Chicago Chapter

1987–1988 Chapter Officers

The election of officers and executive committee members for the Chicago Chapter of the IEEE Reliability Society was held on May 21, 1987 at the Annual Awards Banquet and Election of Officers. The meeting was at the Midway Motor Lodge, Elk Grove Village, Illinois.

Chairman .............Michael I.O. Ero Bus: 979-1712
Past Chairman ........Paul E. Evans Bus: 673-8300
Vice-Chairman ..........Daniel J. Glab Bus: 291-2758
Secretary .............Warren R. Foxwell Bus: 953-1300
Treasurer .............Hugh C. Edfors Bus: 369-8038

Program Chairman ..........Paul E. Evans Bus: 673-8300
Membership Chairman ........James C. Klouda Bus: 495-9770
Public Relations Chairman ...........Rod J. Garcia Bus: 259-0740

CONGRATULATIONS! and best wishes for the coming year.

The Chicago Chapter is planning an ambitious program for the year. Volunteers are needed. Your assistance will ensure its success. Contact any officer for further information.

Central New England Council

The New England Chapter IEEE Reliability Chapter started its year in August with an Executive Committee Meeting during which the upcoming years calendar of activities was discussed. It looks like it will be a busy year with our schedule of Monthly Meetings, Fall Lecture Series, and Spring Seminar.

We welcome two new members of the Committee: Joe Bradely from Dynamics Research, and Don Markuson from Prime Computer. The organization is continually looking for “New Blood” from diverse companies and we welcome interested professionals to become active in the organization.

Our first Monthly Meeting was held on Sept 16, 1987 at the Hanscom AFB Officers Club. The speaker was Mr. John Muretoe from GTE Sylvania who gave an excellent talk on MBI implications to Reliability and Logistics. A capacity audience asked a number of interesting questions.

The Chapter’s Fall lecture Series started in October. The Lecturer is Mr. Gene Carrubba, Director of Reliability, for Codex Corporation in Canton, MA. The topic this year is Product Assurance Principles. The series of four Lectures is being attended by fifty five engineers.
RS Newsletter Inputs

All RS Newsletter inputs should be sent to one of the associate editors, Gary Kushner, 499 Brigham St., Marlboro, MA 01752, or Mark Snyder, Digital Equipment Corporation, 24 Porter Road (LJ01/C2), Littleton, MA 01460, per the following schedule:

- For October Newsletter: by July 15
- For January Newsletter: by Oct. 15
- For April Newsletter: by Jan. 15
- For July Newsletter: by Apr. 15

Associate Editors: Gary Kushner
499 Brigham St.
Marlboro, MA 01752

Mark Snyder
Digital Equipment Corporation
24 Porter Road (LJ01/C2)
Littleton, MA 01460

Reliability Society Officers

CHAIRMAN, CHAPTER ACTIVITIES
Bernhard A. Bang
Westinghouse Electric Corp.
P.O. Box 1521
MS 3856
Baltimore, MD 21203

Cleveland
V. R. Laili
21000 Brookpark Rd.
MS 500 211
Cleveland, OH 44135

MOHAWK VALLEY
Jack R. Butt
RAD/CAtt. Rl
Griffiss AFB, NY 13441-5700

NORTHERN NEW JERSEY
Raymond W. Sears Jr.
13 CarabRAND St.
Mindenham, NJ 07945

TRI CITIES
Alan O. Backus
1141 Oakleaf Dr.
Kingsport, TN 37663


October 1987

FLORIDA WEST COAST
James N. Ratledge
E-Systems
P.O. Box 12245, MS-19
1501 72nd St. North
St. Petersburg, FL 33733-2248

ONTARIO
Rejan Arsenescu
Nat'l Res. Council of Canada
Division of Electrical Engineering
Montreal Rd., Bldg. M-50
Ottawa, Ontario
Canada K1A 0R8

SANTA CLARA VALLEY/SAN FRANCISCO/OAKLAND/EAST BAY
Francis W. Byard
Griffiss AFB, NY 13441

