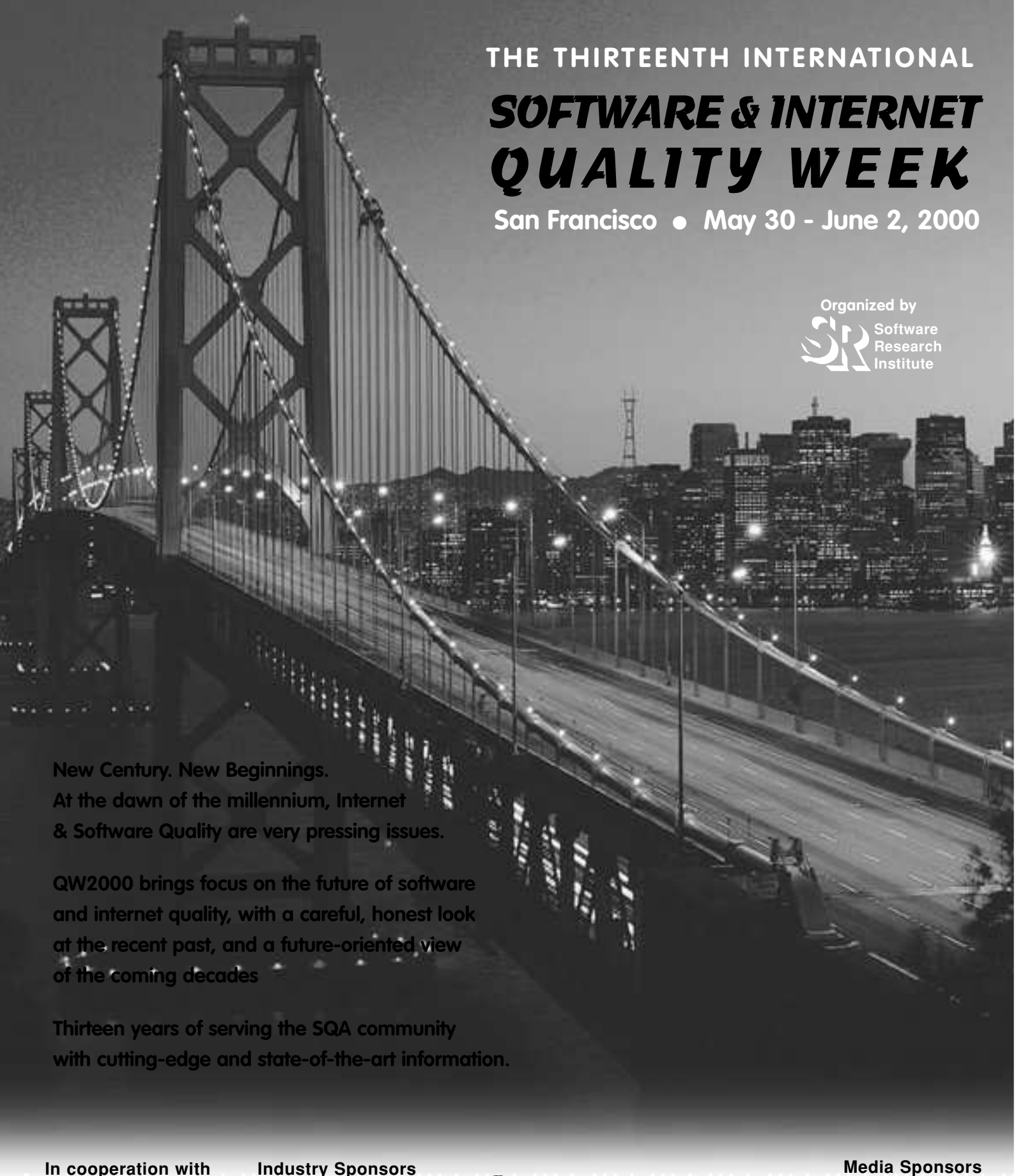

THE THIRTEENTH INTERNATIONAL

SOFTWARE & INTERNET QUALITY WEEK

San Francisco • May 30 - June 2, 2000

Organized by
Software Research Institute

New Century. New Beginnings.
At the dawn of the millennium, Internet & Software Quality are very pressing issues.

QW2000 brings focus on the future of software and internet quality, with a careful, honest look at the recent past, and a future-oriented view of the coming decades

Thirteen years of serving the SQA community with cutting-edge and state-of-the-art information.

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QW2000:
New Century! New Beginnings!

WELCOME FROM THE CHAIR

The Y2K event has passed. The celebrations are over. It's a new century and it's time for new beginnings. It's time to be ready for change.

The explosive growth in interest in the Internet (WWW) is the main driving factor in much of what's happening in software testing and quality assurance. WebSites are very complex pieces of software, and many of the proven application-based and client-server approaches ought to apply to websites as well.

QW2000's theme New Century! New Beginnings! reflects this shift. The year our Keynoters have real-world experience that can be used on your projects, our Quick-Start speakers whose expertise will save you time and effort, and our over 60 speakers on focused Technology, Applications, Internet and Manage-ment topics.

QW2000 is an an event NOT to be missed!

Edward Miller,
Conference Chairman

Who Should Attend

QW2000 is an educational experience aimed at many levels. Attendees should include

- Lead senior quality assurance managers and web chiefs looking for powerful testing methods and an opportunity to check out the latest tools and methodologies.
- Software developers and website developers – beginners and experts alike – who need exposure to authoritative sources for improving their products.
- Programmers, software developers, website designers – anyone who wants to learn more about producing better quality products.
- Managers and senior Technologists who want to catch up on the state-of-the-art in software and website testing and quality assurance.

International Advisory Board

QW2000 papers are selected based on reviews and recommendations from our distinguished International Advisory Board, whose members represent a broad range of experties in the software and internet quality area from Industry and Adademic postions worldwide. The Quality of the Quality Week Conferences is a direct result of the contribution of these experts.

QW2000's Advisory Board includes:

Selim Aissi (Intel Corporation); Larry Apfelbaum (Teradyne)
James Bach (Satisfice); Vic Basili (UOM)
Boris Beizer (Analysis); Bill Bently (Mu_Research)
Robert Binder (RBSC, Inc.); Robert Birss (Talarian)
Jack Bishop (SVN); Nick Borelli (Microsoft)
Rita Bral (SR/Institute); Taz Daughtrey (ASQC/SQP)
Tom Drake (CRTI); Sam Guckenheimer (Rational Software)
Dick Hamlet (Portland State); Doug Jacobson (Iowa State)
Andre Kok (CMG/Netherlands); Ara Kouchakdjian (Q-Labs/Netherlands)
Edward Miller (SR/Institute); John Musa (Consultant)
Michael O'Duffy (CSE/Ireland); Lee Osterweil (UMASS)
Greg Pope (AZOR); Otto Vinter (Delta/Denmark)
Mark Wiley (nCUBE); Denise Woit (Ryerson)

Participating Companies

Here is a sampling of 100 of the more than 1200 companies that have sent delegates to Quality Week Conferences in past two years:

3Com, ABN AMRO,
Adobe Systems Inc., ADP,
AGFA Gevaert, AirTouch,
Alcatel, Amazon.com,
Amdahl, Andersen Consulting,
AT&T, Autodesk, Inc.,
Bank of America,
Barclays Bank,
Bayer Corp., Bechtel,
Becton Dickinson, BellSouth,
Blue Cross/Blue Shield,
Boeing, Bomardier,
Bosch, British Telecom,
Cadence Design System,
Cap-Gemini, CERN,
Cisco, CMG, CNET,
Compaq, Compuware,
Coopers & Lybrand, CSC,
Cypress Semiconductor,
Daimler-Benz,
Deutsche Telekom,
DHL, Dresdner Bank,
Eastman Kodak, EDS,
Ericsson, Eurocontrol, FedEx,
Ford Motor Company, Fujitsu,
GE, Hewlett- Packard,
Hitachi, Honeywell,
Hughes, IBM Corporation,
Informix, Intel , Intuit,
J.D.Power, JPL,
Johnson Controls, KPMG,
Lernout & Hauspie,
Lockheed Martin, Lucent,
McGraw-Hill, MCI,
Mentor Graphics,
Merryll Lynch, Microsoft,
MITRE, Motorola, NASA,
NCR, Netscape,
Nokia, Nortel,
Northwestern Mutal, Novell,
Oracle, Pacific Bell,
PeopleSoft, Perkins Elmer,
Philips, Platinum Technology,
QUALCOMM, Raytheon,
Rockwell Collins, SAS Institute,
SGI, Shell,
Siemens, Sony,
Sun Microsystems, Sybase,
Tektronix, TRW,
Underwriters Laboratories,
UNISYS, VeriFone,
VISA, Volvo, Xerox

