Reliability Society Newsletter

Editors: Gary Kushner and Mark Snyder Vol. 32, No. 2, April 1986 (USPS 460-200)

Chapter Reports

Los Angeles Chapter

A meeting jointly sponsored by the Los Angeles Chapters of the IEEE Computer Society and Reliability Society was held at the Hacienda Hotel on February 20th. The speakers were Mr. Erwin Book of Hughes Aircraft, who covered the ADA impact of software errors; and Dr. Joseph Urban (via video), Chairman of the IEEE Technical Committee on Computer Languages, who gave an overview on ADA language programming.

Mr. Erwin Book's talk was entitled, "Speculations on the Incidence of Errors in Software Written in ADA."

Central New England

The 1985-1986 season is slowly winding down after a most satisfactory year. The five monthly meetings have been very well received and attended by the local membership. The Fall Lecture Series on the Practical Aspects of Reliability proved to be an overwhelming success with the major responses from the attendees being that the course was extremely helpful, that they would recommend this series to

others, and they would have liked it to be extended.

The final event will be our 24th Annual Spring Seminar to be held on April 17, 1986 at the Sheraton Tara in Framingham, MA.

The program has been finalized and covers a wide variety of subjects from Reliability in the Soviet Union to Reliability Warranties. As of this writing, the keynote speaker is scheduled to be:

Brigadier General Frank S. Goodell Special Assistant for R&M, USAF

Since this will be my last input to the Reliability Society Newsletter as Chairman of the Central New England Chapter, I would like to publicly express my appreciation to the members of my executive board without whom it would have been impossible to have such an ambitious program and especially to the Central New England membership who are responsible for all success experienced this past year.

LOGOZ GM

SITAEE SEEING SEAT THREE OAKS DR SEAT THREE OAKS DR SEAT GOTTERED



Reliability Society Officers

As of January 1986... PRESIDENT A. O. Plait Mantech International 2320 Mill Road

Alexandria, VA 22314

VP MEMBERSHIP I. A. Feigenbaum COMSAT Labs. 22300 Comsat Dr. Clarksburg, MD 20871 **VP TECH. OPERATIONS** D. I. Troxel RCA-Bldg 2-3 Front & Copper St. Camden, NJ 08102

SECRETARY T. L. Fagan Gould, Inc. Defense Systems **Business Section** Suite 900 1755 Jefferson Davis Highway Arlington, VA 22202

JR. PAST PRESIDENT N. J. McAfee Westinghouse Electric Corp. Box 746. MS-246 Baltimore, MD 21203

2

VP MEETINGS M. J. Shumaker Martin Marietta Co. 803 N. Howard St., #545 Alexandria, VA 22304

VP PUBLICATIONS R. A. Kowalski ARINC Research 2551 Riva Rd. Annapolis, MD 21401

TREASURER A. Coppola Rome Air Dev. Ctr. RADC/RBET Griffiss AFB, NY 13441

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 Corp., 14 Walkup Drive (YWO/G13), Westboro, MA 01581, per the following schedule:

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

Gary Kushner 499 Brigham St., Marlboro, MA 01752 **Associate Editors:** Mark Snyder 37 Diana Drive, Marlboro, MA 01752

Reliability Society Newsletter is published by the Reliability Society of the Institute of Electrical and Electronic Engineers, Inc. Headquarters: 345 East 47th Street, New York, NY 10017. Sent automatically and without additional cost to each member of the Reliability Society. Printed in U.S.A. Second-class postage paid at New York, NY and at additional mailing offices. Postmaster: Send changes to Reliability Society Newsletter, IEEE, 445 Hoes Lane, Piscataway, NJ 08854-4150.

Reliability Society Newsletter

Reliability Society Chapter Chairmen

CHAIRMAN, CHAPTER **ACTIVITIES**

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

CLEVELAND

V. R. Lalli 21000 Brookpark Rd.

MS 500 211

Cleveland, OH 44135

DENVER Samuel Keene 890 Quince Avenue Boulder, CO 80302

Canada H2Z 1A4

Washington, DC 20363

BALTIMORE

113 Newburg Ave.

Catonsville, MD 21228

Neil Hall

MOHAWK VALLEY MONTREAL Jack Bart Mario Oligny RADC/Att. RB Hydro Quebec Griffiss AFB, NY 13441-5700 75 West Dorchester, 10 CD Montreal, Quebec