WASHINGTON/NORTHERN VIRGINIA
Larry Shapleigh
Code 604
Naval Sea Systems Command
Washington, DC 20360

CHICAGO
Paul Evans
Northrop Defense Systems Div.
500 Hicks Road
Rolling Meadows, IL 60008

LOS ANGELES COUNCIL
Donald Segal
650 Jacob Way
Pacific Palisades, CA 90272

NEW YORK/LONG ISLAND
Ehsan Khadr
Public Service Electric & Gas
MS-T14 A
80 Park Plaza
P.O. Box 370
Newark, NJ 07101

TOKYO
Prof. Mas. Sasaki
Dep. of Electrical Engineering
The National Defense Academy
Tokushima 239
Japan
IEEE Symposium on Nuclear Power Systems

San Francisco, California – October 21-23, 1987

The Institute of Electrical and Electronics Engineers is holding the Symposium on Nuclear Power Systems in conjunction with the Nuclear Science Symposium at the Sheraton-Palace Hotel in San Francisco on October 21-23, 1987. The general scope is timely engineering concerns related to the modernization and present activity within electrical, control and instrumentation systems at nuclear generating stations. This Symposium program is probably the largest and most pertinent to nuclear plant operations in today’s environment.

There will be a complete and special session on major reactor safety issues covering source term, risk assessment, human cognitive reliability and related papers and it is organized by the Electric Power Research Institute. The Symposium will also emphasize operations-maintenance with papers covering configuration management, safety parameter display systems, expert systems, and related subjects, all of which are of current major interest.

Also of particular importance is a session that will present a complete update of nuclear standards work in progress by a special panel from the Nuclear Power Engineering Committee of the Power Engineering Society. The panel will also discuss more generic issues including plant life extensions, recent computer applications and software, station blackout resolution, and more.

Registration also permits access to all activities of the Nuclear Science Symposium, the technical exhibits of nuclear instrumentation equipment and also provides an invaluable opportunity to associate informally with the R&D oriented group working on advanced projects that will be in attendance at the Symposium.

The General Chairman may be reached for more details or a request to be placed on the mailing list for advance programs to be distributed in the late summer:

J. Forster
Quadrex Corporation
1700 Dell Avenue
Campbell, CA 95008
Telephone: (408) 370-4202
(408) 268-5220

1987 Conference Calendar

<table>
<thead>
<tr>
<th>DATE</th>
<th>CONFERENCE</th>
<th>PLACE</th>
<th>CONTACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct. 5-7</td>
<td>8th SRE-Symposium</td>
<td>Helsingor, Denmark</td>
<td>Kurt E. Petersen RISO National Laboratory DK-4000 Roskilde 02 37 12 12 ext. 5533</td>
</tr>
<tr>
<td>Oct. 6-7</td>
<td>Product Assurance Forum ’87</td>
<td>Dover, NJ</td>
<td>Sid Markowitz Registration Chairman U.S. Army Picatinny Arsenal Bldg. 62 Dover, NJ 07801-5001 (202) 724-2378</td>
</tr>
<tr>
<td>Oct. 13-16</td>
<td>IV International Conference on Reliability and Exploitation of Computer Systems Recomex ’87</td>
<td>Wroclaw, Poland</td>
<td>Prof. Wojciech Zamojski Recomex ’87 Wroclaw Technical University Institute of Engineering Cybernetics Janiszewskiego Str 11/17 50-372 Wroclaw, Poland Tel. 21-26-77/</td>
</tr>
<tr>
<td>Oct. 21-23</td>
<td>IEEE Symposium on Nuclear Power Systems</td>
<td>San Francisco, CA</td>
<td>J. Forster Quadrex Corporation 1700 Dell Avenue Campbell, CA 95008 (408) 370-4202</td>
</tr>
<tr>
<td>Nov. 3-5</td>
<td>AUTOTESTCON ’87</td>
<td>San Francisco, CA</td>
<td>Mr. Ted Parker, Chairman AUTOTESTCON Power-One Switching Products 833 Flynn Road Camarillo, CA 93010-8702 (805) 482-0757</td>
</tr>
<tr>
<td>Jan. 26-28</td>
<td>Annual Reliability and Maintainability Symposium</td>
<td>Los Angeles, CA</td>
<td>Al Plait Mantech Support Technology, Inc. 2320 Mill Road Alexandria, VA 22314</td>
</tr>
<tr>
<td>Mar. 7-9</td>
<td>National Conference and Workshop on Reliability Growth</td>
<td>Cambridge, MA</td>
<td>Dr. Larry Crow Technical Program Chr. AT&amp;T Bell Laboratories Whippany Road Whippany, NJ 07981 (201) 386-4682</td>
</tr>
<tr>
<td>Apr. 12-14</td>
<td>1988 International Reliability Physics Symposium</td>
<td>Monterey, CA</td>
<td>H. C. Jones Westinghouse Corp. Baltimore, MD (301) 765-7387</td>
</tr>
<tr>
<td>Jun. 14-17</td>
<td>INTER-RAM</td>
<td>Portland, OR</td>
<td>John Sporzyz EMQ-2 Quality Assurance/Reliability Bonneville Power Admin. P.O. Box 3621 Portland, OR 97208</td>
</tr>
</tbody>
</table>