REGISTER ONLINE www.soft.com/QualWeek/QW2K

KEYNOTE SPEAKERS

Wednesday, May 31, Thursday, June 1 & Friday, June 2

:30 - 10:00, Wednesday, May 31

P1 Internet and E-Commerce: Issues and Answers

Stu Feldman, IBM Corporation

At IBM's T. J. Watson Research Center, Feldman leads a department doing research in a wide variety of network-related technologies and application enablers, including electronic commerce, parallel databases, anti-virus technology, and advanced internet multimedia. His talk shows how to forge better connections to the outside research world as well as to accelerate creation of new technologies for support of e-Business.

P2 The Intel Software Corporate Quality Network

Bill Gillmore, Intel Corporation

Intel is a leading supplier of computer and internet building blocks, and has developed a powerful Corporate Quality Network (CQN) to drive improvement and quality throughout the organization. Software engineering is playing an increasingly important role in Intel's efforts, and in the last few years a software wing within CQN has been established and grown to drive software quality. Software Quality Engineers from the Software CQN are distributed throughout the company on assignment to various divisions to establish, introduce, and nurture the adoption of "Best Known Methods". This presentation overviews the structure of this effort, and reviews the strategies, successes, and challenges of the program.

:30 - 10:00, Thursday, June 1

5P1 Determining the Quality of Electronic Commerce Processes

Leon J. Osterweil, University of Massachusetts

The goal of this talk is to emphasize that a discipline of assuring the quality of electronic enterprise systems and transactions can be built on top of the very large base of technologies that have been developed for more traditional application software. The talk suggests that internet transactions and enterprises should be treated as technologically based objects that we call processes. The talk further suggests that it is feasible and beneficial to consider such processes to be software.

5P2 Need for Quality– e-business Performance Testing

Rainer Pirker, IBM/Austria

Customers expect the best in e-business. The time and quality of response and the perceived performance to customers is essential in e-business. We'll help you to get the best out of your system - for your customers' benefits. We show you the critical success factors and the measurements which allow to decide what good quality means for e-business testing. Learn about independant teams working in different locations, with the help of leading edge tools. We also take a look at security issues in e-business testing.

0:30 - 12:30, Friday, June 2

0P1 Automated Software Inspection Process

Marcelo Dalceggio, Banco Rio de la Plata SA, Argentina

Due to the huge effort that inspection process demands, we developed an automated inspection process based on our experience with Y2K code control in order to increase the efficiency of the inspection process. Our systems have more than 10 million LOC and we produce/modify 900 programs per month and these programs have to be compliant with more than 150 rules established with different standards. It's almost impossible to inspect manually that volume of code and to pay attention to the rules during inspection. This talk describes our inspection process from selection to execution and verification.

0P2 Engineering Process of Windows 2000 **QWE99 Best Presentation**

Sanjay Jejurikar, Director of Test for Windows, Microsoft

This talk will give an overview of the engineering process used by Microsoft to develop and the daily QA activity taking place in the teams while working on a project like Windows 2000, and provide high level information on the way testing and deployment effort was staged.

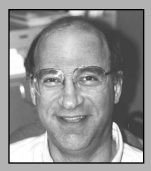
0P3 Information Security Requires Assurance

Gene Spafford, CERIAS / Perdue University

As computerization has become more ubiquitous, and as more critical societal functions have been entrusted to computers, we have become more aware of shortcomings in the security of our information infrastructure. Many (if not most) of these shortcomings can be traced to poor software development practices, lack of testing, and faulty design. Vendors claim – in so many words – that there is no economic reason to produce higher quality software because consumers want features before more security. This talk will examine these issues and discuss some future consequences of the lack of focus on quality.

Stu Feldman

Feldman did his academic work (AB, Princeton and PhD, MIT) in astrophysics and mathematics. He has been chair of ACM SIGPLAN and is founding chair of the ACM SIG on E-Commerce. He was a computer science researcher at Bell Labs and a research manager at Bellcore before joining IBM in mid-1995.



Bill Gilmore

Dr. Bill Gilmore is a senior Software Quality Process Engineer in the Corporate Quality Network at Intel, and is responsible for establishing quality processes and improving product quality in Intel business divisions, currently assigned to the Microprocessor Group.

Leon J. Osterweil

Leon J. Osterweil is currently a professor in the Department of Computer Science at the University of Massachusetts, Amherst. He was the founding Director of the Irvine Research Unit in Software (IRUS) and the Southern California SPIN. He has been Program Committee Chair of ICSE 16, TAV 2, ISPW4, and SDE2, and General Chair of FSE 6.

Rainer Pirker

Rainer Pirker is a consultant with IBM Application Development Effectiveness Practice. He specializes in test concepts and strategies to improve software quality. He has more than 10 years of experience in information system and application development, and has in-depth knowledge of banking, insurance and public institutions in the fields of executing, developing and improving tests.

Marcelo Dalceggio

Marcelo R. Dalceggio is currently chief of the Quality Assurance Department at Banco Río de la Plata S.A. in Argentina. In this capacity, he is responsible for the development and implementation of defect prevention, improvement opportunities and quality assurance activities. He is a Professor of Software Engineering Fundamentals a Universidad CAECE in Argentina.

Sanjay Jejurikar

As a Director in the Windows Division, Sanjay is responsible for overseeing the building, testing and quality assurance of the Windows 2000 family of products. Sanjay joined Microsoft in July 1989 as a software design engineer His most recent role is managing the groups responsible for building, QA/OS testing, business applications integration testing, and logo testing for Windows NT products as a Director of Test.

Gene Spafford

Eugene H. Spafford is a professor of Computer Sciences at Purdue University, the university's Information Systems Security Officer, and is Director of the Center for Education Research Information Assurance and Security. CERIAS is a campus-wide multi-disciplinary Center, with a broadly-focused mission to explore issues related to protecting information and information resources.

Tuesday, 30 May, 2000

30 - 12:00

A1 Life as a New Test Manager

NEW

Johanna Rothman, Rothman Consulting Group

- Using your project's definition of quality to help define when the product is ready to ship
- How to define measurable criteria
- How to assess the product against the criteria

Johanna Rothman

Johanna Rothman is a speaker, trainer and consultant on managing high technology product development and quality. As a memberof the Gordon Institute at Tufts University, she holds two ASQ certifications: Certified Quality Auditor and Certified Software Quality Engineer.

B1 A Roadmap to Distributed Client-Server Software Reliability Engineering

Norman Schneidewind, Naval Postgraduate School

- Help practitioners implement or improve a software reliability program in their organizations, using a step-by-step approach based on an enhanced version of the ANSI/AIAA. Recommended Practice for Software Reliability.
- Use case studies from the NASA Space Shuttle and the United States Marine Corps logistical systems.
- Emphasize software reliability for distributed systems.

Norman Schneidewind

Dr. Norman Schneidewind is Professor of Information Sciences and Director of the Software Metrics Research Center at the Naval Postgraduate School. He is the developer of the Schneidewind software reliability model, recommended by the American National Standards Institute of Aeronautics and Astronautics Recommended Practice for Software Reliability.

