

The background of the entire page is a photograph of the Golden Gate Bridge in San Francisco, taken from a high angle looking down the length of the bridge. The sky is a deep, vibrant blue, and the bridge's steel structure is silhouetted against it. In the distance, the city skyline is visible, with several buildings lit up. The water of the bay is dark, with a few small boats visible.

Organized by  
Software  
Research  
Institute

THE ELEVENTH INTERNATIONAL  
**Software Quality Week**  
**San Francisco**

May 26 - 29, 1998

**ELEVEN YEARS OF QUALITY WEEK !**

Over the past eleven years, Quality Week has firmly established itself as **THE ANNUAL EVENT** for software quality professionals. From both academia and the industrial world come the foremost experts and innovators in software process design, software test technology, quality control, Java/Web testing, client/server technologies, test automation and managing OO integration. The presentations for Quality Week '98 are the strongest ever, the most exciting for our **ELEVENTH** anniversary event.

# THE ELEVENTH INTERNATIONAL Software Quality Week Countdown To 2000

*As the clock ticks down to the Year 2000 many in the software community focus attention on Y2K projects. At the same time software quality issues beyond Y2K concerns continue to be central issues in development, selection and use of software systems. Companies, institutions and government agencies alike, large and small, all share the goal of providing better products with greater value and with lower cost. The 11th International Software Quality Week brings 80 presentations by some of the best known experts to address the Y2K issue, and the larger software quality issue. They represent the world's leading universities, corporations, and government organizations, including: Lucent, Booz Allen & Hamilton, IBM, Microsoft, FedEx, AONIX, Chinese University, CNR/IEI, Cadence, Siemens, Hewlett-Packard, Vienna University, Sun, NIST, Bellcore, Daimler-Benz, and more.*

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## PROGRAM POINTS

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The Pre-Conference **Tutorial Day** offers ten half-day seminars by industry experts: Boris Beizer, Bob Binder, John Musa, Michael Deck, Michael Lyu, Martin Pol, Tom Gilb, Ed Kit, Hans-Ludwig Hausen, and Linda Rosenberg.

There are six Keynote Talks that give unique perspectives on the quality issues of today -- especially on Year 2000 issues -- offering practical recommendations and realistic assessments of technology, including:

- Y2K Legal Liability and Popular Y2K Myths
- Is the Software Crisis for Real? Is Software Engineering for Real?
- Designing for Test with OO-Based Methods

The **General Conference** offers five tracks of Regular Presentations, QuickStart mini-tutorials and a special Panel Session:

**Technology Track** includes papers on:

- Java
- Requirements Testing
- Test Environments
- Coverage Technology
- Statistical Testing

**Applications Track** includes papers on:

- Web Testing
- Defect Analysis
- Reliability and Robustness
- GUI and Specification Testing

**Tools & Solutions Track** includes papers on:

- Business Aspects
- Customer Satisfaction
- Real World Experience

**Management Track** includes papers on:

- Process Management and Improvement
- Y2K and Euro Readiness
- Metrics Feedback

**QuickStart Mini-Tutorials**

- Quality good enough for the Millennium?
- Alternatives & Supplements to Conventional Testing
- Testing Cases from Use Cases
- Taxonomy for Test Oracles
- When Should a Test be Automated?
- Trustworthy Software

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## WHO SHOULD ATTEND

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- Lead senior quality assurance managers looking for powerful maintenance and testing techniques and an opportunity to evaluate today's tools
- All quality assurance and testing specialists, beginners and experts alike, who need exposure to authoritative sources for improving software test technology
- Programmers and developers who want to learn more about producing better quality code
- Maintenance technicians looking for techniques to control product degradation
- Technologists who want to catch up on the state-of-the-art in software testing, quality assurance and quality control

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## SPECIAL FEATURES

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- **Special Year 2000 sessions:** Y2K Readiness, Y2K Testing, Y2K Euro - Impact
- The latest developments in software testing presented by the industry's leading **practitioners, researchers and tools** companies
- Real-world experience from **Bellcore, Boeing, Cisco System, FedEx, Sun, HP**
- State-of-the-art information on software test methods and **real-world Futures**
- **"Birds of a Feather"** sessions: **Topics you selected**, chaired by Danny Faught and Brian Marick
- **Panel Session** focuses attention on the Role of the Test Manager

## ..... KEY SPEAKER LIST .....

**Boris Beizer** is best known for his books on software testing and his seminars based on them: *Software Testing Techniques*, *Software System Testing and Quality Assurance* and *Black Box Testing*. He has been in the computer industry for more than 30 years, and is currently an independent consultant with **ANALYSIS, Inc.**

**Robert Binder** is President of **RBSC Corp.**, providing consulting and training in software engineering and software process improvement since 1984. Mr. Binder has written extensively about software development, including *Application Debugging* and his forthcoming *Testing Object-Oriented Systems*. He writes a regular column on testing for "Object" magazine. He developed the FREE methodology for testing object-oriented systems.