NORTHERN NEW JERSEY PHILADELPHIA Fulvio E. Oliveto Raymond W. Sears Jr. 13 Garabrandt St. 920 Snyder Ave. Mendham, NJ 07945 Philadelphia, PA 19148

WASHINGTON/NORTHERN TRI CITIES Alan O. Backus VIRGINIA Larry Shapleigh 1141 Oakleaf Dr. Kingsport, TN 37663 Code 004 Naval Sea Systems Command

CENTRAL NEW ENGLAND COUNCIL Sidney Gorman

Raytheon Co. EDL-N9 528 Boston Post Road Sudbury, MA 01776

FLORIDA WEST COAST

James N. Rutledge E-Systems P.O. Box 12248, MS-31 1501 72nd St. North St. Petersburg, FL 33733-2248

ONTARIO

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

BAY David Burgess Hewlett-Packard Co. 1681 Page Mill Rd. Bldg. 28B Palo Alto, CA 94304 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

Esam Khadr Public Service Electric & Gas MS-T14 A 80 Park Plaza P.O. Box 570 Newark, NJ 07101

SANTA CLARA VALLEY/SAN FRANCISCO/OAKLAND/EAST

Dr. Noboru Takagi

3-6-20 Kitash Inagana Shinagawa Tokyo, 140, Japan

April 1986

New Reliability Society Members

Majd Adi Rebenring 61 App 505 3300 Eraunschweig West Germany

Lim Li Aik Blk 98 Bedok North Avenue 4 #25-1902 Singapore 1646 Singapore

Mark L. Albers 4160 W. 182nd Street #110 Torrance, CA 90504

Syed R. Ali 32 Lafayette Drive Hazlet, NJ 07730

James A. Almond 1505 Wookmont Dr Johnson City, TN 37601

Akihiro Ametani Dept of Elect Eng Doshisha Univ Kyoto 602 Japan

Gilbert A. Amine P.O. Box 8713 Austin, TX 78713

Paul Anderson 2400 S. Glebe Rd Apt 203 Arlington, VA 22206

Jal M. Antia 24955 Cypress Ave Apt 36 Hayward, CA 94544

Mark J. Appelstein Contel Contel Plaza 12015 Lee-Jackson Highway Fairfax, VA 22033

Loretta J. Arellano 10940 Olinda St Sun Valley, CA 91352

Mark Babcock 8507 Bargamin Dr Austin, TX 78736

Alexander R. Bazelow 7 Algonquin Trail Denville, NJ 07834

Frank S. Beltrano 15778 Burr Oak Ct

Wheaton, IL 60187

Yonatan Ben-Avraham

Yonatan Ben-Avraham Hatam Sofer 28/7 Immanuel Shomron 44854 Israel Peter K. Berntson 536 Ione Ave, NE Spring Lake Park, MN 55432

Richard D. Best 1429 14th Ave, NW Rochester, MN 55901

Ernest R. Blankman 1471 Bayview Dr Clearwater, FL 33516

Charles E. Bloomquist PRC Systems Services Co 10960 Wilshire Bl #2320 Los Angeles, CA 90024

Carl R. Boehme 100 S. Cole Rd Boise, ID 83709

E. J. Bopp 378 Pleasant View Dr Granville, OH 43023

Abdullah H. Bou-Hasan 12 Cleveden Crescent Glasgow G120PA Scotland

John T. Bowles 2550 E. 1980 N Layton, UT 84041

Patrick J. Bradley 1900 E. Gold Rd 2nd Fl

Schaumburg, IL 60159

Jose A. Braga

R. Marques De Itu 58 6B 01223-Sao Paulo-Sp Brazil

Lidia A. Bratu 319 Keewatin Ave Toronto, Ont. Canada M4P 2A4

Ronald L. Braun 9 Shelly Dr Somerset, NJ 08873

Thomas H. Brown 329 Sutherland Pl Manitou Springs, CO 80829

Michael F. Buckley Digital Equip Int Ballybrit Galway Ireland

Neal P. Bunde General Electric Co Room 76101 Lakeside Ave Burlington, VT 05402

Ray Burkholder 545 Belmont Ave, W Apt 909 Kitchener, Ont., Canada N2M 5G7 L. H. Busker 571 W. Rockton Rd Rockton, IL 61078

Eduardo M. Bustamante Contel Pase Systems Inc 12015 Lee Jackson Memorial Hwy Fairfax, VA 22033