C1 Requirements Analysis Using Formal Methods

Michael Deck, Cleanroom Software Engineering, Inc.

- Introduce formal notations and structures for reducing the ambiguity inherent in natural language specification.
- For developers, this will allow a thorough understanding of potential problems prior to development and permits inspections that focus on correctness evaluation.
- For testers, this permits understanding of what constitutes a testing "failure" and will also supports the construction of better testing models.

Michael Deck

Michael Deck is an internationally-recognized expert in Cleanroom software engineering practices. His consulting company specializes in training project teams to tailor and use Cleanroom practices to solve real-life software process problems.

D1 Making the CMM Work: Streamlining the CMM for Small Projects and Organizations

Bill Deibler, SSQC

- Implement a realistic and useful strategy for deploying software development practices in small organizations and projects
- Simplify the CMM to support appropriate, effective, flexible software development processes for any small organization or project
- Resolve apparent discrepancies between the guidance in the CMM and the needs of small, commercial and internal software development projects and organizations
- Identify and prioritize elements of advanced levels that should be considered by every organization.

Bill Deibler

Bill Deibler has 20 years experience in the computer industry, primarily in software and systems development, software testing and SQA. Bill has extensive experience in managing and implementing CMM- and ISO 9000-based process improvements in software engineering environments.

E1 Test Planning Workshop

NEW

Ross Collard , Collard & Company

- In small teams, how to analyze real -world test situations
- Identify and understand key issues the tester needs to master in developing the test plan
- Develop workable testplans with a reasonable assurance of test coverage and reliability

Ross Collard

Ross Collard specializes in software testing and QA. He is currently working as a testing consultant for American Express, AT&T, Cisco, IBM, Intel and Lucent. His set of books on software testing will be published next year.

F1 Testing Web-based Applications: Techniques for Conformance Testing

NEW

G. Bazzana & E. Fagnoni, ONION s.r.l.

- The tutorial focuses on testing methods and tools which can be successfully applied to the testing of Web-based applications, notably:
- Internet WWW servers
- Intranet dynamic applications
- Extranet e-commerce application.

G. Bazzana

Gualtiero Bazzana is Partner and Managing Director of ONION S.p.A., an Italian SME specialized in software communications, technologies, consulting in the fields of telecommunications, MIS, data processing, process control, etc..

G1 Testing In the Real World

Edward Kit, Software Development Technologies

This tutorial will prepare you to perform cost-effective analysis, testing, and overall evaluation of a software product or system.

- Learn the essentials of performing cost-effective analysis, testing and overall evalution of software.
- Aquire a vision for testing and identify keys to testing success and discover practical, effective, proven test methods.
- Review practical use of measurement, standards, and risk management and how to develop a testing improvement action plan.

Edward Kit

Edward Kit, founder and president of Soft ware Development Technologies, is well known as a test expert, author, and keynote speaker. His book, *"Software Testing in the Real World: Improving the Process,"* has been adopted as a standard by companies around the world .

12:00 - 1:30 -TUTORIAL DAY LUNCH AND NETWORKING

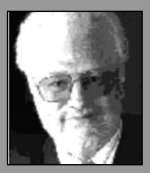
PRE-CONFERENCE TUTORIALS

. Robert Binder

Robert Binder is the developer of the test design pattern schema and author of *"Testing Object-Oriented Systems: Models, Patterns, and Tools"*, which presents 37 test design patterns.

hn Musa

John D. Musa is an independent consultant. He gives courses in software reliability engineering on a world wide basis. He has extensive experience as a software developer and manager. He has published over 80 papers and is principal author of the highly-acclaimed pioneering book *"Software Reliability: Measurement, Prediction, Application"*.



m Gilb

Tom Gilb is a independent consultant, teacher and author. He works mainly in UK, Europe and North America he is a resident of Norway. Tom coined the term "Software Metrics' with the publication of his book of the same name in 1976.

m Koomen

Tim Koomen is a member of the R&D team at IQUIP Informatica in the Netherlands covering issues like E-commerce, ERP, test factories and TPI. Currently he is advising organizations how to improve their testing processes, using the presented model. He is the co-author of the TPI-book, translated in Dutch, English and German.

da Rosenberg

Dr. Linda H. Rosenberg is the Division Chief responsible for the Software Assurance Technology Center (SATC) at Goddard Space Flight Center, NASA. Although she oversees all work areas, Dr. Rosenberg's area of expertise is metrics. The emphasis of her work with project managers is the application of metrics to evaluate the quality of development products.

drian Cowderoy

Adrian Cowderoy is Managing Director of the Multimedia House of Quality Limited, a company which he established to promote quality-improvement methods for the production of websites and multimedia.

hris Loosley

Chris Loosley is Senior Internet Consultant with Keynote Systems. He has a technical background in the design and performance of enterprise information systems, and over 25 years experience in the field of software performance engineering. Mr. Loosley is the author of *"High-Performance Client/ Server"*

1:30 -5:00

A2 How To Write A Test Design Pattern

NEW

Robert Binder, RBSC

- An overview of patterns in software development
- The test design pattern schema.
- Development of several actual test design patterns.
- Participant pattern development breakout and discussion

B2 Developing More Reliable Software Faster and Cheaper

John Musa, Consultant

- Quantitatively characterize expected use of the software product and then focus resources on the most used and/or most critical functions. This increases development efficiency and hence the effective resource pool available to add customer value to the product.
- Further increase customer value by setting quantitative reliability objectives that precisely balance customer needs for reliability, timely delivery, and cost; engineer project strategies to meet them; and track reliability in test as a release criterion.

C2 Requirements Engineering for Software Developers and Testers

Tom Gilb, Result Planning Limited

40-60% of all software bugs which escape test to the field user have been traced to requirements and design specifications before coding. It has then been proven that inspecting the specifications sharply reduces this problem. This workshop will explore all aspects of Specification Quality Control in a hands on practical workshop. Participants will actively experience the technology necessary to attack this quality challenge.

D2 Stepwise Improvement of the Testing Process using TPI tm

Tim Koomen, IQUIP Informatica BV

Discussion of practical experiences regarding:

- The Contest, Why, What, When, Where, Who, etc. to improve?
- TPI, The Test Process Improvement Model
- Application of the Model, Management of Change

E2 Risk-Based Object Oriented Testing

NEW

Linda Rosenberg, Ruth Stapko, & Albert Gallo, NASA GSFC

Risk-based testing is a highly effective testing technique that can be used to find and fix the most important problems as quickly as possible. This seminar will focus on:

- Software Metrics
- Object Oriented
- Software Testing

F2 Cool Q - Quality Improvement for Multi-Disciplinary Tasks in Website Development

NEW

Adrian Cowderoy, MMHQ

The tutorial is targeted at website producer/directors and managers. It is also strongly recommended for software quality people who are moving into the Internet business. The tutorial addresses website content and structure, and the functionality resulting from using Internet development tools.

G2 Web Application Performance

NEW

Chris Loosley & Eric Siegel

How do you deploy reliable, responsive e-commerce applications in the uncontrolled and relatively slow environment of the Internet? (Hint: it's not just a matter of bandwidth). Using many illustrative examples and studies drawn from their experience measuring and improving leading e-commerce sites, the presenters explain the fundamentals of web application performance engineering, from the browser to the database backend.

5:00 - 6:00 WELCOME NETWORKING RECEPTION

VENDOR TECHNICAL	TECHNOLOGY	APPLICATIONS

0:30 - 12:00

OO Automation Applications

2V1 **Enterprise Change and Configuration Management**
Melissa Borza, Computer Associates
- Preserving the integrity of software resources is the goal of effective Change and Configuration Management (CCM).
- The challenges of Enterprise CCM and how to meet these challenges.
- Integration of CA's CCM products provides enterprise-wide benefits for your organization.