**Michael Deck** is an internationally-recognized expert in cleanroom software engineering practices. His consulting company, **Cleanroom Software Engineering, Inc.**, specializes in training in cleanroom practices to solve real-life software process problems. From 1982 to 1993 he was a member of the IBM Cleanroom Software Technology Center. He has a BA in mathematics from Kalamazoo College and an MS in Computer Science from the University of Maryland, College Park. His current research interests include application of cleanroom to object-oriented development, real-time and embedded software, and highly reliable systems. He has published widely on various cleanroom topics.

**Dave Duchesneau** is a computer scientist and senior quality analyst for **Boeing**. He has been programming since 1973 and specializes in OO technology and practices. An engaging speaker, Dave has presented at several international conferences and published dozens of technical articles.

**Tom Gilb**, an independent consultant, contributed 80 pages to the earliest book describing inspection, *Software Metrics* (1976). He has actively taught, installed and followed up the method internationally since 1975. He has been a consultant to key pioneers of inspection at IBM development labs. He is the author of *Principles of Software Engineering Management*, and *Software Inspections*.

**Robert L. Glass** is president of **Computing Trends**, publishers of *The Software Practitioner* and *PERC*. He's been active in the field of computing and software for over 40 years. He's the author of over 20 books and 60 papers on computing subjects, editor of Elsevier's *Journal of Systems and Software*, and a columnist for *Communication of the ACM* and *IEEE Software*.

**Hans-Ludwig Hausen** holds degrees on Electrical Engineering and on Computer Science from the Technical University of Berlin and is currently a Senior Researcher at **GMD German National Research Center for Information Technology**. In the last 20 years he worked as a project manager, consultant and lecturer on Conformance Testing in national and international projects. He has written more than 60 publications on software engineering environments, software quality and productivity, process engineering and on CSCW for software projects.

**Mr. Lawrence Hyatt** is a member of the System and Safety Office at **NASA**. He founded and leads the Software Assurance Technology Center, which is dedicated to making measured improvements in software developed for GSFC and NASA. He has over 35 years experience in software development and assurance, 29 with the government at GSFC and at NOAA.

**Cem Kaner** consults on technical and management issues, teaches, and practices law. He co-wrote the book *Testing Computer Software*, which received an Award of Excellence from the Society for Technical Communication. He writes the *Software Quality* and *The Law* column in *Software QA*.

**Ed Kit** is the founder and President of Software Development Technologies, has assisted hundreds of companies to improve their software testing and automation practices. His recent book, *Software Testing in the Real World... Improving the Process*, has been adopted as the standard by leading software and commercial companies.

**Michael R. Lyu** is a Professor at the **Chinese University of Hong Kong**. Dr. Lyu's been a Technical Staff member at Jet Propulsion Lab, Bellcore and Lucent Technologies. He's published over 60 referred journal and conference papers in software reliability and engineering, software process and metrics, distributed system, and fault-tolerant computing. He initiated the first International Symposium on Software Reliability in 1990. He's the editor for two books: *Software Fault Tolerance*, and *Handbook of Software Reliability Engineering*.

**Edward Miller** is President of **Software Research, Inc.**, San Francisco, California. Dr. Miller pioneered in the development of automated software testing methodologies, analysis support tools, and has established himself as a highly-respected leader in the field. He is the author of *Software Testing and Validation Techniques*, an IEEE Computer Society Press tutorial text, as well as numerous articles on software testing.

**John D. Musa** is an independent consultant. The courses he gives around the world and his pioneering book, *Software Reliability: Measurement, Prediction and Application*, have gained him recognition as one of the creators and leaders in the field. He organized and led the transfer of software reliability engineering into practice within AT&T, spearheading the effort that defined it as a "best current practice." Actively involved in research to advance the theory and practice of the field.

**David Parnas** is a Professor in the **McMaster University**. The author of more than 190 papers and reports, Dr. Parnas is interested in most aspects of computer system design. He has advised the Atomic Energy Control Board of Canada on the use of safety-critical real-time software at the Darlington Nuclear Generation Station. Dr. Parnas won an ACM "*Best Paper*" Award in 1979, and two "*Most Influential Paper*" awards from the International Conference on Software Engineering. He is the 1998 winner of ACM SIGSOFT's "*Outstanding Research Award*".

**Martin Pol**, with more than 25 years in the information business, has worked at **IQUI Informatica** since 1991, within the dedicated testing unit TMap(tm) Consultancy with more than 250 specialized testers. With exceptional insight and experience in practical testing issues, he's a highly regarded presenter at conferences and training sessions throughout Europe and in the USA. He was involved in the development of the structured testing approach TMap(tm). He's also the co-author of two (Dutch) books on TMap(tm).

