

Welcome to RE'03!

RE'03 is the eleventh in an annual series of conferences on requirements engineering. The IEEE International Requirements Engineering Conference is a merger of the biannual International Symposium on Requirements Engineering, which started in 1993, and the biannual International Conference on Requirements Engineering, which started in 1994. In 2002, the two conferences merged. The main program of RE'03 runs from Wednesday September 10 through Friday September 12. Prior to the main program there are two days of Workshops and Tutorials and a Doctoral Symposium. Additionally, there is a Workshop during the conference.

Program Highlights

The keynote speakers cover three fascinating areas of requirements engineering:

- On Wednesday, **Vint Cerf**, one of the founding fathers of the Internet, will talk about the salient requirements that had to be satisfied in the design of the Arpanet and the subsequent Internet.
- On Thursday, **Heinz Stoewer**, President of Space Associates and President elect of INCOSE, will talk about modern systems engineering practices as drivers for industrial competitiveness.
- On Friday, **Steve Lipner**, Director of security assurance at Microsoft, will talk about effective ways of meeting security requirements and of measuring success of steps intended to improve security.

The technical paper track contains 25 full papers, selected by the program committee from 130 submissions. They consist of research papers and experience papers written by requirements engineering researchers.

The industry track consists of 15 papers by practicing requirements engineers. They represent a cross-section of concerns in industrial practice.

The mini-tutorials provide in-depth accounts of hot areas in requirements engineering: Ontology development by Karin Breitman

and Julio Leite, Scenario-based requirements engineering by Alistair Sutcliffe, and QFD for customer-oriented RE by Georg Herzwurm and Wolfram Pietsch.

The panel sessions provide stimulating discussion of current issues on RE. On Thursday there is a panel on Marketing and RE, and on Friday there is a panel on RE in practice: making a business case for RE.

The posters and research tool demos provide an opportunity to learn of the latest advances in RE research, work in progress, and research prototypes. There is a permanent exhibition of posters and research tools, and in addition there are two sessions in which poster and research tool authors give brief overviews of their work.

The commercial exhibition is open all day on Wednesday and Thursday and features companies with tools, services and books related to requirements engineering. In addition to the exhibition, there is an exhibition track with presentations of all tool vendors about their products.

The doctoral symposium on Tuesday is a forum where seven Ph.D. students will present their work to peers and a panel of experts.

The program is packed with topics that span the breadth of requirements engineering. To give participants some breathing time, there is a welcome reception on Tuesday evening and a strolling dinner in the Monterey Aquarium on Wednesday. We hope you enjoy the conference and return home with new insights in requirements engineering!



Carl Chang,
Iowa State
University,
U.S.A
General Chair



Roel Wieringa,
University of
Twente, the
Netherlands
Program Chair

Monday September 8

Tutorials

- 9:00am–12:30am
Room A **Tutorial 1 (half-day)**
Developing the Skills and Abilities of the
Requirements Engineer
Ralph Young, Northrop Grumman
Information technology
- 2:00pm–5:30pm
Room A **Tutorial 2 (half day)**
Non-functional Requirements: Looking at the
Context Side
Don Gause, State University of New York,
Binghamton
- 9:00am–5:30pm
Room B **Tutorial 3 (full-day)**
Requirements-Based Product-Line Engineering
Michael Mannion, Glasgow Caledonian
University
Hermann Kaindl, Vienna University of
Technology

Workshops

- 9:00am–5:30pm
Room F **Workshop 1**
Comparative Evaluation in Requirements
Engineering (CERE)
- 9:00am–5:30pm
Room G **Workshop 2**
Requirements Engineering for Open Systems
(REOS)

Breaks

- 10:30am–11:00am Coffee break
Seaside
- 12:30pm–2:00pm Lunch break
- 3:30pm–4:00pm Tea break
Seaside

Tuesday September 9

Tutorials

- 9:00am–12:30pm **Tutorial 4 (half-day)**
Room A Stakeholders without tears—finding and involving the right people for your project
Suzanne Robertson and Ian Alexander, independent consultants
- 2:00pm–5:30pm **Tutorial 5 (half day)**
Room A From the sentence to the perfect requirements
Chris Rupp and Rolf Goetz, SOPHIST Group
- 9:00am–5:30pm **Tutorial 6 (full-day)**
Room B Theory W Requirements Engineering
Barry Boehm, USC Center for Software Engineering
Bob Briggs, Delft University of Technology

Workshops

- 9:00am–5:30pm **Workshop 3**
Room F Requirements for high-assurance systems (RHAS)
- 9:00am–5:30pm **Workshop 4**
Room G RE for adaptable architectures (REAA)

Doctoral symposium

El Camino

The RE'03 Doctoral Symposium is a one-day workshop to be held immediately preceding the main conference. Selected students will present their work and receive constructive feedback from a panel of advisors and other Doctoral Symposium students. Besides scientific matters, the students will also have the opportunity to seek advice on various aspects of completing a Ph.D. and performing research as a young professional in requirements engineering.