Charles A. Campo 37 Appletree Dr Rhinebeck, NY 12572

Thomas L. Carmichael 5190 NW Neakahnie Ave #17 Portland, OR 97229

Steven Carpenter 1011 128th St, SW Apt C301 Everett, WA 98204

W. Gordon Cawood 13 Cross St Medfield, MA 02052

Jason T. Chan 2824 Rainview Dr San Jose, CA 95133

Han-Ping D. Chen 7538 Denrock Avenue Los Angeles, CA 90045

Jing Chen P.O. Box 7-178 Tainan 70098 Taiwan

Kwok-Wing Chung 5th Floor Victoria Centre Watson Rd Hong Kong, Hong Kong

Jonathan M. Claridge 1025 Jefferson Apt 189 Santa Clara, CA 95050

Kay E. Clark 536 Haverhill St Reading, MA 01867

Anthony J. Codespote Rural Rt 4 Box 399 Lexington Park, MD 20653

Bryan C. Cochran 2256 Keeven Lane Florissant, MO 63031

Bennie H. Coetzer P.O. Box 5621 Weltveredenpark 1715 S. Africa

Timothy R. Coggins P.O. Box 2036 Largo, FL 34294 James W. Conlon, Jr. 20 Sharon Ct Metuchen, NJ 08840

Carolyn K. Coody 6757 S 90th E. Ave Tulsa, OK 74133

Kendall F. Cowes 109 Sewell St Shrewsbury, MA 01545

C. W. Cripe 3630 Cold Springs Rd Baldwinsville, NY 13027

Mark P. Cunningham 12839 Crae Thicket Lane St. Louis, MO 63131

Thomas R. Demma 177-E East Loudon Rd Apt 2 Concord, NH 03301

Dominic J. Diston Mitchell Hall Cranfield Inst of Technology Cranfield Bedford England MK43 Cal

Patrick O. Doherty 400 Broadway Apt 3 Somerville, MA 02145

G. H. Donaldson 9912 Chapala Dr, NE Albuquerque, NM 87111

Thomas Donofrio 33 Brook St Spring Valley, NY 10977

J. D. Douglass 234 Allenberry Circle Pittsburgh, PA 15234

David L. Duff 347 Valanna Crescent Burlington, Ont., Canada 171 2K7

Joseph Duffalo 1415 N. Country Club Dr Apt. 2037 Mesa, AZ 85201

Orris F. Dumas, Jr. 4529 Spring View Dr Wilmington, NC 28405

Eugene L. Eagenstos 3105 Whileaway Circle E Colorado Springs, CO 80917

Robert M. Eain 5 Lovers Lane Rolla, MO 65401

Reliability Society Newsletter

Ron L. Edwards 9855 Shadow Way Apt 2326 Dallas, TX 75243

> Joseph M. Elder 1079 Yale Circle Boulder, CO 80303

Ignacio M. Elguezabal 13421 SW 72 Ave Miami, FL 33156

Chris W. Ellis Criticare of Oregon, Inc. 3347 N. Lombard Portland, OR 97217

C. J. Enright, Jr. 15 Bowe Lane RD2 Lagrangeville, NY 12540

Phillip M. Feldman 10294 Cresta Dr. Los Angeles, CA 90064

Curtis G. Fisher 7650 Topanga Canyon Apt #A9 Canoga Park, CA 91304

David W. Fountain 7822 Benton St Huntsville, AL 35802

John C. Fraser 76 Hannebury Dr Dartmouth NS, Canada 82V 1P6

William J. Fredrick 6953 Saddleback Pl Alta Loma, CA 91701

Maurice J. Fuller John Fluke Mfg Co P.O. Box C9090 M/S 243F Everett, WA 98206

Carlos C. Galvan P.O. Box 803 Langley AFB, VA 23665

Pedro G. Garcia Radio Caracas Television Dolores A Pte Soublette QTA Crespo 1010 Caracas Venezuela

Mary J. Gigliotti Taylor Instrument 85 Ames St P.O. Box 110 M/S W-78 Rochester, NY 14692

David W. Glass 2505 South Garfield Loveland, CO 80537

Gerard M. Gobeil Box 665 5012-50 St Beaumont Alb., Canada TOC 0H0

Kenneth R. Goddard 268 Mt. Kemble Ave Morristown, NJ 07960 Yeang T. Goh 385 Lebuh Pantai Penang 10300 Malaysia