**Bob Poston** is director of Software Testing Tools and Practices at **Aonix, Inc.** Multiple IEEE awards. Chaired the IEEE Software Engineering Standards Committee from 1978 to 1982 & founded the first conference on Software Standards in 1982. For four years he developed, directed and taught the IEEE Software Engineering Standards Seminars and today is co-chair of the Society's Standard 1175 that defines interconnections among software tools. He has lectured and published widely; his latest book: *Automating Specification-Based Software Testing*.

**Linda Rosenberg** Dr. Rosenberg is an Engineering Section Head at **Unisys Government Systems** in Lanham, MD. She is contracted to manage the Software Assurance Technology Center through the System Reliability and Safety Office in the Flight Assurance Division at Space Flight Center, NASA. She's responsible for overseeing metric programs as basis for numerical guidelines and standards for software developed at NASA.

.... TUTORIAL DAY ....

8:30 - 10:00 Coffee Break	<b>A</b>	<b>L. Rosenberg &amp; L. Hyatt</b> <i>Metrics for Quality Assurance and Risk Assessment</i>	<b>B</b>	<b>M. Lyu</b> <i>Current Techniques and Tools for Software Reliability Engineering</i>	<b>C</b>	<b>J. Musa</b> <i>Reliable, Faster, Cheaper Testing through Software Reliability Engineering</i>	<b>D</b>	<b>M. Deck</b> <i>Use Formal Methods to Analyze and Improve Software Requirements Specifications</i>	<b>E</b>	<b>B. Beizer</b> <i>An Overview of Testing --Unit, Integration, System Outline and Index</i>
12:00 - 1:30 <b>Tutorial Day Lunch and Networking</b>										
1:30 - 3:00 Coffee Break	<b>F</b>	<b>H. L. Hausen</b> <i>Software Metrics for Procedures, Objects and Web Agents</i>	<b>G</b>	<b>Ed Kit</b> <i>Automating Software Testing and Reviews</i>	<b>H</b>	<b>T. Gilb</b> <i>Evolutionary Delivery Project Management</i>	<b>I</b>	<b>R. Binder</b> <i>Testing Strategies for Object-Oriented Systems</i>	<b>J</b>	<b>M. Pol</b> <i>Test Process Improvement</i>
3:30 - 5:00	5:00 - 6:00 <b>Welcome Networking Reception</b>									

**A Metrics for Quality Assurance and Risk Assessment**  
*Linda Rosenberg & Larry Hyatt, Unisys / SATC GSFC NASA*  
 As the focus on software development turns to "better, cheaper, faster," program managers and software developers need tools and techniques to evaluate the quality of the resulting products as well as identify potential risks. This tutorial provides project managers and software developers with the knowledge to institute an affordable metrics program that will evaluate the quality of their project's products and to help them identify and track project risks.

**B Current Techniques and Tools for Software Reliability Engineering**  
*Michael R. Lyu, The Chinese University of Hong Kong*  
 This Presentation:

- Defines the concepts and techniques behind software reliability measurement.
- Surveys and evaluates software reliability models
- Describes current software reliability tools and demonstrates their usage and application.

**C More Reliable, Faster, Cheaper Testing through Software Reliability Engineering**  
*John D. Musa, Independent Consultant*  
 This tutorial will quickly, efficiently teach you the basics of how to apply Software Reliability Engineering (SRE) to testing and development to make software more reliable and to develop and test it faster and cheaper.

- Set quantitative reliability objectives
- Track reliability during test
- Characterize quantitatively how users will employ your product
- Maximize efficiency of development and test by focusing resources

**D How Testers Can Use Formal Methods to Analyze and Improve Software Requirements Specifications**  
*Michael Deck, Cleanroom Software Engineering, Inc.*  
 This tutorial will show testers and other non-developers how they can use formal methods to analyze and improve software documents that they receive from others. One of the significant problems presented to testers is having to work from inadequate, incomplete, ambiguous specification documents. This tutorial will introduce informal ways that testers can "think formally" about specification documents to reveal domain gaps, incompleteness, and other problem spots before they have too great an impact on the testing process. The method that will be used is the functional/denotational approach pioneered by Harlan Mills of IBM. We will supplement it with a mode-based approach to data abstraction.

**E An Overview of Testing -- Unit, Integration, System -- Outline and Index**  
*Boris Beizer, Independent Consultant*  
 This is an overview of the testing field. Its purpose is to provide you with the technical and conceptual vocabulary of testing. Testing has emerged as a field within software engineering and has acquired a big vocabulary. It has progressed, in the past 20 years, from intuition to science -- from personal heuristics to well-understood practices rooted in theory and confirmed by use and experiments.