Chair: *Mats Heimdahl, University of Minnesota, USA*

Panel: *Daniel Berry*, University of Waterloo, Canada
Jeffrey Thompson, Guidant Corporation, USA
Klaus Pohl, University of Essen, Germany

Doctoral Student Presentations

Systematic Construction of Quality Models for Coarse-Grained COTS Components

Juan Pablo Carvallo, Universitat Politècnica de Catalunya, Spain

Methods, Models and Tools for Cross-Organizational Workflow Requirements Specification and Design

Enzo Colombo, Politecnico di Milano, Italy

A Goal-driven Role Engineering Process for Privacy-Aware RBAC Systems

Qingfeng He, North Carolina State University, USA

An Inquiry On Architectural Significant Requirements For An Enterprise Software Architecture

Åsa Lindström, Royal Institute of Technology, Sweden

An Empirical Study of Requirements Volatility: Causes, Impacts and Strategies

Nurmuliani, University of Technology Sydney, Australia

Towards a conceptual framework for requirements engineering for an evolutionary groupware implementation

Dulce T. Pumareja, University of Twente, The Netherlands

A Framework for Pervasive Traceability

Susanne A. Sherba, University of Colorado, USA

Invited Talks

Advice for Finishing that Damn Ph.D.

Daniel M. Berry, University of Waterloo, Canada

I am Almost Done—Now What? The Academic Job Search
Mats Heimdahl, University of Minnesota, USA.
Klaus Pohl, University of Essen, Germany

Interviewing in Industry
Jeffrey M. Thompson, Guidant Corporation, USA

Breaks

10:30am–11:00am Coffee break

Seaside

12:30pm–2:00pm Lunch break

3:30pm–4:00pm Tea break

Seaside

6:00pm–7:30pm Welcome reception with cash bar and
Room C hors d'oeuvres

Wednesday, September 10
Keynote Address



Arpanet and Internet requirements

Vint Cerf, Sr. Vice President for Architecture and Technology, MCI

Room CD

Session Chair: *Dan Berry*, University of Waterloo, Canada

In this talk I will try to outline what I consider to be the salient requirements that had to be satisfied in the design of the ARPANET and the subsequent Internet. The Arpanet was intended for resource sharing. The network needed to be resilient in the face of line errors and failures of the IMPs and had to recover automatically from these losses. Arpanet was a single, homogeneous network supporting an inhomogeneous collection of hosts and operating systems. To achieve uniform communication among the hosts, the Network Control Protocol was devised as a standard, as were the interactive terminal protocol (Telnet), file transfer protocol (FTP), email transfer protocol (SMTP) and so on.

The Internet added the requirement that any packet switched network could be incorporated into the system, that there be a uniform and global address space permitting all hosts to interwork, without knowing which networks were interconnected or how traffic was routed. Today's requirements are an amalgam of the past applications and the current focus on "convergence" of all applications and media onto a common Internet platform. Vinton G. Cerf is senior vice president of Architecture and Technology for MCI. Widely known as one of the "Fathers of the Internet", Cerf is the co-designer of the TCP/IP protocols and the architecture of the Internet. In December 1997, President Clinton presented the U.S. National Medal of Technology to Cerf and his partner, Robert E. Kahn, for founding and developing the Internet.

Vinton Cerf serves as chairman of the board of the Internet Corporation for Assigned Names and Numbers (ICANN). Cerf served as founding president of the Internet Society from 1992-1995 and in 1999 served a term as chairman of the Board.