Reliability Society Newsletter

October 1987
THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
INCORPORATED
1988 INTERNATIONAL RELIABILITY PHYSICS SYMPOSIUM
April 12-14, 1988 • Hyatt Regency • Monterey, California
CALL FOR PAPERS

The 26th Annual Symposium, co-sponsored by the IEEE Reliability and Electron Devices Societies, has as its major theme building-in and validating reliability for present and developing VLSI technologies.

YOUR PAPERS ARE SOLICITED on the following subjects:

- Relationship Between System and Device Reliability
- Building-In Reliability: Design and Process Control for Si and GaAs
  - Designing circuits, multi-chip assemblies, and subsystems
  - Materials selection and control
  - Process design and control; computer-integrated manufacturing
  - Packaging (bonding, die attachment, coating, encapsulation)
- Analysis for Reliability
  - Failure analysis techniques (new, advanced, simplified)
  - Failure mechanisms and models, for example:
    - Electrostatic discharge
    - Hot electrons
    - Electromigration
    - Oxide breakdown
    - Contact degradation and corrosion
    - Surface mount
    - Packages
    - Mechanical and thermal stress
- Test Methodologies
  - Water-level
  - Accelerated stress
  - Correlations with field results
  - Test combinations
  - Burn-in

NEW SYMPOSIUM FEATURES

- Starting with the 1986 Symposium, the Proceedings will be available at the beginning of the conference. To allow for a smooth transition in 1988, a preliminary edition of the Proceedings will be distributed at the Symposium; it will include all papers submitted by February 29 and summaries of the remaining papers. The final edition of the Proceedings, which includes all the papers presented, will be mailed to attendees after the Symposium.
- The symposium papers will be submitted for publication review and, if accepted, will appear in a new and special Reliability Section of the IEEE Transactions on Electron Devices.
- A panel discussion will be held to define and to understand the perceived gap between the "top-down" reliability of systems and the "bottom-up" reliability of devices, and to recommend actions that will ensure built-in reliability of the system.
- Hands-on, one-on-one, analytical equipment demonstrations.

CONTINUING FEATURES

Plenary sessions, tutorials, workshops, authors corners and attendees lounge for discussions, and awards presentation.

October 1987
What's Happening?

A Review of Assurance Developments for the Future

With all the activities in the Assurance Technologies in recent times, a look at where the community stands and where it is headed, is in order. The commercial world of communications, power, computer graphics, and others is aware of clients who do not stand still for field failures or call backs. The military (and government, in general) has been aware of such problems and has developed a variety of initiatives (such as R&M 2000) to help solve them. We still need Assurance and especially its basics designed into products up front. So, what's happening "out there?"