Judy Goloboff BNR-IRC P.O. Box 7277 685A E. Middlefield Rd Mountain View, CA 94039

Ron S. Goodman 610 Hidden Valley Dr Apt 310 Ann Arbor, MI 48104

Lowell A. Goudge 43 Lorene Dr Islington, Ont., Canada M9B 1Y7

Josef Giglmayr Heinrich-Hertz-Institut Einsteinufer 37 D-1000 Berlin 10 West Germany

Cary A. Gloor 1721 E. Frankford Rd Apt #1321 Carrollton, TX 75007

Mfxd Glynn 19 Uplands Ave Thornhill Ont., Canada L4J 1J8

George F. Granger P.O. Box 24100 Phoenix, AZ 85074

Willard S. Grant MPR Associates 4th Floor, Attn Library 1050 Connecticut Ave., NW Washington, DC 20036

Joel S. Greenstein Clemson Univ Dept of Industrial Eng Clemson, SC 29634

Kenneth J. Greico 20 Walden Ave Staten Island, NY 10306

J. W. Grondstra 284 Arlington St Acton, MA 01720

Natalya Gur 6/22 Mishol Dolev 20100 Karmiel Israel

Bruce A. Hack 247 W. 254 St Riverdale, NY 10471

Tedd P. Hardman Allied Corp. Metglas Products 6 Eastmans Rd Parsippany, NJ 07054

Harro L. Hartmann Hans Sommer Str 66/11 OG 3300 Braunschweig West Germany Mark G. Harward 1721 E. Frankford Apt 826 Carrollton, TX 75007

William D. Harwood 9531 Morrow Rd, NE Albuquerque, NM 87112

Michael Hatziemmanuel Sundial Computer Products Corp 2020 Jericho Tpke New Hyde Park, NY 11040

Svein A. Haugen Senter for Industriforskning PB 350 Blindern 0314 Oslo 3 Norway

B. E. Hegler 218 Erl UMR Rolla, MO 65401

Klaus D. Heidtmann Dr Universitat Postfach 3825 Abt Math-Inf D-5500 Trier Fed Rep Germany

John Heiser 113 Brigham St Apt 1C Hudson, MA 01749

David Helfand Ciba-Geigy Corp Saw Mill River Rd Ardsley, NY 10502

James R. Herchen, Jr. 54 Felsmere Ave Pawtucket, RI 02861

Thomas S. Hewes, Jr. 43-53rd St Gulfport, MS 39501

Eugene C. Hofer 2121 Hoefer Ave Rapid City, SD 57701

S. A. Hornung 9 Hemlock Ln Avon, CT 06001

> Mark W. Hrabe 27 McAfee Ct Thousand Oaks, CA 91360

Fuchieh Hsu 22393 Riverside Dr Cupertino, CA 95014

David W. Hulvey Hughes Aircraft Co Bldg 600 MS C222 P.O. Box 3310 Fullerton, CA 92634

Richard L. Huntley 1465 40th Street Brooklyn, NY 11204

Ha Huynh 99 Bank St Suite 501 Ottawa, Ont., Canada K1P 6C5 Natesan Jambulingam Spar Aerospace I td 21025 Transcanada Highway St. Anne De Bellevue, Que., Canada H9X 3R2

Tom E. Jones 19408 Sandy Lake Dr Gaithersburg, MD 20879

Kent Jonsson Swedish Office of Technology 120 Montgomery St Suite 2165 San Francisco, CA 94104

E. James Junkins 240 South Lomita St Burbank, CA 91506

James S. Kalemba 38 Bancroft St Pepperell, MA 01463

Joseph J. Karniewicz VTC Inc. 2800 E. Old Shakopee Rd Bloomington, MN 55420

Jee-Sco Kim GTE Labs 40 Sylvan Rd Waltham, MA 02254

Terry G. Kluesing 214C Bradley Ct Bloomingdale, IL 60108

A. Kobayashi 3-17-4-403 Masago Chiba-Shi Chiba 260 Japan

Lawrence L. Kneisel 2371 Berwick Canton, MI 48188

Robert F. Knight 696 Quigg Wy Boulder Creek, CA 95006

Shigeto Kohda 3-9-11 Midori-Cho Musashino-Shi Tokyo, Japan 180

Robert A. Kramer 910 S. Ridge St Crown Point, IN 46307

Edouard Kujawski 6160 Tracel Dr San Jose, CA 95129

Sudhir Kumar Dept. of Electrical Eng Univ of Saskatchewan Saskatoon Sask, Canada S7N 0W0