**F Software Metrics for Procedures, Objects and Web Agents**  
*Hans-Ludwig Hausen, GMD German National Research Center for Information Technology*  
 This presentation will review the most relevant quality modeling approaches that are applied today, and will demonstrate how quality issues for the web can be integrated into today's industrial practice.

**G Automating Software Testing and Reviews**  
*Ed Kit, Software Development Technologies*  
 In the rush to automate software testing, many people forget to pay attention to the basics, i.e., ensuring they have a valid and effective software test process and prioritizing their automation needs for greater chance of success. Edward Kit addresses these issues and concerns when he presents:

- Integrating Tools and Your Testing Process
- Fixing Three Common Pitfalls of Capture/Playback
- The Potential Synergy of Five Key Testing Tool
- The Importance of Technical Reviews
- Key Software Testing Success Factors

**H Evolutionary Delivery Project Management**  
*Tom Gilb, Independent Consultant*  
 The Waterfall Model has been the most commonly taught and assumed project management model. But in spite of good intentions, it may be the cause of lack of project control. New Department of Defense and IEEE standards reject the Waterfall Model and assume the Evolutionary project management model. Major companies like HP and Microsoft teach and use the evolutionary project management model, and years of experience indicate it is far more successful in project management. The evolutionary model (Evo) is characterized by many frequent partial result delivery steps to some form of user or customer. The resulting feedback is used to improve requirements, design and processes. This tutorial will give the basics of evolutionary delivery.

**I Testing Strategies for Object-Oriented Systems**  
*Robert V. Binder, RBSC Corporation*  
 Participants in this half-day tutorial will learn about UML-based test design for object-oriented systems at the class, cluster, and subsystem level. Classes (objects) have distinctly different behavioral patterns (modes). A mode characterizes domain and behavior and must be identified to select an effective test strategy. This tutorial presents new approaches for domain/state modeling and producing effective test suites from these models.

**J Test Process Improvement**  
*Martin Pol, IQIUP Informatica B.V.*  
 The attendees will learn about the context of testing in the real world and software and test process improvement:

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

WEDNESDAY, 27 MAY, 1998

... CONFERENCE PROGRAM ...

**1** PLENARY SESSION AND KEYNOTE PRESENTATIONS #1

8:30	Conference Introduction/Session Introduction: Edward Miller, QW98 Program Chair
9:15	Robert L. Glass, Computing Trends: <i>The Software Crisis--Is It for Real?</i> Cem Kaner, Attorney at Law: <i>Year 2000, How Can I Sue Thee? Oh, Let Me Count the Ways!</i>

10:00 Refreshment and Networking Break

2	TECHNOLOGY <i>Requirements Testing</i>	APPLICATIONS <i>Defect Analysis</i>	TOOL & SOLUTIONS <i>Y2K Business Aspects</i>	MANAGEMENT <i>Y2K/Euro Impacts</i>	QUICK-START
10:30	2T1 James M. Clarke <b>Lucent Technologies</b> <i>Automated Test Generation from a Behavioral Model</i>	2A1 Otto Vinter <b>Bruel &amp; Kjaer</b> <i>Improved Requirements Engineering Based on Defect Analysis</i>	2S1 Michael Bowden <b>CYRANO</b> <i>Year 2000: A Practical Approach to Reducing Business Risk</i>	2M1 W.Douglas Maurer <b>George Washington University</b> <i>Program Correctness &amp; the Year 2000 Problem</i>	2Q <b>Tom Drake Booz Allen &amp; Hamilton, Inc.</b> <i>Is Quality Really "Good Enough" for the Millennium?</i>
11:15	2T2 Linda Rosenberg, Larry Hyatt, T. Hammer, L. Huffman & W. Wilson <b>Unisys/SATC GSFC NASA</b> <i>Testing Metrics for Requirement Quality</i>	2A2 Maxine Crowther & Dave Oliver <b>Cadence Design Systems</b> <i>Automating Defect Tracking and Reporting: A Solution for the 21st Century</i>	2S2 Larry Boldt <b>Technology Builders</b> <i>Y2K Requirements-Driven Automated Testing...Do You Have a License to Drive?</i>	2M2 Gregory T. Daich <b>SAIC</b> <i>Essential Year 2000 Practices</i>	