1988 ANNUAL RELIABILITY AND MAINTAINABILITY SYMPOSIUM

to be held at the

BILTMORE HOTEL

LOS ANGELES, CA USA

1988 JANUARY 26-28

TECHNOLOGY

CAD/CAM/CAT/CALS
Robotics
Design to Life Cycle Cost
Design for Supportability
Modeling/Simulation/Methods
Software R&M
Test/Demonstration
Reliability Growth
Screening
Failure Analysis
Built In Test
Hazard Analysis
Fault Trees
Self Repair
Error Correction Code

MANAGEMENT

System Effectiveness
CAD/CAM/CAT/CALS
Robotics
R&M Contracting & Management
R&M Requirements
Risk Management
Data Base Management
R&M Cost Benefit Tradeoffs
Design to Life Cycle Cost
Testing Effectiveness
Warranties
Logistics Support
International Programs

INDUSTRY APPLICATIONS

Aerospace & Defense
Power & Other Utilities
Oil and Other Resource Suppliers
Mechanical Structures
Transportation
Microelectronics
Computers/Peripherals
Microprocessors/Mini-Computers
Robotics
Software
Consumer Products
Medical Systems
Communications

SPONSORED BY:
has made SEA the leading source of predictive analysis software for the CAE/CAD industry.

Major vendors, including:
- Apollo Computer, Inc.
- Autodesk, Inc.
- Automated Images, Inc.
- CASE Technology, Inc.
- Daisy Systems Corp.
- Data I/O FutureNet Corporation
- Digital Equipment Corporation
- GE Calma
- IBM
- Viewlogic Systems, Inc.

have cooperated with SEA in putting reliability analysis within reach of every design engineer.

If you want to improve your products by making reliability analysis part of your design process, contact SEA at 617-762-9252.

Computer-Aided Logistics Analysis Using SPAR-1

Monte Carlo Analysis versus Deterministic Methods

The important difference: Monte Carlo methods allow for the multi-dimensional complexities of the logistics problem. SPAR calculates system availability based on spare parts policy. SPAR combines the sophistication of Monte Carlo analysis with simplicity of use.

Factors such as off-site repair, repair teams, local storage, spares, production loss over multi-time periods are all used to develop an optimal storage strategy and cut potential production loss.

We Just Raised the Performance Level for Logistics Analysis

Management Sciences Inc.
6022 Constitution, N.E.
Albuquerque, N.M. 87110 USA
Phone (505) 255-8611

Cost
1e+6
9e+5
8e+5
7e+5
6e+5
5e+5
4e+5
3e+5
2e+5
1e+5
0e+0

Storage Policy Number

Total Cost
Production Loss Cost
Storage Policy Cost
HOST
Bonneville Power Administration, Portland, Oregon

THEME
RAM for Utility & Component Supplier OPTIMIZATION

PURPOSE
To further the development of reliability, availability, and maintainability programs for components and systems of the electric power industry.

TOPICS
We welcome submission of papers concerning any aspect of electric generation, transmission and distribution activities.
Suggested subjects include:

**RAM PROGRAMS:** Development, integration and economic worth
**RAM ANALYSIS:** Optimizing, equivalent availability
**DATA:** Collection, estimation, evaluation & analysis
**RISK:** Probabilistic evaluation of safety & economic issues
**RELIABILITY AND MAINTAINABILITY**
- Generation, transmission, distribution lines, components, systems, prediction models, outage data
- Transmission Systems, HVDC, controls, microwave, substation equipments, generation

*We encourage papers which discuss actual applications or case histories*

ABSTRACTS
Detailed abstracts 200-500 words, should be submitted no later than August 25, 1987 to:

Mr. John Sporysz — EMQ-2
Quality Assurance/Reliability
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

FINAL TEXTS
Authors of selected abstracts will be notified by October 15, 1987. Final manuscripts are due Feb. 15, 1988

Conference June 14-17, 1988 RED LION — Lloyd Center, Portland
PORTLAND, OREGON