2V2 **Ziff-Davis Benchmarks: Future Directions**
Mr. Mark VanName, ZD Labs

2T1 **Automating Testing of Object-Oriented Components Using Intelligent Test Artifacts**
Michael Silverstein, SilverMark, Inc.
- Common patterns of component/object test automation
- How intelligent test artifacts address common patterns of component/object testing
- Implementing intelligent test artifacts in Java

2T2 **Object Based Machine Automation (OSIRIS Project)**
James Elder & Ricard Roma-i-Dalfo, Microsoft
- Discuss the problems of automating configuration and scenario based testing
- Present the OSIRIS project as a possible strategy for solving this.
- Provide examples of how this automation strategy is being applied

Conformance and Internationalization

2A1 **Automated Conformance Testing for IT & T Product Certification**
James Andrews, The Open Group
- Methods for automatic conformance testing
- Certification of information and telecommunications technology against industry standards
- Product certification of operating systems, wire less telecommunication, and internet technology in practice

2A2 **Is Special Software Testing Necessary Before Releasing Products to an International Market?**
Juichi Takahashi, Florida Institute of Technology
- Developing international software.
- Testing international software.
- Organizing development and testing teams for international software.

30 - 3:00

Hi-Tech Testing

3V1 **Automating Test Design and Inspection**
Shel Prince, Software Development Technologies
- New architecture for test design and automation
- Automating technical reviews
- Create more cost effective and maintainable test suites

3V2 **E-Commerce Solutions From the Back Office to the Web**
Christian Hote, PolySpace Technologies

" I am looking forward to taking an active part in QW again. Quality Week is very effective in developing, inspecting and testing the vital links between technical, management and research people."
— Lech Krzanik (CCC Software Professionals, Finland)

3T1 **Building a Parallel Test Environment**
Mr. Robert Bauer & Mr. Russell F. Ingram, Levetate Design Systems
- Design and implementation of a distributed system to test massively parallel databases
- Developing parallel tests - structures for setup, execution, cleanup, and output comparison
- Using automated results analysis

3T2 **Performance Engineering of an Embedded System Application**
Mr. Robert Oshana, Raytheon Systems Company
Lessons learned in a real-world experience:
- Initial Performance estimates & Information Requirements
- Tracking the reporting metrics
- Results & data, chronology of steps
- Reducing the measurement error

Using Technology

3A1 **Measuring Test Effectiveness: The Use and Misuse of Test Coverage**
David W. Carman, Telcordia Technologies
- Runctional coverage
- Code coverage
- Software measurement

3A2 **Advanced Scripting Techniques: Making Automation Accessible** Linda Hayes, WorkSoft
This presentation will explain how to use advanced scripting techniques including modularity, reusability, encapsulation, indirection and data-driven design to make automation easily accessible to domain experts with a minimum of training and technical expertise. The ultimate goal is to make test automation available, persistent and consistent across the organization, over time and change.

:30 - 5:00

Test Automation

4V1 **Zero Defect or Simship? The Global Testing Challenge**
Mr. Steve Nemzer, VeriTest
- Testing and localizing for global product rollouts
- Workflow
- International Quality Assurance

4V2 **Which Comes First, the Process or the Tool?**
Mr. John Bowman, Compuware Corporation
- Establishing your Software Process
- Process Integration with Complimentary Software Processes
- Automation Criteria

5:00 - 6:00 EXPO COCKTAIL RECEPTION **Enjoy light snacks and California wines and beers while you explore state-of-the-art tools and services.**

4T1 **Software Quality for Embedded Systems**
Rainer Stetter, Software Factory & ITQ GmbH
- Problems and special quality demands on embedded systems
- Measurements, hints and practical solutions to improve quality in embedded systems
- Future quality approaches and techniques

4T2 **Application of the Test Automation Framework for Model Analysis & Test Generation**
Mark Blackburn & Joseph Fontaine, Software Productivity Consortium
- Overview describing how model analysis and test generation can significantly reduce time and effort
- Benefits obtained by members using Test Automation Framework
- Explains how using the Test Automation Framework changes the lifecycle processes

Production Modes

4A1 **Visualization Toolkit Extreme Testing: A Production Release Every Day**
William E. Lorensen & James Miller, GE Corporate Research & Development
- Automated software testing for medium-sized software with concise summarization of testing results
- The process provides a daily assessment of the readiness of the system for release
- The process empowers developers to improve the software without fear of breaking it

4A2 **Benchmarking Large Windows Based Applications** Kevin VanFlandern, Microsoft, Inc.
This paper covers methods used by the Office Performance team for retrieving and analyzing benchmark data against large Windows based applications. The contents include the objectives of the team, how we narrowed down our key goals and objectives, and how we set about, from both a hardware and software perspective, resolving each one.

10:30 - 12:00

E-Commerce Experience

2W1 **Notes From The Front Lines: How to Test Anything and Everything on a Web Site**
Ted Fuller, Agency.com
- Offers advice to ensure comprehensive coverage during testing
- Identifies areas and details you don't want to miss before launching a web site
- Explains how to apply existing Quality Practices to prevent problems that show up in testing.

2W2 **From Web Site to Web App: Ensuring Quality in a Complex Environment**
Steven Porter, API/Independent
- Differences between websites and web applications
- Things to consider for a Quality Strategy
- Some metrics as a guideline for estimating time needed for testing

Managing Testing

2M1 **The ABC's of Managing a Software Testing Project** Joel Fleiss, VeriTest
- Test Management
- Test Methodology
- Test Guidelines

2M2 **The Influential Test Manager**
Johanna Rothman, Rothman Consulting Group
- An introduction to ways to influence others in the organization
- Reframes of typical test manager problems and possible solutions
- What to do when it doesn't look like it's you

2

2Q **The Heuristic Approach to Testing**
Mr. James Bach, Satisfice, Inc.
Heuristic testing is the systematic use of guidelines, checklists, and other empirically and theoretically derived tools to help testers design effective tests. Heuristic testing focuses on how testers think, and since it minimizes documentation it's particularly useful in rapid, chaotic, or ambiguous situations that increasingly characterize modern software development. Heuristic testing focuses on skills and ideas, rather than procedures and metrics. This talk examines the principles, skills, and tools of heuristic testing.

DOUBLE SESSION

1:30 - 3:00

WebSite Performance I

3W1 **The Science of Website Load Testing**
Alberto Savoia, Velogic Inc.
- Introduction and description to the key variables and metrics for load testing websites.
- Innovate methodology for developing and validating highly realistic load scenarios using the concept of a WebSite Usage Signature.
- Practical tips, advice, and hard-learned lessons on website load testing.

3W2 **Performance Testing: A Methodical Approach to E-Commerce Applications**
B. M. Subraya & S. V. Subrahmanya, Infosys
- Importance of performance testing in E-commerce applications
- The Type & variations of E-commerce performance testing
- Approaches to Performance testing: Conventional and TCA

Process Feedback

3M1 **A Practical Approach to Testing Software in an Evolutionary Delivery Environment**
Phil Lones, Lucent Technologies
- Brief description of Evolutionary Delivery
- Introduction to steps required to effectively test in an EVO environment
- Detailed process of testing during evolutionary deliveries.

3M2 **Yes, But What Are We Measuring?**
Cem Kaner, J.D., Ph.D.
A theory of measurement must take into account at least 8 factors, like:
- The attribute to be measured
- The instrument that measures the attribute
- The likely side effects of using this instrument to measure this attribute. This paper describes the factors and uses the history of perceptual measurement to illustrate the application of them.

3

3Q **Best Practices for Object-Oriented Systems**
Robert V. Binder, RBSC Corporation
- Lessons Learned: OO testing requires unique test design approaches
- State of the art: expressed in patterns
- State of the practice: world class quality can be achieved

DOUBLE SESSION

"I have benefited tremendously from the training and information provided during the sessions."
— Cheryl Moore, FedEx

3:30 - 5:00

WebSite Performance II

4W1 **Testing the Performance Impact of a Web-based Application**
Pat Garverick, Landmark Systems Corporation
- Test plan to test the performance impact of running a new web-based application with both server-side and browser-side components
- Real life experience of putting the test plan into use testing the application on the NT 4.0 Server, using IIS 4.0 and IE5.
- List of suggested test cases and performance metrics to be included in the Report Template.

