McGraw<br>**Software Security: State of the Practice 2008** | | | |
| **9:30 - 10:30 AM concurrent sessions** | *Shari Lawrence Pfleeger*<br>I'll Buy That: Cybersecurity on the Internet Marketplace<br>**K1** | *Linda Westfall*<br>Risk-Based Peer Reviews<br>**K2** | *Robin Goldsmith*<br>Real ROI Sells Testing's Value<br>**K3** | *Karol Fruehauf*<br>Why Testers Shouldn't Play Ping Pong<br>**K4** |
| **11:00 AM - 12 Noon concurrent sessions** | *Joe Jarzembek*<br>Secure Software Development<br>**L1** | *Noriyoshi Kuno*<br>The Effective Method for Design Reviews<br>**L2** | *Louise Tamres*<br>Can We Ship? How to Tackle the Test Maze When You Don't Have the Time to Test<br>**L3** | *Axel Rennoch*<br>Application of the Classification Tree Method for Test Modeling in Complex Software Projects<br>**L4** |
| **12 Noon - 12:45 PM** | lunch | | | |
| **12:45 - 1:30 PM keynote** | Kurt Schneider<br>**Can We Talk? Documentation Versus Communication in Software Projects** | | | |
| **1:30 - 2:30 PM concurrent sessions** | *Robert Charette*<br>Quality and Risk Issues in National Electronic Health Record Systems<br>**M1** | *Carol Dekkers*<br>Scope Management for Adults: A 12-Step Recovery Program for ICT Projects<br>**M2** | *Yoshinori Iizuka*<br>Software Quality: Quality and People Centered<br>**M3** | *Ian Brown*<br>Process Measurement: Appraisals of SPI Models<br>**M4** |
| **3:00 - 4:00 PM concurrent sessions** | *Sabrina Jackson*<br>Discover Your True Project Management Style<br>**N1** | *David Herron*<br>Measuring and Managing Software Projects More Effectively<br>**N2** | *Takuro Iida*<br>Improve and Meet your Organizational Needs with Reference to CMMI Continuous Representation<br>**N3** | *Bogdan Bereza-Jarociński*<br>Customer Experience Management: How to Achieve Market Success<br>**N4** |
| **4:15 - 5:15 PM concurrent sessions** | *Michele Moss*<br>Leveraging CMMs and Standards for Assurance<br>**01** | *Finn Svendsen*<br>Software Development Processes and Organization in Perspective Customer/Supplier Relationship<br>**02** | *Takao Mori*<br>The Viewpoint-Based Software Testing Engineering Process<br>**03** | *Kazuhiro Suzuki*<br>Quality Control for Software in the Unit Test Phase<br>**04** |
| | *Masakazu Matsushita*<br>The Test/Verification Method of Web Application Systems<br>**05** | *Andras Pataricza*<br>Automated Verification and Validation of Domain Specific Languages and Their Applications<br>**06** | *Bernd Hindel*<br>SPICE of Life<br>**07** | *Tetsuya Kouno*<br>A Framework of Software Quality Improvement Based on Fault Knowledge Management<br>**08** |
| **5:30 – 6:15 PM closing plenary** | Yoshinori Iizuka<br>**History of WCSQ**<br>Dehua Ju<br>**Invitation to Shanghai 2011** | | | |

**Register today at http://www.asq.org/conferences/wcsq**

# Keynote Addresses

## Software Quality in 2008: A Survey of the State of the Art by Capers Jones

**8:00AM Tuesday, 16 September**

Based on extensive data collected over the past 25 years, this talk begins by describing software quality hazards in ten industries. It offers a practical definition of software quality that is predictable and measurable. The sources of defect injection and removal are analyzed in discussing how best to optimize quality and productivity. The talk concludes by identifying software quality topics needing further research.