Wednesday, September 10

Workshop

11:00am–5:30pm **Workshop 5**
Room D COTS and Product Software: Why
 Requirements Are So Important (RECOTS)

Posters and research tool demos

9:00am–5:30pm El Camino

Commercial vendor exhibition

9:00am–5:30pm Seaside

Breaks

10:30am–11:00am Coffee break
Seaside

12:30am–2:00pm Lunch break

3:30pm–4:00pm Tea break

Seaside

7:00pm–10:30pm Strolling dinner at the Monterey Aquarium

Wednesday, September 10

Technical program

9:00am–9:15am Room CD	Welcome and opening remarks <i>Carl Chang and Roel Wieringa</i> (Conference Chairs)
9:15am–10:30am Room CD	Keynote address Arpanet and Internet Requirements <i>Vinton Cerf</i> , Vice President for Architecture and Technology, MCI, USA Session Chair: <i>Dan Berry</i> , University of Waterloo, Canada
11:00am–12:30pm Room C	Papers 1: Requirements Evolution Session Chair: <i>Stuart Faulk</i> , Department of Computer Science, Portland State University, USA <i>In Situ</i> Requirements Analysis: A Deeper Examination of the Relationship between Requirements Formation and Project Selection <i>Mark Bergman and Gloria Mark</i> , University of California at Irvine, USA Requirements Stability Assessment Using Scenarios <i>David Bush</i> , UK National Air Traffic Services Ltd. <i>Anthony Finkelstein</i> , University College London, UK Resolving Requirements Discovery in Testing and Operations <i>Robyn Lutz</i> , Iowa State University / Jet Propulsion Laboratory, USA <i>Carmen Mikulski</i> , Jet Propulsion Laboratory, USA

<p>11:00am–12:30pm Room A</p>	<p>Industry session 1: Requirements Analysis Session Chair: <i>Nader Kameli</i>, Guidant, USA</p> <p>Customer Requirements and User Requirements: Why the Discrepancies? <i>Mary Deraitus and Ann Miller</i>, Boeing Commercial Airplanes, USA</p> <p>Evaluating the quality of a UML business model <i>Brian Berenbach</i>, Siemens Corporate Research Inc., USA</p> <p>Using Convergent Design Processes to Surface Hidden Ambiguity and Conflict in Requirements <i>Raymond J. Barnes</i>, St. Elizabeth's Medical Center, USA</p>
<p>2:00pm–3:30pm Room C</p>	<p>Mini-tutorial: Ontology Development <i>Julio Cesar Sampaio do Prado Leite and Karin Koogan Breitman</i> Universidade Católica do Rio de Janeiro, Brazil</p>
<p>2:00pm–3:30pm Room A</p>	<p>Industry session 2: Requirements Gathering Session Chair: <i>Jo Atlee</i>, University of Waterloo, Canada</p> <p>Embracing Requirements Variety for e- Governments based on Multiple Product-Lines Frameworks <i>Mikio Aoyama</i>, Nanzan University <i>Kenichiro Watanabe, Yu Nichio and Yasuyuki Moriwaki</i>, Fujitsu Communication Systems Limited, Japan</p> <p>From Requirements to Release Criteria: Specifying, Documenting, and Monitoring Product Quality <i>Erik Simmons</i>, Intel Corporation, USA</p>

	<p>The Automated Extraction of Requirements from UML Models <i>Brian Berenbach</i>, Siemens Corporate Research Inc., USA</p>
<p>4:00pm–6:00pm Room C</p>	<p>Papers 2: Requirements for business systems Session Chair: <i>Colette Rolland</i>, Centre de Recherche en Informatique, France</p> <p>Lessons Learnt from Five Years of Experience in ERP Requirements Engineering, <i>Maya Daneva</i> <i>Maya Daneva</i>, TELUS Mobility, Canada</p> <p>Requirements Engineering for a Pervasive Health Care System <i>Jens Bæk Jørgensen and Claus Bossen</i>, University of Aarhus, Denmark</p> <p>Run-time Monitoring of Web Service Requirements <i>William Robinson</i>, Georgia State University, USA</p> <p>DWARF: An Approach for Requirements Definition and Management of Data Warehouse Systems <i>Fábio Rilston Paim and Jaelson Castro</i>, Federal University of Pernambuco, Brazil</p>
<p>4:00pm–5:30pm Room A</p>	<p>Industry session 3: Metrics & Measurement Session Chair: <i>Peter In</i>, Texas A&M University USA</p> <p>A Measure In Time Saves Nine: Measuring Requirements Traceability From Multiple Angles at Multiple Lifecycle Entry Points <i>Doron Becker</i>, EDS U.S. Government Solutions, USA</p>

	<p>One Approach to the Metric Baseline Imperative for Requirements Processes <i>Roy Chardon and Merlin Dorfman, Cisco Systems, USA</i></p>
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	<p>RE in Flatness Measurement and Control Systems Development <i>Nur Yilmaztürk, ABB Automation Technology Products AB, Sweden</i></p>
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Thursday, September 11
Keynote address



Modern Systems Engineering—A Driving Force for Industrial Competitvity

Heinz Stoewer, President. Space Associates GmbH, Germany; President elect, INCOSE.