12:00 Conference Lunch and Networking

3	TECHNOLOGY <i>Test Environments</i>	APPLICATIONS <i>Reliability &amp; Robustness</i>	TOOLS & SOLUTIONS <i>Java - I</i>	MANAGEMENT <i>Test Processes</i>	QUICK-START
1:30	3T1 Thomas Ostrand, H. Foster, T. Goradia & W. Szermer <b>Siemens Corporate Research</b> <i>A Visual Test Development Environment for GUI Systems</i>	3A1 Peter Liggesmeyer & Martin Rothfelder <b>Siemens AG</b> <i>Going Beyond Correctness: Improving Software Robustness</i>	3S1 Oliver Jones <b>Rational Software Corporation</b> <i>System Testing for Java Based Internet Applications: How, When and Why</i>	3M1 Cheryl Y. Moore <b>FedEx Corporation</b> <i>Testing Policies and Standards</i>	3Q <b>Larry Bernstein National Software Council</b> <i>Trustworthy Software</i>
2:15	3T2 Anil Rao <b>Hewlett-Packard Company</b> <i>A Structured Framework for Designing Kernel Reliability Tests</i>	3A2 Raymond V. Sandfoss & Steven A. Meyer <b>AT&amp;T</b> <i>The Impact of OOT, Client/Server, and Distributed Computing on SRE Practices</i>	3S2 Stephen C. Ruten <b>GTE Directories</b> <i>Introduction of 100% Java in GTE as a Primary Development Language for E-Commerce</i>	3M2 Manuel Gonzalez <b>Hewlett-Packard</b> <i>Process Improvements Via Testing Results: A Case Study</i>	

3:00 Refreshment and Networking Break

4	TECHNOLOGY <i>Coverage</i>	APPLICATIONS <i>Real-World Futures</i>	TOOLS & SOLUTIONS <i>WebSite Testing</i>	MANAGEMENT <i>Business Aspects</i>	QUICK-START
3:30	4T1 A. vonMayrhauser, A. Bai, T. Chen, A. Hajjar & C. Anderson <b>Colorado State University</b> <i>Fast Antirandom (FAR) Test Generation to Improve Code Coverage</i>	4A1 Fabrizio Fabbrini, M. Fusani, V. Gervasi S. Gnezi & S. Ruggieri <b>IEI-CNR/Dip.di Informatica</b> <i>Achieving Quality in Natural Language Requirements</i>	4S1 Ieuan E. Jones <b>Royal Military College of Science Shrivvenham</b> <i>Application of Quality Practices to WebSite Development</i>	4M1 William H. Warren <b>Independent Consultant</b> <i>The Business Cost of Defective Software</i>	4Q <b>Tom Gilb Independent Consultant</b> <i>The Alternatives and Supplements to Conventional Testing</i>
4:15	4T2 Zachi Karni, Dror Orel & Shmuel Ur <b>IBM, Haifa Research Lab</b> <i>Using 3D to Visualize Dynamic Path Coverage</i>	4A2 Ondrej Such <b>Microsoft Corporation</b> <i>Applications of Stochastic Asynchronous Programming Technique to Procedure Testing</i>	4S2 Gary Beauregard & Shihsung Liao <b>Software Research, Inc.</b> <i>Dynamic WebSite Testing with CAPBAK/Web</i>	4M2 Karen S. King <b>Sequent Computer Systems</b> <i>Ensuring Quality in Software Supplies</i>	

5:00 to 6:00	<b>SPECIAL PANEL: THE ROLE OF THE TEST MANAGER</b>		Co-Chair: Johanna Rothman & Brian Lawrence		
	Moderator: Brian Lawrence	Panelists: James Bach, Johanna Rothman, Melora Svoboda			

**5 PLENARY SESSION AND KEYNOTE PRESENTATIONS #2**

<b>8:30</b>	<b>Boris Beizer, <i>Independent Consultant</i>:</b> <i>Prioritizing Your Y2K Testing Effort: Debunking the Special Date Myths</i>
<b>9:15</b>	<b>David Parnas, <i>McMaster University</i>:</b> <i>Software Engineering: An Unconsummated Marriage</i>

**10:00 Coffee and Networking Break**

<b>6</b>	<b>TECHNOLOGY</b> <i>Test Automation</i>	<b>APPLICATIONS</b> <i>Web Testing</i>	<b>TOOLS &amp; SOLUTIONS</b> <i>Defect Tracking</i>	<b>MANAGEMENT</b> <i>Y2K Readiness</i>	<b>QUICK-START</b>
<b>10:30</b>	6T1 <b>Jarrett Rosenberg &amp; David J. Brown</b> <b>Sun Microsystems</b> <i>Static Checking of Application Binaries for Cross-Release Stability</i>	6A1 <b>Steve Goldstein</b> <b>Genetics Computer G.</b> <i>Strategies for Testing a Web-based Application: Divide, Conquer, and Automate</i>	6S1 <b>Avi Harel</b> <b>ErgoLight Ltd.</b> <i>Automation in Usability Validation</i>	6M1 <b>Rainer Pirker &amp; Andreas Rudolf</b> <b>IBM</b> <i>Testing the Software Portfolio of a Bank for Year 2000 Readiness</i>	6Q <b>Brian Marick</b>  <i>Testing Foundations</i>  <i>When Should a Test be Automated?</i>
<b>11:15</b>	6T2 <b>Matthias Grochtmann, J. Wegener &amp; R. Pitschinetz</b> <b>Daimler-Benz AG</b> <i>Integrated Test Management within Tool Environment Tessy</i>	6A2 <b>Manuel Gonzalez</b> <b>Hewlett-Packard</b> <i>System Test Server Through the Web</i>	6S2 <b>Manu Das</b> <b>Soffront Sostware, Inc.</b> <i>The Revolution in Defect Tracking and Analysis, Software Quality, and the Internet</i>	6M2 <b>Claudia Dencker</b> <b>Software SETT Corp.</b> <i>A Tester's Perspective of a Y2K Project at Hewlett-Packard</i>	