**Capers Jones** *is currently the chairman of Capers Jones & Associates LLC. He is also the founder and former chairman of Software Productivity Research LLC (SPR). He holds the title of Chief Scientist Emeritus at SPR. Capers is a well-known author and international public speaker. Some of his books have been translated into five languages. Among his book titles are Patterns of Software Systems Failure and Success (Prentice Hall 1994), Applied Software Measurement (McGraw Hill 1996), Software Quality: Analysis and Guidelines for Success (International Thomson 1997), Estimating Software Costs (McGraw Hill 2007), and Software Assessments, Benchmarks, and Best Practices (Addison Wesley Longman 2000). He is working on a 3rd edition of Applied Software Measurement for publication in 2008.*

*Capers and his colleagues from SPR have collected historical data from more than 600 corporations and more than 30 government organizations. The total volume of projects studied now exceeds 12,000. This historical data is a key resource for judging the effectiveness of software process improvement methods.*

## User Performance and Software Quality by Larry Constantine

**12:45PM Tuesday, 16 September**

The quality of user experience is a critical factor in the success of software products of all kinds. Quality software is more than just fast, reliable, and bug free code that satisfies some functional requirements. Software is ultimately designed and developed to meet human needs. User experience is not just interaction with a piece of software. It arises within the larger context and scope of human activities that are far more important to users than the software or its operation. Unfortunately, focusing on users as people diverts attention from understanding and supporting the purposeful performance of the activities in which users are engaged. This keynote will challenge professionals interested in software quality to go beyond a narrowly focused quality perspective to understand the nature of human activity and to help tailor software tools to better support it. Through activity-centered engineering approaches focused on user performance, software can be designed to reflect the nature of human activity and to better serve genuine human needs.

**Larry L. Constantine, IDSA, ACM Fellow,** *is an award-winning designer and design methodologist specializing in interaction design for software, Web, and embedded applications. One of the pioneers of software engineering whose current work centers on understanding and supporting human activity, he has contributed numerous concepts and techniques forming the foundations of modern practice in software engineering and applications design and development. His award-winning design innovations include multiple patents in human-machine interaction. His publications in both the computer sciences and human sciences include over 175 articles and papers plus 17 books, among them Software for Use (Addison-Wesley), written with Lucy Lockwood and winner of the prestigious Jolt Award as the best book of 1999, The Peopleware Papers (Prentice Hall), and the classic text, Structured Design (Prentice Hall), written with Ed Yourdon. His books have been translated into nine languages, including Russian, Chinese, and Japanese. A highly regarded presenter and teacher, he has lectured and taught around the world and has keynoted numerous major international conferences. Constantine is Chief Scientist with Constantine & Lockwood, Ltd., the international design consultancy he co-founded, and Director of the Laboratory for Usage-centered Software Engineering (Lab:USE) at the University of Madeira, Portugal where he is a professor in the Department of Mathematics and Engineering teaching in the Joint Master's in Human-Computer Interaction with Carnegie-Mellon University.*

## Faster, Cheaper, Worse! Watts Humphrey

**8:00AM Wednesday, 17 September**

In a hardware culture "work faster-better-cheaper" often means 'work smarter" and can be successful. However, in a software culture "work faster-better-cheaper" often means 'work faster" with often disastrous results. Using extensive NASA experiential data, this presentation shows the inadequacy of testing for quality. Instead it offers a new quality strategy based on process quality, highlighting results for use of the personal- and team-oriented processes.

**Mr. Humphrey** *joined the Software Engineering Institute (SEI) of Carnegie Mellon University after his retirement from IBM in 1986. While at the SEI, he established the Process Program, led the initial development of the Software Capability Maturity Model, and introduced the concepts of Software Process Assessment and Software Capability Evaluation.*

*Prior to joining the SEI, he spent 27 years with IBM in various technical executive positions including the management of all IBM commercial software development. This included the first*

*19 releases of OS/360. Most recently, he was IBM's Director of Programming Quality and Process.*

*Mr. Humphrey holds graduate degrees in Physics from the Illinois Institute of Technology and Business Administration from the University of Chicago. He is an SEI Fellow, a member of the ACM, an IEEE Fellow, and a past member of the Malcolm Baldrige National Quality Award Board of Examiners. His publications include many technical papers and 11 books. Some of his recent books are), Managing Technical People (1996), Winning With Software: An Executive Strategy (2001), PSP: A Self-Improvement Process for Software Engineers (2005), TSP: Leading a Development Team (2006), and TSP, Coaching Development Teams (2006). He holds five US. patents.*