4W2 **eCommerce Performance Management Lifecycle – Benchmarking, Methodology and Criteria** Steven Rabin, Interworld Corp.
- Key elements in understanding customer/site dynamics
- How to use this information to design an eCommerce based performance testing benchmark
- Real world scenarios from different sites are analyzed

Intellectual Property

4P **Protecting Intellectual Property in an Open Source World**
Moderator: Doug Whitney, Intel
Panelists: Andy Wilson, Intel
Micthell Baker, Mozilla
This is a case study of how Intel created a web appliance project using both intellectual property and open source code without jeopardizing the intellectual property.
Please note: this will not explain or interpret open source license issues.

PANEL SESSION

4

4Q **Pitiful and Powerful Measures of Software Metrics**
Mr. Tom Gilb, Result Planning Limited
Powerful measures help management achieve their purposes as managers of software engineering teams. Powerful measures are not indirect: they measure as close to the customers' experience and need as possible. They help management to attain their customer-related objectives and to control their product development and production processes. Measures become pitiful when they are not well stated to control what really matters.

DOUBLE SESSION

QW SPECIAL EVENT

Plenar Session Introduction: Edward Miller, Software Research, Inc.

1P1 **Internet and E-Commerce: Issues and Answers** Stu Feldman, IBM

	VENDOR TECHNICAL	TECHNOLOGY	APPLICATIONS
0:00-0:30	REFRESHMENTS IN EXHIBIT HALL	**OO Automation Applications**	**Conformance and Internationalization**
0:30-2:00	2V1 **Change and Configuration Management** Melissa Borza, Computer Associates	2T1 **Automating Testing of Object-Oriented Components Using Intelligent Test Artifacts** Michael Silverstein, SilverMark, Inc.	2A1 **Automated Conformance Testing for IT & T Product Certification** James Andrews, The Open Group
	2V2 **Ziff-Davis Benchmarks: Future Directions** Mark VanName, ZD Labs	2T2 **Object Based Machine Automation (OSIRIS Project)** James Elder & Ricard Roma-i-Dalfo, Microsoft	2A2 **Is Special Software Testing Necessary Before Releasing Products to an International Market?** Juichi Takahashi, Florida Institute of Technology
2:00-:30	CONFERENCE LUNCH & NETWORKING	**Hi-Tech Testing**	**Using Technology**
:30-3:00	3V1 **Automating Test Design and Inspection** Shel Prince, Levetate Design Systems	3T1 **Building a Parallel Test Environment** Robert T. Bauer & Russell F. Ingram, Levetate Design Systems	3A1 **Measuring Test Effectiveness: The Use and Misuse of Test Coverage** David W. Carman, Telcordia Technologies
	3V2 **E-Commerce Solutions From the Back Office to the Web** Christian Hote, PolySpace Technologies	3T2 **Performance Engineering of an Embedded System Application** Robert Oshana, Raytheon Systems Company	3A2 **Advanced Scripting Techniques: Making**
:00-3:30	REFRESHMENTS IN EXHIBIT HALL	**Test Automation**	**Production Modes**
:30-5:00	4V1 **Zero Defect or Simship? The Global Testing Challenge** Steve Nemzer, VeriTest	4T1 **Software Quality for Embedded Systems** Rainer Stetter, Software Factory & ITQ GmbH	4A1 **Visualization Toolkit Extreme Testing: A Production Release Every Day** William E. Lorensen & James Miller, GE Corporate Research & Development
	4V2 **Which Comes First, the Process or the Tool?** John Bowman, Compuware Corporation	4T2 **Application of the Test Automation Framework for Model Analysis and Test Generation** Mark Blackburn & Joseph Fontaine, Software Productivity Consortium	4A2 **Benchmarking Large Windows Based Applications** Kevin VanFlandern, Microsoft, Inc. Linda Hayes, WorkSof
:00-:00	SPECIAL EVENT **EXPO RECEPTION** Drinks and hors d'oeuvres are served in the Expo Hall		7:00 SPECIAL EVENT
8:30-0:00	**PLENARY SESSION**	**Plenar Session Introduction:** Edward Miller, Software Research, Inc. KEYNOTES	5P1 **Determining the Quality of Electronic Commerce Processes** Leon J. Osterweil, University of Massachusetts
0:00-0:30	REFRESHMENTS IN EXHIBIT HALL	**Advanced Techniques I**	**Software Components**
0:30-2:00	6V1 **Why Web QA Is Essential in all Phases of the Development Process** Ted Burnett, Watchfire	6T1 **Feeling Tcl-ish? Applying Tcl to Real Test Tasks** Alan Myrvold, Entrust Technologies Limited	6A1 **Functional Testing of Distributed, Component-Based Software** Jean Hartmann & Claudio Imoberdorf, Siemens Corporate Research
	6V2 **Transforming Software Quality Control to Quality Assurance** Bruce Boes, Software Emancipation Tech.	6T2 **Quality in an ASP Environemnt** Elisabeth Hendrickson, Aveo Inc.	6A2 **Design for Testability of Software Components** Jerry Gao, Kamal Gupta & Shilina Gupta, San Jose State University
2:00-:30	CONFERENCE LUNCH & NETWORKING	**Java**	**COTS**
:30-3:00	7V1 **Outsourced Testing for the Web** Greta Cohen and Mr. Jim Baac, Superior IS	7T1 **Semantic Differences Between C++ and Java: Consequences for the Review and Test Process** Andreas Spillner & Ulrich Breymann, Hochschule Bremen	7A1 **A Practical New Approach to COTS Testing** Yingxu Wang, Centre for Software Engineering
	7V2 **Test Early, Test Often:** Bruce Katz, Rational	7T2 **Functional Testing of CORBA based Systems in Java** Charles White, Segue Software, Inc.	7A2 **Find the Defects that Traditional Testing Misses with Automated Software Inspection Services** Scott Trappe, Reasoning Inc
:00-:30	REFRESHMENTS IN EXHIBIT HALL	**Advanced Techniques II**	**Specifications**
:30-:00	8V1 **Testing E-Commerce Applications** Jim Bampos, Vanteon	8T1 **A Planning-Based Approach to GUI Testing** Atif M. Memon, Martha E. Pollack, & Mary Lou Soffa, University of Pittsburgh	8A1 **Quality Evaluation of Software Requirements Specifications** Giuseppe Lami, Stefania Gnesi, Mario Fusani & Fabrizio Fabbrin, Istituto di Elaborazione dell'Informazione
	8V2 **A Model-Based Technique for Test Program Creation** Mark Myers, Teradyne SST	8T2 **Performance Engineering for Java and the Web** Stephen Sullivan, Mathcom Solutions, Inc.	8A2 **A Good Idea! But How Do We Get People To Use It?** John Musa, Consultant
:00-6:30	**SPECIAL PANEL SESSION**	8P **Ask The Quality Experts!** Nick Borelli, Panel Chair	PANEL SESSION
8:30-0:00	9P **How Can I Tell When My Project's in Trouble?** Ms. Johanna Rothman & Mr. Brian Lawrence, Coyote Valley Software / Rothman Consulting, Inc. PANEL SESSION	**UML Methods**	**Risk**
		9T1 **Enabling Testable Architectures with UML** Sam Guckenheimer, Rational Software Corporation	9A1 **Risk Based Test Strategy Paper** Rob Baarda, IQUIP Informatica BV
		9T2 **Quality Starts with Requirments: How the UML Can Help** Tim Szymanski, Advanced Software Technologies, Inc.	9A2 **An Overview of Testing Methodology and Experience at IBM Corepoint Banking Solution** Jerrold Landau, IBM Canada
0:00-0:30	REFRESHMENTS IN EXHIBIT HALL		
0:30-2:30	**PLENARY SESSION**	**Plenar Session Introduction:** Edward Miller, Software Research, Inc. KEYNOTES	10P1 **Autoated Software Inspection Process** Marcelo Dalceggio, Banco Rio de la Plata SA, Argentina
2:30-2:00	CONFERENCE LUNCH & AWARDS PRESENTATION • BEST PAPER AWARD • BEST PRESENTATION AWARD		
:00-:00	**POST CONFERENCE WORKSHOPS**	W1 **Oracle Strategies for Automated Testing** Douglas Hoffmann, Software Quality Methods LLC [USA]	W2 **Bug Advocacy Workshop** Cem Kaner, Attorney at Law
	STANDBY PRESENTATIONS	SB1 **Automatic Test Case Generation for GUI Navigation** W. T. Tsai, Arizona State University	SB2 **An Approach to Testing Component-Based Software** Yongzhong Tu, University of Minnesota