**12:00 Conference Lunch and Networking**

<b>7</b>	<b>TECHNOLOGY</b> <i>Criteria-Based Methods</i>	<b>APPLICATIONS</b> <i>GUI Testing</i>	<b>TOOLS &amp; SOLUTIONS</b> <i>Y2K Testing</i>	<b>MANAGEMENT</b> <i>Process Improvement - I</i>	<b>QUICK-START</b>
<b>1:30</b>	7T1 <b>Pascal Thevenod-Fosse &amp; Helene Waeselynek</b> <b>LAAS-CNRS</b> <i>Software Statistical Testing Based on Structural and Functional Criteria</i>	7A1 <b>Larry Apfelbaum &amp; John Schroeder</b> <b>Teradyne Software &amp; System Test</b> <i>Reducing the Time to Thoroughly Test a GUI</i>	7S1 <b>Eugenio Cervetto</b> <b>Performance Research</b> <i>Performance Evaluation of Real-Time Embedded Software Applications Using PREDICTA</i>	7M1 <b>Michael Heffler &amp; Robert Thien</b> <b>Bellcore</b> <i>Providing a Context for Process Improvement and Assessment</i>	7Q  <b>Robert Poston</b> <b>AONIX</b>  <i>Making Test Cases from Use Cases Automatically</i>
<b>2:15</b>	7T2 <b>Elaine J. Weyuker &amp; Alberto Avritzer</b> <b>AT&amp;T Lab</b> <i>Facilitating the Enforcement of Quality of Service Objectives by Using Software Testing Artifacts</i>	7A2 <b>Anna Newman</b> <b>Adobe Systems, Inc.</b> <i>Lessons Learned: Automating Testing Experiences with Framemaker 5.5</i>	7S2 <b>Mike Powers</b> <b>ST Labs, Inc.</b> <i>Testing in a Year 2000 Project</i>	7M2 <b>Patricia O'Reilly</b> <b>InPower</b> <i>The Accidental Improvement Opportunity is Knocking</i>	

**3:00 Refreshments and Networking Break**

<b>8</b>	<b>TECHNOLOGY</b> <i>Statistical Methods</i>	<b>APPLICATIONS</b> <i>Specifications</i>	<b>TOOL &amp; SOLUTIONS</b> <i>Customer Satisfaction</i>	<b>MANAGEMENT</b> <i>Process Improvement - II</i>	<b>QUICK-START</b>
<b>3:30</b>	8T1 <b>William F. Howden</b> <b>UCSD</b> <i>Software Confidence, Computational Integrity, and Statistical Model Checking</i>	8A1 <b>Martha Gray, K. Kegley &amp; L. Rosenthal</b> <b>NIST</b> <i>Applications of Formal Specification Languages in Conformance Testing</i>	8S1 <b>G. Thomas</b> <b>Vienna University of Technology</b> <i>Improvement in "Heroic" Projects</i>	8M1 <b>Elfriede Dustin</b> <b>Freddie Mac Corp.</b> <i>Automated Test Tool Introduction Process</i>	8Q  <b>Douglas Hoffman</b> <b>Software Quality Methods</b>  <i>A Taxonomy for Test Oracles</i>
<b>4:15</b>	8T2 <b>David Banks, L. Gallagher, C. Hagwood &amp; J. Yen</b> <b>National Institute of Standards &amp; Technology</b> <i>Software Testing by Statistical Methods</i>	8A2 <b>H. Curtis, D. Burkhardt &amp; A. Vella</b> <b>Allstor Software /University of Luton</b> <i>Automated Test Suites from Reverse Engineering &amp; Planguage</i>	8S2 <b>A. Cicu &amp; Co-authors</b> <b>MetriOs Srl/OSRA Sistemi</b> <i>Managing a Customer's Requirements in anSME: A Process Improvement Initiative Using an IT-Based Methodology and Tool</i>	8M2 <b>Karl E. Wieggers</b> <b>Process Impact</b> <i>Software Process Improvement: Ten Traps to Avoid</i>	