*He was awarded the 1993 Aerospace Software Engineering Award presented by the American Institute of Aeronautics and Astronautics and an honorary Ph.D. in Software Engineering by Embry-Riddle Aeronautical University in 1998. In 2000, the Watts Humphrey Software Quality Institute in Chennai, India was named in his honor and the Boeing Corporation presented him with an award for innovation and leadership in software process improvement. In 2005, at the White House, the President of the United States awarded Mr. Humphrey the National Medal of Technology.*

## Implementing Automated Software Testing by Bernie Gauf

**12:45PM Wednesday, 17 September**

IDT conducted two separate surveys related to automated software testing with approximately 700 total responses from test professionals all over the world, across organizations diverse in size and what they do. The survey showed two very consistent themes:

- ~ 70% of survey respondents said they believe automation was high payoff, but they are generally not sure why to automate and how automation applies to their project
- 50% of survey respondents also said they felt they lacked the experience to implement automation.

Most seem to agree: Automated software testing is useful and an increasing need for it exists. However the "lack of experience" seems to be the reason why automation is not implemented more often with a higher success rate.

This keynote will discuss why the need for "Implementing Automated Software Testing" is growing and how to effectively implement automated software testing.

**Bernie Gauf** *is the President of IDT and co-author or the upcoming book "Implementing Automated Software Testing," published by Addison Wesley Feb 2009. IDT ( www.idtus.com ) specializes in delivering automated software testing solutions for customers that reduce the time and cost of testing while also improving the quality of their test program. Mr. Gauf has been invited to participate in numerous DoD panels associated with the use of new technology, testing conferences, and as a guest speaker to share his insights on automated software testing. Mr. Gauf has twenty years of experience in leading the design, development, and delivery of innovative solutions for the DoD. His experience includes the development and production of systems for passive and active sonar, electronic warfare, command and control, and computer based training and simulation for these system. Prior to his employment at IDT, Mr. Gauf was one of the founding employees at Digital System Resources, Inc., a system integration and software company specializing in technology critical to national security and a recognized leader in providing state of the art, high quality products. DSR became one of the top 100 largest prime Department of Defense contractors for Research, Development, Test, and Evaluation through the successful transition of transformational technologies for the DoD.*

## Embedded Software Technology Utilizing Product Quality by Yasuyuki Katsumaru

**5:30PM Wednesday, 17 September**

Starting with a single-function copying machine, now we have a further advanced multifunction machine that can connect to not only the Intranet but also Internet, providing a variety of solutions linking with various network resources.

The development scale of embedded software for multifunction machines has now increased at an exponential rate, exceeding ten million lines of source code, due to the market requirements and increasingly complicated functions.

Since multiple products need to be developed in parallel under the pressure of a shortened delivery time, the

existing methods and tools have already reached the limits. Furthermore, many companies are now under the management risk of quality issues in software development, such as large-scale product recalls and security issues (e.g. information leakage and data damage).

Under these circumstances, some of the specific cases that Fuji Xerox has been addressing to enhance product competitiveness are to be presented featuring some issues.

The presentation includes an approach to the development process standardization for quality assurance, the visualization of software development to help business judgment, and the confronting issues and measures in software engineering.

In addition, how Fuji Xerox has enhanced its software human resources and worked on the capacity development will be introduced.

## Software Security: State of the Practice 2008 by Gary McGraw

**8:00AM Thursday, 18 September**

Using the framework described in my book Software Security: Building Security In---built around the three pillars of software security: risk management, the touchpoints, and knowledge---I will discuss and describe the state of the practice. This talk is peppered with real data from the field, based on my work with several large financial services companies as a Cigital consultant. Really, the software security field is just getting started, but we are making important forward progress, and the future looks bright.