Linda M. Kusar 917 Gates Ave Norfolk, VA 23517

Chan S. Kwong San Diego Gas & Electric P. O. Box 1831 San Diego, CA 92112

April 1986

Ronald G. Lamoureaux 1109 W. Orangewood Ave Phoenix, AZ 85021

W. J. Lannes #7 Kings Canyon New Orleans, LA 70114

Kenneth W. Larsen 5509 Sheldon Drive Alexandria, VA 22312

Michael E. Laszczyk 14336 Alger Warren, MI 48093

Dan P. Lawlor 143 Golfwood Lane Hamilton, Ont., Canada L9C 6W2

Nancy S. Learned 4219 Sugar Pine Ct Burtonsville, MD 20866

Luis Ledesma, Jr. 4300 Mesaview Dr Mesquite, TX 75150

Russell J. Lefevre TSC 2950 - 31st Street Santa Monica, CA 90405

Chengyea Leu 425 13th Ave SE Apt #1401 Minneapolis, MN 55414

Anthony A. Lester 903 Locklaine Dr Johnson City, TN 37601

Thomas K. C. Leung 702-440 Gloucester St Ottawa, Ont., Canada K1R 7T8

J. W. Locke 2103 E. Alameda Dr Tempe, AZ 85282

Wan-Li Lin Univ of Illinois 202 EERL Dept of EE 1406 West Green St Urbana, IL 61801

Puran S. Luthra 7311 75th Circle No Brooklyn Park, MN 55428

Howard Lykins Box 4, Contract Station 24 Washington Univ

St. Louis, MO 63130

Theodore J. Malkowiak

570 Howes Run Road Sarver, PA 16055

Mario E. Martinez 1600 N. Baltimore Derby, KS 67037 Norman Matloff Division of Computer Sci Univ of California Davis Davis, CA 95616

David B. McBrayer 231 Garcia Ave San Leandro, CA 94577

Lance D. McCracken 2 Green Castle Rd Sterling, VA 22170

Hans-J Meckelburg Schlluessel 91 D-5600 Wuppertal 11 West Germany

John W. Meredith 5220 Escapardo Way Colorado Springs, CO 80917

Donny E. Meyer 1225 Westheiemer Apt 55 Austin, TX 78752

Jean G. Michaud 4-B Oakley Avenue Nepean Ont., Canada K2B 6M6

M. Arturo Miguel 9 Jefferson Blvd Port Jefferson, NY 11776

Edward A. Miller 2336 E. Allegheny Ave Philadelphia, PA 19134

Jennie Miller Honeywell-PMSD 16404 N. Black Canyon Hwy Phoenix, AZ 85023

Dalpat D. Mistry 3489 Woodhurst Crescent Mississauga, Ont., Canada L5L 1N3

Klaus P. Model 5301 Stevens Creek Blvd Santa Clara, CA 95050

Abdulaziz Mohsen Daer 320 Oak St West Lafayette, IN 47906

J. P. Montgomery, Jr. 9612 Middleridge Ct Brandywine, MD 20613

Richard M. Morley P.O. Box 44 Main St Baptistown, NJ 08803

James R. Morrison 27400 Chardon Rd Apt 430 Willoughby Hls, OH 44092

Charles Morse 700 East Drake Rd Apt Q5 Fort Collins, CO 80525 Linda M. Moss Honeywell, Inc. MS 830-4A 13350 US Highway 19 South Clearwater, FL 33546

Daryl S. Motoda 8842 Winding Way Apt 553 Fair Oaks, CA 95628

Charles A. Moy 8312 Cuinevere Dr Annandale, VA 22003

David C. Moyer 8426 E. Sheridan Scottsdale, AZ 85257

Ashok Narayan 17120 SW Sugarplum Lane Aloha, OR 97007

Paul T. Natoli Bendix Connector Operations 40-60 Delaware St Sidney, NY 13838

J. A. Nelson Teradyne Inc 21255 Califa St Woodland Hills, CA 91367

Stephen D. Noel Martin Marietta Aerospace MP-98 103 Chesapeake Park Plaza Baltimore, CA 21220

Andrew T. Norris P.O. Box 27237 Albuquerque, NM 87125

Steven H. Oaks 328 W. Parkway Stone Creek Apts Apt 251 Lewisville, TX 75067

Raymond G. Olivetti 20 Allee Du Pre Blanc Meylan France 38240

Tore B. R. Olsson Sect Rue Missile Division AB Bofors Box 500 S-69180 Bofors Sweden