**5:00 Cocktail Party in The Expo Hall - Courtesy of The Exhibitors**

<p>Visit The Tools Exposition Wednesday, 5/27 — 10:00 to 6:00 Thursday, 5/28 — 10:00 to 6:00 Cocktail Party—5:00 to 6:00 on Thursday</p>	<p><b>QW98 presents the strongest team of speakers ever!</b>  <b>To find out more, visit our Web site: <a href="http://www.soft.com">http://www.soft.com</a></b>  <b>Once there, click on the Quality Week button,</b>  <b>Then click on Speaker Biographies for their photos and backgrounds,</b>  <b>click on Presentation Abstracts for descriptions of their papers,</b>  <b>click on Guided Tour for a general view of the conference.</b></p>
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**INTERNATIONAL ADVISORY BOARD**

Special thanks to the twenty-five members of the International Advisory Board, composed of international academics, industrialists and consultants for its crucial support in creating a broad-based, high-quality technical event.

# FRIDAY, 29 MAY, 1998

9	TECHNOLOGY <i>Java - II</i>	APPLICATIONS <i>TestWare</i>	TOOL & SOLUTIONS <i>Real-World Experience</i>	MANAGEMENT <i>Metrics Feedback</i>	QUICK-START
8:30	9T1 <b>Richard Kasperowski</b> <i>Altisimo Computing</i>  <i>Automated Testing and Java Class Libraries</i>	9A1 <b>David W. Carman, S.R. Dalal, A. Jain &amp; N. Karunanithi</b> <i>Bellcore</i> <i>A Test Generation Factory for Year 2000 Testing</i>	9S1 <b>Alka Jaryis</b> <i>Cisco Systems</i>  <i>Applying Software Inspections Real-life Experience at Cisco Systems</i>	9M1 <b>Jon Huber</b> <i>Hewlett-Packard</i>  <i>Developing Metrics for a Software Testing Organization</i>	9Q  <b>Cem Kaner</b> <i>Attorney at Law</i> <i>Concise Test Planning</i>
9:15	9T2 <b>Carla Schroer</b> <i>Sun Microsystems</i>  <i>Java(tm) Platform Compatibility Testing</i>	9A2 <b>Keith Stobie</b> <i>BEA Systems. Inc.</i>  <i>Testware Engineering</i>	9S2 <b>Flavio Sticozzi</b> <i>Bellcore</i>  <i>Year 2000 Testing: Bellcore's Solution Directions</i>	9M2 <b>Jeff Singer &amp; Cindy Friedman</b> <i>Ensemble Partners, Inc.</i> <i>The Software End Game-Accurate Prediction of Time of Product Completion</i>	

10:00 Refreshments

## 10 PLENARY SESSION AND KEYNOTE PRESENTATION #3

10:30 **Dave Duchesneau, Boeing** *Design for Test (Or, How to Make it Hard for the Pernicious Bugs to Hide)*  
**Robert V. Binder, RBSC Corporation** *Testing Object-Oriented Systems: Best Practices*  
**Conference Conclusion: Edward Miller, QW98 Program Chair**

12:30 Conference Concludes

STAND-BY PRESENTATIONS		TWO-DAY VENDOR EXHIBIT	
Wednesday and Thursday, May 27-28		Wednesday and Thursday, May 27-28	
<i>Wed</i>	<b>Michael R. Lyu</b> <i>Chinese University of Hong Kong</i> <i>A Phase-Based Approach to Integrate Reliable Software</i>	Products and services that support software test methodology techniques will be displayed Wednesday and Thursday, May 27 and 28 in the Gold Ballroom at the Sheraton Palace Hotel, 2 New Montgomery Street, San Francisco, California. This year's vendor showcase brings you the latest technology and tools. You'll have the opportunity to: <ul style="list-style-type: none"> <li>● Visit exhibitors representing today's most advanced solutions for your software process needs. You can do all your product investigation at one time.</li> <li>● Heighten your knowledge of the industry. Learn how you can effectively implement proven techniques immediately.</li> <li>● Gain a competitive edge. You can see live demonstrations of the products that will dominate the decade!</li> </ul> This year's Exhibitors include: Aonix; Azor; Bellcore; BDM, Compuware; Dynamic Software Technology; ErgoLight; Hall Kinion; IEEE; Interworking Labs; Keylabs; Performance Research; The Process Group; RSW; Software Development Technologies; Soffront; Softbridge; Software Research; Software Technology Labs; TakeFive Software; TechExcel, Technology Builders; Teradyne and many more. FOR EXHIBIT REGISTRATION AND INFO, PLEASE CONTACT: <b>Rita Bral at +1(415) 957-1441</b>	
<b>Tech.</b>	<b>Dietmar Ernst &amp; Frank Houdek &amp; Thilo Schwinn</b> <i>University of Ulm / Daimler-Benz AG</i> <i>An Experimental Comparison of Static and Dynamic Defect Detection Techniques.</i>		
<i>Thu</i>	<b>Stefan Mohacsi &amp; Armin Beer &amp; Christian Stary</b> <i>SIEMENS / University of Linz</i> <i>An Open Tool for Automated Testing of Interactive Software</i>		
<b>Apps.</b>	<b>Leslie Allen Little</b> <i>Aztek Engineering</i> <i>Why Johnny Can't Read or Write Requirements</i>		
<i>Wed</i>	<b>Bill Asbury</b> <i>Dynamic Software Technologies, Inc.</i> <i>Integrating Rapid Application Testing with Rapid Application Development</i>		
<b>Tools &amp; Solut.</b>	<b>Martin Klaus</b> <i>TakeFive Software</i> <i>Year 2000 Readiness</i>		
<i>Thu</i>	<b>James R. Bindas</b> <i>Intel Corporation</i> <i>Lesson Learned: Transferring Software Development Best Known Methods(BKMs) Between Product Lines</i>		
<b>Mgmt.</b>	<b>Lincoln Spector</b> <i>Computer Journalist, Columnist, Humorist</i> <i>Why Are Computers So Damned Funny?</i>		