	INTERNET	MANAGEMENT	QUICKSTART
10:30-12:00	**E-Commmerce Experience** 2W1 **Notes From The Front Lines: How to Test Anything and Everything on a Web Site** Ted Fuller, Agency.com 2W2 **Web Site to Web App: Ensuring Quality in a Complex Environment** Steven Porter, API Independent	2M1 **The ABCs of Managing a Software Testing Project** Joel Fleiss, VeriTest 2M2 **The Influential Test Manager** Johanna Rothman, Rothman Consulting Group	**Managing Testing** 2Q **The Heuristic Approach to Testing** James Bach, Satisfice, Inc.
1:30-3:00	**WebSite Performance I** 3W1 **The Science of Website Load Testing** Alberto Savoia, Velogic Inc. 3W2 **Performance Testing: A Methodical Approach to E-Commerce Applications** B. M. Subraya & S. V. Subrahmanya, Infosys	**Process Feedback** 3M1 **A Practical Approach to Testing Software in an Evolutionary Delivery Environment** Phil Lones, Lucent Technologies 3M2 **Yes, But What Are We Measuring?** Cem Kaner, Attorney At Law	3Q **Best Practices for Object-Oriented Systems** Robert V. Binder, RBSC Corporation
3:30-5:00	**WebSite Performance II** 4W1 **Testing the Performance Impact of a Web-based Application** Pat Garverick, Landmark Systems Corporation 4W2 **eCommerce Performance Management Lifecycle – Benchmarking, Methodology and Criteria** Steven Rabin, Interworld Corp.	**Intellectual Property** 4P **Protecting Intellectual Property in an Open Source World** Moderator: Doug Whitney & Andy Wilson, Intel Panelists: Andy Wilson, Intel & Mitchell Baker, Mozilla **PANEL SESSION**	4Q **Pitiful and Powerful Measures of Software Metrics Session** Tom Gilb, Result Planning Limited
5:00-6:00	**7:00 Baseball at the NEW Pac Bell Park SF Giants vs. Philadelphia Phillies**		
8:30-10:00	5P2 **Need for Quality– e-business Performance Testing** Mr. Rainer Pirker, IBM/ Austria		
10:00-10:30	**Internet Time**	**Practical Testing**	
10:30-12:00	6W1 **Managing E-Business Quality in Internet Time** Anand Sundaram, RSW Software, Inc. 6W2 **Stranger in a Strange Land – Bringing Quality Assurance to a Web Startup** Lisa Crispin, TRIP.com	6M1 **Guerilla Tool Selection** Lisa Crispin, TRIP.com 6M2 **Testing in the Dark** Brian Lawrence & Johanna Rothman, Coyote Valley Software / Rothman Consulting, Inc.	6Q **WebSite Testing** Tobias G. Mayer, eValid, Inc.
1:30-3:00	**WebSite Quality** 7W1 **The Challenges of Web Testing** Jeanette Folkes & Bert Lamar, Ogilvy Interactive 7W2 **The Living Creature - Testing Web Applications** Andrea MacIntosh & Wolfgang Strigel, QA Labs Inc.	**Defect Tracking** 7M1 **Redesigning a Testing Organization for Delivery to the Web** Patrick Copeland, Microsoft 7M2 **The Fine Art of Writing a Good Bug Report** Rex Black, Rex Black Consulting Services, Inc.	7Q **Evaluating Test Suites** Brian Marick, James Bach & Cem Kaner
3:30-5:00	**Commercial Quality** 8W1 **Technical Quality is Just the Start – The Real Battle is Commercial Quality** Adrian Cowderoy, MMHQ 8W2 **Quality Assurance Challenges in the Internet Industry** Steven Watson, CNET Inc.	**Certification** 8M1 **Certification Programs for Software Quality and Test Professionals** D. J. Law, QWest Communications 8M2 **What Does Application Certification Mean in the Software Industry?** Marc Zasada, VeriTest	8Q **Testing Network Based Software Systems – The Future Frontier** Thomas A. Drake, ICCI
5:00-6:30	Post Your Questions on the Web! Stump the Experts If You Can! QW 2000 Advisory Board Experts Will Answer All! (In Cooperation with Microsoft Corporation)		
8:30-10:00	**Link Checking** 9W1 **A Systematic Framework for Ensuring Link Validity Under Web Browsing Environments** Wen-Kui Chang & Shing-Kai Hon, Tunghai University 9W2 **The Web Application Process: Development & Testing** Michael Weider, Watchfire	**Process Innovations** 9M1 **Using Bootstrap to Improve the Management of Software Process in a Virtual Software Organization?** Hong Guo, Graham King, Margaret Ross & Geoffe Stable, Southampton Institute 9M2 **Opportunistic Software Quality** Richard Kasperowski, Altisimo Computing	9Q **Experience-Based Approaches to Process Improvement** Otto Vinter, DELTA Danish Electronics, Light & Acoustics
10:30-12:30	SB3 **Principles of Multi-System Integration** Ron Silacci, Lucent Technologies Inc.	10P3 **Internet Information Assurance & Security** Gene Spafford, CERIAS / Perdue University	
2:00-5:00	W3 **Achieving WebSite Quality** Edward Miller, Software Research, Inc. 10P2 **Engineering Process of Windows 2000** Director of Test for Windows, Microsoft	W4 **The Effective SQA Manager - Getting Things Done** Robert Sabourin, Purkinje Inc. [USA] SB4 **Effective Software Testing at a Leading Electronic Design Automation (EDA) Company** Giora Ben-Yaacov, Synopsys Inc.	SB5 **Methods for Effective Unit Testing** Michael Aivazis, ParaSoft Corp.

VENDOR TECHNICAL	TECHNOLOGY	APPLICATIONS

10:30 - 12:00

6

Advanced Techniques I

6V1 Why Web QA Is Essential in all Phases of the Development Process
Mr. Ted Burnett, Watchfire
- Will explore the benefits of automated web-site testing
- The downside of a poor website
- Web sites must be tested often

6T1 Feeling Tcl-ish? Applying Tcl to Real Test Tasks
Alan Myrvold, Entrust Technologies Limited
- Tcl can be used to make new test tools
- Tcl can be used to test Web applications via HTTP
- Tcl can be used to express a state-machine model and generate tests

Software Components

6A1 Functional Testing of Distributed, Component-Based Software Jean Hartmann & Claudio Imoberdorf, Siemens Corporate Research
- Structured test design based on UML state charts.
- Tool support for test generation and test execution.
- Methods suitable for testing individual components or sets of integrated components.

6V2 Transforming Software Quality Control to Quality Assurance
Mr. Bruce Boes, Software Emancipation Tech.
- Identify and fix defects BEFORE your customers find them
- Prevent defects EARLY in the development cycle
- Transform Quality control to Quality Assurance

6T2 Quality in an ASP Environemnt
Elisabeth Hendrickson, Aveo Inc.
- The difference between developing software at an ASP and developing software in a more traditional independent software vendor.
- How to identify and achieve the key quality criteria for an ASP environment.
- How to focus software development efforts, including testing, in an ASP environment.