Room CD

Session chair: *Roel Wieringa*

What effects on our engineering practices can we expect from the rapid changes in industry? What are the needs, requirements, constraints and opportunities for future systems – and software engineers?

This lecture will highlight developments in the application of modern systems engineering practices as drivers for industrial competitiveness. Systems engineering, once a domain of senior technical generalists, with an ability to bridge several specialist fields to create good “technical” solutions, is developing into a central node within the industrial “skills web”. This process requires the integration of soft parameters and hard engineering facts. Competitive concepts are not measured anymore on the basis of their technical merits, however genial, but on how they fare in the market, whether they yield a good return on investment and profitability, and whether they stand up to operational, maintenance and after sales servicing realities. Some examples, notably from the aerospace and automobile industries and from recent INCOSE studies aimed at identifying future “Technical Perspectives and Visions” for systems engineering, exemplify these points throughout this keynote presentation.

Professor Stoewer holds degrees in technical physics, economics and systems management. He has worked as systems engineer, Programme Manager, parttime professor for space systems engineering and held executive management positions. He is a member of a number of prestigious international scientific and industrial boards and holds various national and international awards. Professor Stoewer can be reached at heinzstoewer@compuserve.com

Thursday, September 11

Posters and research tool demos

9:00–5:30 pm Room E

Commercial vendor exhibition

9:00–5:30 pm Seaside

Breaks

10:30am–11:00am Coffee break
Seaside

12:30am–2:00pm Lunch break

3:30pm–4:00pm Tea break
Seaside

Thursday, September 11

Technical program

9:00am–9:15am Room CD	Best research paper award and best experience paper award Session chair: <i>Roel Wieringa</i> , University of Twente, The Netherlands (Program Chair)
9:15am–10:30am Room CD	Keynote address Modern systems engineering- A driving force for industrial competitiveness <i>Heinz Stoewer</i> , President, Space Associates GmbH; Pres. elect, INCOSE Session chair: <i>Roel Wieringa</i> , University of Twente, The Netherlands
11:00am–12:30am Room C	Papers 3: Combining formal and informal techniques Session Chair: <i>Pericles Loucopoulos</i> , UMIST, UK Acquiring and Incorporating State-Dependent Timing Requirements <i>Chi-Sheng Shih</i> , Dept. of computer Science, University of Illinois, USA <i>Jane Liu</i> , Microsoft Corporation, USA Refinement-Based Requirements Elicitation Using Triggered Message Sequence Charts <i>Bikram Sengupta and Rance Cleaveland</i> , SUNY at Stony Brook, USA Specifying and Analyzing Early Requirements: Some Experimental Results, <i>Ariel Fuxman and Lin Liu</i> , University of Toronto, Canada <i>Marco Pistore</i> , University of Trento, Italy <i>Marco Roveri</i> , ITC-IRST, Trento, Italy <i>John Mylopoulos</i> , University of Toronto, Canada

<p>11:00am–12.30pm Room D</p>	<p>Papers 4: Goal-driven requirements, Session Chair: <i>Annie Antón</i>, North Carolina State University, USA</p> <p>Requirements Analysis for Customizable Software: A Goals-Skills-Preferences Framework <i>Bowen Hui, Sotirios Liaskos, and John Mylopoulos</i>, Department of Computer Science, University of Toronto, Canada</p> <p>Adding Hypermedia Requirements to Goal-Driven Analysis <i>Davide Bolchini</i>, University of Lugano, Switzerland <i>Paolo Paolini</i>, Politecnico di Milano, Italy <i>Giovanni Randazzo</i>, University of Lugano, Switzerland</p> <p>Improving Requirements Tracing via Information Retrieval <i>Jane Hayes, Alexander Dekhtyar, and James Osborne</i>, University of Kentucky, USA</p>
<p>11:00am–12:30pm Room A</p>	<p>Exhibitors' track 1 Session Chair: <i>Merlin Dorfman</i>, Cisco Systems, USA</p> <p>Requirements and Modeling, the Key to Development Success <i>Pete Lubar</i>, TELELOGIC</p> <p>Requirements Engineering with Objectiver: From Goal Analysis to Automatically Derived Requirements Document <i>Robert Darimont</i>, CEDITI</p> <p>IRqA: Using Use-cases to manage Requirements <i>Serge Chicoine</i>, VIDILUX</p>