**Gary McGraw** *is the CTO of Cigital, Inc., a software security and quality consulting firm with headquarters in the Washington, D.C. area. He is a globally recognized authority on software security and the author of six best selling books on this topic. The latest, Exploiting Online Games was released in 2007. His other titles include Java Security, Building Secure Software, Exploiting Software, and Software Security; and he is editor of the Addison-Wesley Software Security series. Dr. McGraw has also written over 90 peer-reviewed scientific publications, authors a monthly security column for darkreading.com, and is frequently quoted in the press. Besides serving as a strategic counselor for top business and IT executives, Gary is on the Advisory Boards of Fortify Software and Raven White. His dual Ph.D. is in Cognitive Science and Computer Science from Indiana University where he serves on the Dean's Advisory Council for the School of Informatics. Gary is an IEEE Computer Society Board of Governors member and produces the monthly Silver Bullet Security Podcast for IEEE Security & Privacy magazine.*

## Can We Talk? Documentation Versus Communication in Software Projects by Kurt Schneider

**12:45PM Thursday, 18 September**

**Kurt Schneider** *studied Computer Science in Erlangen, Germany. He received a doctoral degree in Software Engineering from the University of Stuttgart in 1994. He had a grant from the NATO Science Committee for a Postdoctoral position at the University of Colorado at Boulder from 1994-1996. Kurt Schneider was a visiting member of the interdisciplinary Center for LifeLong Learning and Design in Boulder. From 1996-2003, he was a researcher and a project leader at the DaimlerChrysler Research Centre in Ulm, Germany. Kurt Schneider was leader of the Software Experience Centre (SEC) project for DaimlerChrysler. Since 2003, he is a full professor of Software Engineering at Leibniz Universität Hannover. His main research interests are requirements engineering, software quality, and service-oriented architectures. Life-long learning and cognitive optimization of techniques and tools are investigated in all those areas.*

**For full descriptions of concurrent sessions, go to *http://www.asq.conferences.wcsq***

# Thinking about taking the ASQ Certified Software Quality Engineer (CSQE) Exam at the WCSQ (or later)?

## The Westfall Team can help you prepare:

### Software Quality Engineering - A CSQE Refresher

September 8-12, 2008 in Bethesda, Maryland

prior to the 4th World Congress for Software Quality (WCSQ)
Hyatt Regency Bethesda
One Bethesda Metro Center (7400 Wisconsin Ave.) Bethesda, Maryland
(You can take a special offering of the CSQE exam Sunday, September 14th at the 4th WCSQ)

**Software Quality Engineering - CSQE Refresher** is a 5-day course designed to provide an in-depth review of the topics in ASQ's Certified Software Quality Engineer (CSQE) body of knowledge. This course is designed to:

- Help CSQE candidates perform well on all sections of the CSQE exam
- Provide an excellent knowledge base for anyone interested in implementing or improvng Software Quality Engineering techniques and practices in their organization.

**Student notebooks** are designed to provide reference materials that can be utilized by the attendees during the open book CSQE exam and long after the completion of the course. These materials include:

- Copies of all presentation slides and annotated descriptive notes.
- Sample CSQE questions to help CSQE candidates further prepare for the exam after completing this course.
- Answers to the sample questions including an explanation of why each answer is correct and its distracters are incorrect.
- A detailed index and glossary to make referencing the course material during the exam easier.
- Reference materials and web sites to aid in directing further study.

**The registration** cost for this course is $1,500 which includes all course materials, and breakfast, lunch and breaks for the 5-days of the course. If 3 or more people from the same organization register for this course, the registration fee is discounted to $1,225 per individual.

**For more informatoin or to register for this class:**

- Visit our website at *www.westfallteam.com*
- Call 972-867-1172
- Send email to *lwestfall@westfallteam.com*

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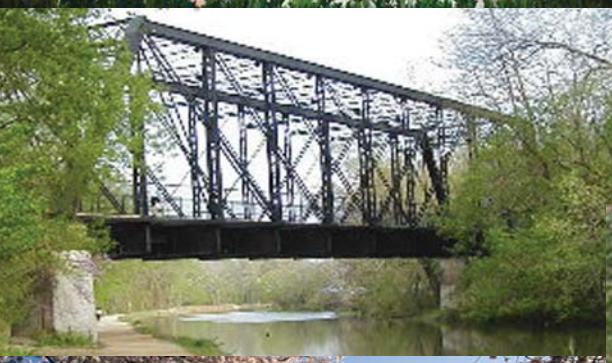


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