## HOTEL ACCOMODATIONS

Please make your own reservations. May tends to be a busy month so try to book early. Rooms are being held at **special conference rates until April 24**. In addition to the rates quoted, there is an additional 14% San Francisco hotel tax. You can find additional information about the hotels and its surroundings on our Web site.

- ❑ **Sheraton Palace Hotel**, 2 New Montgomery Street, San Francisco, CA 94105: Phone (415) 512-1111, (800) 325-3535. Fax (415) 543-0671. \$189 (s/d)
- ❑ **The Handlery Hotel**, 351 Geary Street, San Francisco, CA 94102: Phone (415) 781-7800, (800) 843-4343. Fax (415) 781-0269. \$110 (s/d)

## . . . . REGISTRATION FOR QUALITY WEEK . . . .

Please pay by check, credit card (Visa, Mastercard, American Express) or with your Company Purchase Order. The entire conference fee is payable prior to the program. **Make checks payable to SR Institute, Inc.** No cancellation fee applicable until 24 April 1998; \$125 thereafter. Call the registrar to obtain your cancellation number.

**FEES:** Registration includes all material, Conference Lunches, Refreshments and invitation to the Cocktail Party.

Registered & Paid	Before	After	Group Rates
	24 April	24 April	
Tutorial Day	\$350	\$450	no discount
3-Day Conference	\$950	\$1050	10% discount
FULL	\$1150	\$1250	10% discount

### REGISTER NOW!

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**NOTE:** A **check** or **credit card** payment must be received at The SR Institute by April 24 to benefit from the lower rates.

**SAVE: Benefit from the reduced group rate!** Send your **team** of software testing specialists and developers. If you register two or more representatives **at one time**, you may deduct 10% of the fee for each attendee: Conference or FULL price only.

**CONFERENCE HOTEL:** Quality Week will be held at the luxurious landmark Sheraton Palace Hotel, San Francisco, CA, located in the very heart of the downtown business district. The Sheraton Palace has welcomed vacationers and business persons with its famous hospitality. Enjoy the best in facilities, restaurants, clubs, theaters, shops, and points of interest.

**REGISTRATION:** Please complete and return this form to **SR Institute**, 625 Third Street, San Francisco, CA 94107-1997, with your check, credit card or purchase order. You can also register on the Web: <http://www.soft.com>, or email: [qw@soft.com](mailto:qw@soft.com).

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Primary Job Function:  Tester  Testing Manager  Analyst  
 Developer  Development Manager  User  QA Manager  
 Other \_\_\_\_\_  
 Topics of interest \_\_\_\_\_

#### Please check one:

- Tutorials  3-Day Conference  
 Tutorials and Conference COMBINED

#### Please choose TWO tutorials

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*"Quality Week is great because of the people I get to meet there. Absolutely top-flight, world-class speakers; but a really qualified audience too. If you are looking for inspiration and illumination, this is the place. Be prepared to work and play hard here."*

Tom Gilb, Consultant, Norway

*"I have been attending International Software Quality Week for the last two years and very much looking forward to QW98. I have spent a number of years participating in various test efforts during my professional tenure at FedEx and have benefited tremendously from the training and information provided during the sessions."*

Cheryl Y. Moore, FedEx

*Please re-route to desk of software quality assurance or  
 information systems director.*

**Address gone?**

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