	(Title to be announced) BORLAND
11:00am–12:30pm F	<p>Posters and Demos Session 1 Session Chair: <i>Didar Zowghi</i>, University of Technology, Sydney, Australia</p> <p>Demos: NIMBUS: A Tool for Specification Centred Development <i>Mats Heimdahl, Mike Whalen, Jeff Thompson</i>, University of Minnesota, USA</p> <p>FAUST: Formal Analysis Using Specification Tools <i>A. Rifaut, P. Massonet, J-F Molderez, C. Ponsard, P. Standik</i>, CETIC research center, Belgium <i>A. van Lamsweerde</i>, Université catholique de Louvain, Belgium</p> <p>SMaRT - Scenario Management and Requirements Tool <i>William Stufflebeam, Annie Antón</i>, North Carolina State University, USA <i>Thomas Alspaugh</i>, University of California at Irvine, USA</p> <p>Relating Practitioner Needs to Research Activities <i>Martin Feather</i>, California Institute of Technology, USA <i>Tim Menzies</i>, West Virginia University, USA <i>Judith Connelly</i>, NASA IV&V Facility, USA</p> <p>Poster Presentations: Contrasting Use Case, Goal, and Scenario Analysis of Euronet System <i>Thomas Alspaugh</i>, University of</p>

	<p>California at Irvine, USA <i>Annie Antón</i>, North Carolina State University, USA</p> <p>Trade-off Analysis between Security Policies for Java Mobile Codes and Requirements for Java Application <i>Haruhiko Kaiya, Kouta Sasaki, Yasunori Maebashi, Kenji Kaijiri</i>, Shinshu University, Japan</p> <p>Bringing Usability to the Early Stages of Software Development <i>Luiz Marcio Cysneiros, Andre Kushniruk</i>, York University, Canada</p>
2:00pm–3:30pm Room C	<p>Mini-tutorial</p> <p>Scenario-based Requirements Engineering <i>Alistair Sutcliffe</i>, University of Manchester and Centre for Human Computer Interface Design, UK</p>
2:00pm–3:30pm Room D	<p>Panel session 1</p> <p>Marketing meets requirements engineering Panel Chair: <i>Matti Rossi</i>, Helsinki School of Economics, Finland</p> <p>Panelists: <i>Georg Herzwurm</i>, TU Dresden, Germany <i>Neil Maiden</i>, City University London, UK <i>Sanjit Sengupta</i>, San Francisco State University, USA <i>Tuure Tuunanen</i>, Helsinki School of Economics, Finland</p>
2:00pm–3:30pm Room A	<p>Exhibitor’s track 2 Session Chair: <i>Simanta Mitra</i>, Iowa State University, USA</p>

	<p>IBM Rational RequisitePro Overview <i>Catherine Connor, IBM Software Group</i></p> <p>VeroTrace for Requirements, CM Integration, and Traceability <i>Jim O’Leary, VEROCEL</i></p> <p>Specifying Clear Requirements <i>David Gelperin, LIVESPECS</i></p>
<p>2:00pm–3:30pm Room F</p>	<p>Posters and Demos Session 2 Poster Presentations: Session Chair: <i>Brian Lawrence, Coyote Valley Software USA</i></p> <p>Goal-Oriented Idea Generation method for Requirements Elicitation <i>Kazuya Oshiro, Kenji Watahiki, Motoshi Saeki, Tokyo Institute of Technology, Japan</i></p> <p>Software Requirements for Architected Systems <i>Elena Navarro, UCLM, Albacete, Spain</i> <i>Isidro Ramos and Jennifer Perez, SUPV, Valencia, Spain</i></p> <p>Market Driven Requirements Elicitation via Critical Success Chains <i>Tuure Tuunanen and Matti Rossi, Helsinki School of economics, Finland</i></p> <p>Integrating RE Methods to Support Use Case Based Requirements Specification <i>Neil Maiden, Sara Jones, and Mary Flynn, Centre for HCI Design, City University London, UK</i></p> <p>Introducing Abuse Frames for Analysis Security Requirements <i>Luncheng Lin, Bashar Nuseibeh, Darrel</i></p>