6A2 Design for Testability of Software Components
Jerry Gao, Kamal Gupta & Shilina Gupta, San Jose State University
- Design for testability of software components.
- Testable beans, to help engineers to understand testable components in terms of supporting features, properties and capabilities for testing.
- Good reusable commercial components must be deployable, testable, and manageable.

"From the many sessions and tutorials it is clear that this conference is playing a key role in the software industry." – John Marciniak (Consultant, USA)

:30 - 3:00

7

Java

7V1 Outsourced Testing for the Web
Ms. Greta Cohen and Mr. Jim Baac, Superior IS
- Outsourcing web testing to speed delivery and increase quality
- Aspects of functional testing for web systems
- Web performance testing services

7T1 Semantic Differences Between C++ and Java: Consequences for the Review and Test Process
Andreas Spillner & Ulrich Breymann, Hochschule Bremen
- Main conceptual differences between C++ and Java
- Identification of main issues arising from migration from C++ to Java
- Recommendations for analysis, review and test

COTS

7A1 A Practical New Approach to COTS Testing
Yingxu Wang, Centre for Software Engineering
- How to implement built-in tests in COTS.
- How to reuse built-in tests in COTS.
- How to test COTS at run-time.

7A2 Find the Defects that Traditional Testing Misses with Automated Software Inspection Services
Scott Trappe, Reasoning Inc
- Automated software inspection – new techniques that improve software quality
- Inpsection tools vs. services – taking advantage of the oursourcing trend
- ROI for automated software inspection – amazing returns for little effort, but what's the catch?

7V2 Test Early, Test Often
Mr. Bruce Katz, Rational
- Overview of an iterative software development process incorporating the best practices for testing throughout the entire software development life cycle.
- Examples of the type of tests and test technologies used
- Guidelines for implementation

7T2 Functional Testing of CORBA based Systems in Java
Charles White, Segue Software, Inc.
- CORBA Objects in E-Business
- Assuring Success in CORBA Systems
- Object Level Testing

3:30 - 5:00

8

Advanced Techniques II

8V1 Testing E-Commerce Applications
Jim Bampos, Vanteon
- Stress/Load/Performance testing - is your site ready to handle the expected load?
- Usability issues specific to testing E-sites
- How to manage testing an exponential number of hardware/software configurations with limited time and resources

8T1 A Planning-Based Approach to GUI Testing
Atif M. Memon, Martha E. Pollack, & Mary Lou Soffa, University of Pittsburgh
- Description of how the GUI is automatically modeled hierarchically
- Overview of how the GUI's hierarchical model is used for hierarchical planning to generate test cases and create test-oracle information

Specifications

8A1 A Good Idea! But How Do We Get People To Use It? John Musa, Consultant
- Process improvement
- Organizational change
- Technology transfer

8A2 Quality Evaluation of Software Requirements Specifications Giuseppe Lami, Stefania Gnesi, Mario Fusani & Fabrizio Fabbrin, Istituto di Elaborazione dell'Informazione

To verify if the defined Quality Model provides significant and useful results on real cases, it has been applied on two different sets of documents of real industrial requirements specifications. The first is a set of Telecommunication Software Requirements Specification documents, the second is a case of Safety Critical Space Software Requirements Specification documents. In both cases the organizations that produced these SRS use standards for writing them, perform revision sessions and produce the related reports. The results obtained are encouraging because many possible problems, then risk identifications, have been detected and pointed out.

8V2 A Model-Based Technique for Test Program Creation Mark Myers, Teradyne SST
- Model based approach enables automated software test generation.
- Significantly increases test quality and reduces life cycle costs.
- Allows rapid response to changes in requirements, system configuration, or test execution environment.

8T2 Performance Engineering for Java and the Web
Stephen Sullivan, Mathcom Solutions, Inc.
- Response time is a critical part of quality of services.
- Web application response time can be managed using performance engineering.
- A workable process that can be used is overviewed.

5:00 - 6:30 **SPECIAL PANEL SESSION : Ask the Quality Experts, chaired by Nick Borelli, Microsoft**
Post your questions on the web. Stump the Experts if you can!
QW2000 Advisory Board Members will answer all. (In cooperation with Microsoft)

INTERNET | MANAGEMENT | QUICKSTART

10:30 - 12:00

Internet Time

6W1 **Managing E-Business Quality in Internet Time**
Anand Sundaram, RSW Software, Inc.
- Application scalability has become one of the top concerns most often cited by IT managers. This presentation addresses how to alleviate scalability risk.
- To avoid "scalability shock" load and performance testing should be an integral part of the process of designing, buiilding, and maintaining the web application.
- One must continuously monitor application performance to identify slowdowns and performance degradations before users have a bad experience.

6W2 **Stranger in a Strange Land – Bringing Quality Assurance to a Web Startup** Lisa Crispin, TRIP.com
- How to get buy-in from management, information systems, development and marketing in a startup environment
- How to educate yourself in testing Web applications
- How to remove the testing bottleneck in Web development

Managing Testing

6M1 **Guerilla Tool Selection**
Lisa Crispin, TRIP.com
- Where to get information about tools
- How to minimize risk in tool selection
- How to best implement a new tool

6M2 **Testing in the Dark**
Brian Lawrence & Johanna Rothman, Coyote Valley Software / Rothman Consulting, Inc.
In this presentation we discuss an analytical technique for discovering undocumented requirements, how to refine and distill rough requirements to obtain their essence, and how to have your acceptance testing on the refined requirements.

6Q **WebSite Testing**
Tobias G. Mayer, eValid, Inc.
- Websites are very similar to ordinary pieces of application software, but different in many important ways.
- Effective testing of websites is best accomplished wit a "Test Enabled Web Browser", particular if Object Mode operation is required and/or if certain kinds of internadata are needed.
- How to accomplish typical kinds of website tests with is approach are given.

DOUBLE SESSION

"I was pleased with the attendance at my quickstart session. It was a nice gathering...the folks had some good questions."
–-Bill Deibler (SSQC)

1:30 - 3:00

WebSite Quality

7W1 **The Challenges of Web Testing**
Jeanette Folkes & Bert Lamar, Ogilvy Interactive
- Challenges of managing WebSites
- Challenges of testing WebSites
- QA methodologies that work on WebSites

7W2 **The Living Creature - Testing Web Applications**
Andrea MacIntosh & Wolfgang Strigel, QA Labs Inc.
- Web application testing
- Web application architecture
- Web user
- E-business

Defect Tracking

7M1 **Redesigning a Testing organiztion for Delivery to the Web**
Patrick Copeland, Microsoft
- Businesses are becoming internet-centric.
- Microsoft's WebData Team shifted to this model and is a case study for successful change.
- Focusing on web-centric delivery mechanisms and timelines required a complete redesign of our processes.

7M2 **The Fine Art of Writing a Good Bug Report**
Rex Black, Rex Black Consulting Services, Inc.
- Bug reporting is a critical, daily task for most test personnel during test execution.
- The art of reporting test results and failures.
- This presentation will introduce attendees to a ten-step process for writing bug reports.

7Q **Evaluating Test Suites**
Brian Marick, James Bach & Cem Kaner
- We give a systematic process for discovering how good a test suite is by examining the suite and questioning its author.
- We also describe likely properties of a good test suite. Different projects will attach different weights to those properties. An important result of evaluation is a clearer understanding of what matters to this project.
- A single evaluation is not sufficient. Instead, evaluating a test suite is part of a continuous conversation about the project's goals.

DOUBLE SESSION

3:30 - 5:00

Commercial Quality

8W1 **Technical Quality is Just the Start – The Real Battle is Commercial Quality**
Adrian Cowderoy, MMHQ
In 1997-98 a consortium of European companies and universities, supported by the European Commission, explored the meaning of quality in the context of multimedia and web site development. Adrian was Technical Director of this research project which focused on:
- Technical quality
- System quality
- Quality in use
- System benefits

This paper expands the above argument as well as the broader industrial context, examines why some websites are more commerciallyeffective than others and how to develop a killer website.