	<p><i>Ince, and Michael Jackson, The Open University, UK</i> <i>Jonathan Moffett, University of York, UK</i></p> <p>An approach to Visualise and Reconcile Use Case Description from Multiple Viewpoints <i>Debbie Richards, Anne-Britt Fure and Oscar Aguilera, Macquarie University, Sydney, Australia</i></p> <p>Media-Assisted Product and Process Requirements Traceability in Supply Chains <i>Matthias Jarke, Oliver Fritzen, Michalis Miatidis, and Marcus Schlüter, RWTH Aachen, Germany</i></p>
<p>4:00 pm–5:30 pm Room C</p>	<p>Papers 5: Requirements elicitation (1) Session Chair: <i>Klaus Pohl, University of Essen, Germany</i></p> <p>Security and Privacy Requirements Analysis within a Social Setting <i>Lin Liu, Eric Yu, and John Mylopoulos, University of Toronto, Canada</i></p> <p>Formal Structure for Specifying the Content and Quality of the Electronic Health Record <i>H. Dominic Covvey, University of Waterloo, Canada</i> <i>David Zitner, Dalhousie University, Canada</i> <i>Daniel M. Berry and Donald D. Cowan, University of Waterloo, Canada</i> <i>Michael Shepherd, Dalhousie University, Canada</i></p> <p>Elicitation Technique Selection: How Do Experts Do It? <i>Ann Hickey and Alan Davis, University of Colorado at Colorado Springs, USA</i></p>

<p>4:00pm–5:30pm Room D</p>	<p>Papers 6: Making formal techniques usable Session Chair: <i>Michael Goedicke</i>, University of Essen, Germany</p> <p>A Reference Model for Requirements Engineering <i>Jon Hall and Lucia Rapanotti</i>, The Open University, UK</p> <p>Understanding and Comparing Model-Based Specification Notations <i>Jianwei Niu, Joanne Atlee, and Nancy Day</i>, University of Waterloo, Canada</p> <p>Deriving Tabular Event-Based Specifications from Goal-Oriented Requirements Models <i>Renaud De Landtsheer, Emmanuel Letier, and Axel van Lamsweerde</i>, Université catholique de Louvain, Belgium</p>
<p>4:00pm–5:30pm Room A</p>	<p>Industry session 4: State of Practice Session Chair: <i>Mikio Aoyama</i>, Nanzan University, Japan</p> <p>Daily Challenges in Requirements Engineering <i>Frank J. Salvatore</i>, High Performance Technologies Inc., USA</p> <p>Requirements Engineering in 40 practical System Integrating projects <i>Taichi Nakamura and Shigeyuki Matsuda</i>, NTT DATA Corp., Japan</p> <p>Requirements Based Testing at HP OpenView <i>Gerald Heller and Peter Vollmer</i>, Hewlett Packard, USA</p>

Friday, September 12
Keynote Address



The Journey Toward Secure Systems: Achieving Assurance

Steve Lipner, Director of Security Assurance, Microsoft

Room CD

Session Chair: *Connie Heitmeyer*, Naval Research Lab, USA

The growth of the Internet since the mid-1990s has changed system security from a niche concern of a few customers and researchers to a requirement shared by the vast majority of customers and the stuff of front page news. Perhaps as difficult as meeting security requirements is the problem of measuring the actual benefits of steps intended to improve security. This talk will focus on effective ways of meeting security requirements and of measuring success.

Steve Lipner holds S.B. and S.M. degrees in civil engineering from M.I.T. and attended the Program for Management Development at the Harvard Business School. He began working in computer and network security as a member of the technical staff at Mitre Corporation in 1970, and has held a variety of technical and management positions in security since. From 1981 to 1992, Steve led the Secure Systems Group at Digital Equipment, where he was responsible for the development of a general-purpose operating system that was targeted for Orange Book A1 evaluation.