8W2 **Quality Assurance Challenges in the Internet Industry** Steven Watson, CNET Inc.
- Personal experience in developing a QA group in an internet startup is a strong basis.
- Which QA methods work and which ones don't work in the internet industry.
- The challenges – some unique – which a QA professional will face in the internet industry.

Certification

8M1 **Certification Programs for Software Quality and Test Professionals**
D. J. Law, QWest Communications
- The Benefits of professional certification
- How to become certified
- Details of 6 certification program
- The certification process: how to prepare for and pass the exam
- How to keep your certification

8M2 **What Does Application Certification Mean in the Software Industry?**
Marc Zasada, VeriTest
- Industry-wide Application and ASP Certification programs are growing in popularity
- The history of Certification programs
- What Certification programs mean
- Where Certification is headed

"Thanks for QWE'99 - it was a well organized stimulating event - I was pleased to be able to participate - I will recommend it to my colleagues."
— John Elliott (DERA)

8Q **Testing Network Based Software Systems – The Future Frontier**
Thomas A. Drake, ICCI
The increasing cost and complexity of software development for enterprise electronic commerce and other network based applications and solutions is leading software organizations in the industry to search for new and innovative ways for improving the quality of the software they develop and deliver.

However, the overall process is only as strong as its weakest link. This critical link, Dale would argue, is software quality engineering as an activity and as a process and testing is the key instrument for making that happen. But what should testing measure in these new and emerging environments?

DOUBLE SESSION

PANEL SESSION

TECHNOLOGY

APPLICATIONS

8:30 - 10:00

9

9P **How Can I Tell When My Project's in Trouble?**
Brian Lawrence, Coyote Valley Software
Panelists: Johanna Rothman, Rothman Consulting
Esther Derby, Esther Derby Associates
Maureen A. O'Hara, Microsoft

Many software projects fail. Many might not fail if we could only recognize the signs of trouble in time. This is a 90-minute panel proposal to discuss real circumstances where projects have started to go south, how the panelists recognized the signs, and what they did.

- Identifying clues that projects are in trouble
- Interventions once risk is identified
- Experienced views of turning around software projects

PANEL SESSION

UML Methods

9T1 **Enabling Testable Architectures with UML**
Sam Guckenheimer, Rational Software Corporation

- Overview of the industry-standard Unified Modeling Language (UML) for testers
- Examples of using UML to capture test design as part of system design and to provide access methods for testing the AUT
- Guidelines for an architectural process around UML to enable testing from the beginning of the software development lifecycle

9T2 **Quality Starts with Requirements: How the UML Can Help**
Tim Szymanski, Advanced Software Technologies, Inc.

- Setting requirements should be the first significant engineering work product of any software development lifecycle.
- A quality process for gathering and documenting an understanding of the problem to be solved is essential to attaining quality products throughout the development lifecycle.
- Using the Unified Modeling Language (UML) and a light weight process, the development team can maximize quality.

Risk

9A1 **Risk Based Test Strategy Paper**
Rob Baarda, IQUIP Informatica BV

- Well defined steps from business risks to test coverage
- Early and stronger test involvement of all parties concerned
- Useful for all tests

9A2 **An Overview of Testing Methodology and Experience at IBM Corepoint Banking Solutions**
Jerrold Landau, IBM Canada

- Web based application
- Real-life experience
- Java

POST CONFERENCE WORKSHOPS

2:00 - 5:00

10

Douglas Hoffman is an independent consultant with Software Quality Methods, LLC. He has been in the software engineering and quality assurance fields for over 25 years and now is a management consultant.

Douglas Hoffmann

Cem Kaner, PhD. consults on technical and management issues and practices law within the software development community.

Cem Kaner

W1 **Oracle Strategies for Automated Testing**
Douglas Hoffmann, Software Quality Methods LLC [USA]
Software test automation is often a difficult and complex process. The most familiar aspects of test automation are organizing and running of test cases and capturing and verifying test results. A set of expected results are needed for each test case in order to check the test results. Verification of these expected results is often done using a mechanism called a test oracle. This paper describes classes of oracles the author has used for various types of automated software verification and validation.

W2 **Bug Advocacy Workshop**
Cem Kaner, Attorney at Law
This tutorial looks at the bug reporting process as a persuasive process –
The tutorial looks at:

- Technical issues (such as ways to find more powerful variations of a defect and ways to replicate a hard-to-replicate failure
- Organizational issues, find out which group in the company will pay the costs associated with this defect
- Persuasive writing (who are you trying to influence with this report and how does your writing advance your case?)

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Wednesday
10:00 AM - 6:00 PM
Thursday
10:00 AM - 4:00 PM

EXPO RECEPTION
Wednesday , 5:00 - 6:00

Special TOOL DEMOS and addtional VENDOR TECHNICAL PRESENTATIONS

INTERNET

Link Checking

9W1 **A Systematic Framework for Ensuring Link Validity Under Web Browsing Environments**
Wen-Kui Chang & Shing-Kai Hon, Tunghai University
This paper will present a methodology to test web links, and walk you through a practical software certification process

- Introduction of a framework for website quality assurance
- Investigation application of statistical usage testing
- Consideration from the end-user operations

9W2 **The Web Application Process: Development & Testing** Michael Weider, Watchfire
This presentation will review every stage of application testing, from user requirements to deployment and the various forms of testing involved:

- Maximizing your web environment
- Importance of SQA
- Importance of Quality Analysis

MANAGEMENT

Process Innovations

9M1 **Using Bootstrap to Improve the Management of Software Process in a Virtual Software Organization?** Hong Guo, Graham King, Margaret Ross & Geoffe Stable, Southampton Institute
The aim of this paper is to introduce a new development trend in software industry and to present the initial findings in evaluating specific requirements for software process improvement in Virtual Software Environments (VSE). Surveys were designed with the purpose of identifying key issues of successful software development in Virtual Software Organizations (VSO).

9M2 **Opportunistic Software Quality**
Richard Kasperowski, Altisimo Computing

- Opportunistic software testing: a strategy for improving quality with limited resources
- Examples from a recent project
- Data and results

QUICKSTART

10:30 - 12:00

9Q **Experience-Based Approaches to Process**
Otto Vinter, DELTA Danish Electronics, Light & Acoustics
Problem diagnosis

- Is a simple and effective way to find problems in software development process
- Is a good starting point for process improvement programs in companies
- Step-wise improvements with quick wins
- Changes assessment recommendations

DOUBLE SESSION

POST CONFERENCE WORKSHOPS

2:00 - 5:00

W3 **Achieving WebSite Quality**
Edward Miller, Software Research, Inc.
WebSite Quality measured by a user consists of many facets: Visual appeal, response time, quality of content, correctness of response, reliability, security, etc. This workshop investigates alternative routes to achieving WebSite Quality. Learn the state of the art in WebSite Quality approaches and technology:

- How is WebSite quality assessed?
- What are WebSite failure modes?
- How can WebSite problems be predicted? Prevented? Compensated for?
- What are the best and worst WebSites in terms of quality?

W4 **The Effective SQA Manager - Getting Things Done**
Robert Sabourin, Purkinje Inc. [USA]
This interactive tutorial walks you through several "down to earth" practical aspects of running an SQA team. The tutorial is presented in parable form. In this tutorial the audience will experience the real life problems encountered by a NOGO.COMs neophyte SQA Manager "Fred". "Fred" must turn around an enthusiastic but severely under staffed and under budget team of SQA professionals working in a chaotic development environment into a productive effective team! "Fred" is under the gun - he has to get things done!

Edward Miller

Dr. Edward Miller is President and CEO of Software Research, Inc. He has worked in software quality for 30 years. He developed the first automated testing tools and internet QA tools.

Robert Sabourin

Robert Sabourin has been involved in all aspects of development, testing and mangement of software engineering projects since 1982.

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