During the 1990s, Steve served as Executive Vice President and General Manager for Network Security Products at Trusted Information Systems (TIS). At TIS, he was responsible for the Gauntlet firewall business, and contributed to research in cryptographic key recovery and to commercial and government security consulting engagements. Steve joined Microsoft in 1999 as manager of the Microsoft Security Response Center. He assumed responsibility for the Secure Windows Initiative team in mid-2001 and was one of the leaders of the team that planned and directed the security push focused on Windows Server 2003. Steve is currently director of security assurance at Microsoft. Steve was one of the initial members appointed to the United States National Computer Systems Security and Privacy Advisory Board. He served on the board from 1989 to 1993 and was reappointed in 2000.

Steve holds ten U.S. patents for inventions in the field of computer security and network security protocols.

Friday, September 12

Breaks

10:30am–11:00am Coffee break

Seaside

12:30pm–2:00pm Lunch break

3:30pm–4:00pm Tea break

Seaside

Friday, September 12

Technical program

9:00am–09:15am Room CD	Most influential paper award Session chair: <i>Nancy Mead</i> , Software Engineering Institute, USA (Steering Committee Chair)
9:15am–10:30am Room CD	Keynote address The journey towards secure systems: Achieving assurance <i>Steve Lipner</i> , Director of security assurance, Microsoft, USA Session Chair: <i>Connie Heitmeyer</i> , Naval Research Laboratory, USA
11:00am–12:30pm Room C	Mini-tutorial QFD for Customer-Focused Requirements Engineering <i>Georg Herzwurm</i> , Stuttgart University, Germany <i>Wolfram Pietsch</i> , Fachhochschule Aachen, Germany
11:00am–12:30pm Room D	Papers 7: Requirements elicitation (2) Session Chair: <i>Alistair Sutcliffe</i> , UMIST, UK Determining Socio-Technical Systems Requirements: Experiences with Generating and Walking through Scenarios <i>Alistair Mavin</i> , Praxis Critical Systems Ltd., UK <i>Neil Maiden</i> , City University London, UK Requirements Elicitation for the Design of Venue Operations for the Athens2004 Olympic Games <i>Pericles Loucopoulos</i> , UMIST, UK <i>Kostas Zografos</i> , Athens University of Economics & Business, Greece <i>Nikos Prekas</i> , Athens 2004 Olympic Organising Committee, Greece

	<p>Teaching Requirements Engineering through Role Playing: Lessons Learnt <i>Didar Zowghi and Suresh Paryani,</i> University of Technology, Sydney, Australia</p>
<p>11:00am–12:30pm Room A</p>	<p>Industry session 5: Testing & Traceability Session Chair: <i>Gregory Scott,</i> Software Success Engineering, USA</p> <p>Testing with Partial Traced Requirements: A Necessary Step Towards Higher Quality System Level Verification <i>Serban Catrava,</i> Guidant Corporation, USA</p> <p>Requirements, Configuration Management and Traceability for Safety Critical Software <i>George Romanski,</i> Verocel, Inc., USA</p> <p>Requirement Tracking: A Streamlined Approach <i>James E. Archer,</i> Titan Systems Corporation / Bureau of Land Management, USA</p>
<p>2:00pm–3:30pm Room C</p>	<p>Papers 8: Requirements prioritizing and negotiation Session Chair: <i>Martin Glinz,</i> University of Zurich, Switzerland</p> <p>A Benchmarking Method for Information Systems <i>Lars Hagge and Jens Kreutzkamp,</i> Deutsches Elektronen-Synchotron, Germany</p> <p>An Analytical Model for Requirements Selection Quality Evaluation in Product Software Development <i>Björn Regnell, Lena Karlsson, and Martin Höst,</i> Lund University, Sweden</p>

	Evolutionary Requirements Analysis, <i>Alistair Sutcliffe</i> , UMIST, UK
2:00pm–3:30pm Room D	<p>Panel session 2</p> <p>Requirements engineering in practise: making the business case for RE</p> <p>Panel Co-chairs: <i>Nancy Mead</i>, Software Engineering Institute, USA, and <i>Nader Kameli</i>, Guidant Corporation, USA</p> <p>Panelists: <i>Roy Chardon</i>, Cisco Systems, USA <i>Donald Firesmith</i>, Software Engineering Institute, USA <i>Donald C. Gause</i>, Binghamton University, USA</p>
4:00pm–4:30pm Room CD	<p>Closing session</p> <p>Preview of RE'04</p>

Monday at a Glance

9:00-10:30	F Workshop 1 Comparative evaluation in RE (CERE)	G Workshop 2 RE for open systems (REOS)	A Tutorial 1 Ralph Young: Developing the skills and abilities of the requirements engineer	B Tutorial 3 Michael Mannion, Hermann Kaindl: Requirements-based product line engineering
10:30-11:00	Coffee break Seaside			
11:00-12:30	F W1 continued	G W2 continued	A T1 continued	B T3 continued
12:30-2:00pm	Lunch break			
2:00-3:30pm	F W1 continued	G W2 continued	A T1 continued	B T3 continued
3:30-4:00pm	Tea break Seaside			
4:00-5:30pm	F W1 continued	G W2 continued	A Tutorial 2 Don Gause: Non-functional requirements—Looking at the context side	B T3 continued

Tuesday at a Glance

9:00-10:30	F Workshop 3 Requirements for high-assurance systems (RHAS)	G Workshop 4 RE for adaptive architectures (REAA)	A Tutorial 4 Suzanne Robertson, Ian Alexander: Stakeholders without tears—finding and involving the right people for your project	B Tutorial 6 Barry Boehm, Bob Briggs: Theory W Requirements Engineering	
10:30-11:00	Coffee break Seaside				
11:00-12:30	F W3 continued	G W4 continued	A T4 continued	B T6 continued	
12:30-2:00pm	Lunch break				
2:00-3:30pm	F W3 continued	G W4 continued	A Tutorial 5 Chris Rupp, Rolf Goetz: From the sentence to the perfect requirements	B T6 continued	
3:30-4:00pm	Tea break Seaside				
4:00-5:30pm	F W3 continued	G W4 continued	A T5 continued	B T6 continued	
6:00-7:30pm	Welcome reception, Room C				El Camino Doctoral Symposium

Wednesday at a Glance

9:00-9:15	CD Welcome and opening remarks			
9:15-10:30	CD Keynote address: Vinton Cerf, "Arpanet and Internet requirements"			
10:30-11:00	Coffee break Seaside			
11:00-12:30	C Papers 1: Requirements evolution	D Workshop 5: Requirements engineering for commercial off-the- shelf systems (RECOTS)	A Industry session 1: Requirements analysis	E Posters and research tool demos
12:30-2:00pm	Lunch break			Seaside Commercial vendor exhibition
2:00-3:30pm	C Mini-tutorial Karen Breitman, Julio Leite: Ontology Development	D W5 continued	A Industry session 2: Requirements gathering	
3:30-4:00pm	Tea break Seaside			
4:00-5:30pm/ 4:00-6:00pm	C Papers 2: Requirements for business systems	D W5 continued	A Industry session 3: Metrics and measurement	
7:00-10:30pm	Strolling dinner in the Monterey Aquarium			

Thursday at a Glance

9:00-9.15	CD Awards session				
9:15-10:30	CD Keynote address: Heinz Stoewer, "Modern systems engineering-A driving force for industrial competitiveness"				
10:30-11:00	Coffee break Seaside				
11:00-12:30	C Papers 3: Combining formal and informal techniques	D Papers 4: Goal-driven requirements	A Exhibitors' track 1	F Poster and research tool demo presentations (1)	E Posters and research tool demos
12:30-2:00pm	Lunch break				
2:00-3:30pm	C Mini-tutorial Alistair Sutcliffe: Scenario-based requirements engineering	D Panel 1: Marketing meets requirements engineering	A Exhibitors' track 2	F Poster and research tool demo presentations (2)	Seaside Commercial vendor exhibition
3:30-4:00pm	Tea break Seaside				
4:00-5:30pm	C Papers 5: Requirements elicitation (1)	D Papers 6: Making formal techniques usable	A Industry session 4: State of the practice		

Friday at a Glance

9:00-10:30	CD Keynote address: Steve Lipner, "The journey towards secure systems: Achieving assurance"			
10:30-11:00	Coffee break Seaside			
11:00-12:30	C Mini-tutorial Georg Herzwurm, Wolfram Pietsch: QFD for customer-focused requirements engineering	D Papers 7: Requirements elicitation (2)	A Industry session 5: Testing and traceability	
12:30-2:00pm	Lunch break			
2:00-3:30pm	C Papers 8: Requirements prioritizing and negotiation	D Panel 2: Requirements engineering in practice: making the business case for RE		
3:30-4:00pm	Tea break Seaside			
4:00-4:30pm	CD Closing session			
		El Camino Posters and research tool demos	Seaside Commercial vendor exhibition	