Hironobu Ono Toyota Motor Corp Washington Branch 919 Eighteenth St., NW Washington, DC 20006

Randall L. Ortland 450 Pcr La Mar Dr #3 Santa Barbara, CA 93103

Gary D. Ott 15 Heather Ln Middletown, NJ 07748

Mark Allen Palmer 6 Dalmeny Ct Apt 302 Baltimore, MD 21234 N. Shirlene Pearson 44 Buttonwood Dr Marlboro, NJ 07746

Michael F. Peters 759 Oak Walk Apt H Goleta, CA 93117

Erling O. V. Petrusson AB Teleplan Box 1310 S-171 25 Solna Sweden

Dorcas L. Phelan Floating Point Systems 215 P.O. Box 23489 Portland, OR 97223

Thomas A. Phillips 1930 Eremen Road Hatfield, PA 19440

Kevin R. Pockorney 2275 Pumpherston Ct San Jose, CA 95148

Roger A. Pollak IBM P.O. 216(6-232) Yorktown Heights, NY 10598

Vinco B. Prasad Bradley Univ Morgan Hall Rm 405 Peoria, IL 61625

Van Presson 704-2A Tamarack Way Reston, VA 22070

Douglas G. Rambo 176 North Cottage Rd Sterling, VA 22170

Bharat D. Rathi IBM T. J. Watson Research Center Rm 4D-38 (Haw)/POB 218 Yorktown Heights, NY 10598

Harvey A. Restaino 415 Enterprise Dr Apt 109 Mount Prospect, IL 60056

David A. Rich 845 Woodmere Ct Woodmere, NY 11598

Patrick M. Ridgely 8453 E. Rosewood Tucson, AZ 85710

Terry D. Riffle P.O. Box 7192 Thousand Oaks, CA 91360

Michael Ripp 3610 Danbury Dr Apt 6-H Riverside, CA 92505

Robert J. Risboskin English Village Apts Bldg 17 Apt C6 North Wales, PA 19454 Naomi B. Robbins AT&T Bell Labs - Room 2E215B Whippany Rd Whippany, NJ 07981

Richard R. Robidoux 104 Airport Rd P.O. Box 649 Concord, NH 03301

David Rusley 1217 Tomahawk Cedar Falls, IA 50613

Hossein Salehfar P.O. Box 794 Tamu College Station, TX 77841

Richard G. Saunders 32 Holly Oak Dr East Voorhees, NJ 08043

Robert H. Schuldt 2406 Hayes Ct Burnsville, MN 55337

Lance C. Schnur Rd 3 Box 303 Eighty Four, PA 15330

Rodney V. Schutt 8263 Longford Dr For Worth, TX 76116

David Schwingel 34873 Blackstone Way Fremont, CA 94536

Richard P. Scott 5308 Glasgow Court Los Angeles, CA 90045

G. P. Seymour 823 Nisqually Dr Sunnyvale, CA 94087

Farid S. Shoucair P.O. Box 2157 Yale Station New Haven, CT 06520

William G. Siegel 11601 NW 17 Ct Plantation, FL 33323

Richard W. Sick 350 Forest Hill Road Apalachin, NY 13732

Charles B. Sides 3025 Crystal Springs Rd Apt 621 Bedford, TX 76021

Hong K. Siew SC LA TROEE Univ Dept of Elect and Comm Bundoora Vic 3083 Australiz

John G. Simek 1013 Knoll Dr Endwell, NY 13760

Richard J. Simoncic 5425 E. Thomas Rd Apt 295F Phoenix, AZ 85018

April 1986

Kirk Singleton 1612 Worcester Rd Apt 115A Framingham, MA 01701

Scott W. Smart 94-21C Kakaili Pl Mililani, HI 96789

D. C. Smith 8555 March Rd, NW Rt 3 Lancaster, OH 43130

Stephen F. Smith 156 Irvine Ave, SE Palm Bay, FL 32907

Muhammad I. Socmro Rm#1004 YMWCA 600 Broad St Newark, NJ 07102

Paul J. Song P.O. Box 70575 141 Taaffe St Sunnyvale, CA 94088

Stefaan Speybrouck 12153 Allard Montreal-Nord, Que, Canada H1G 6E8

Stephen Staluppi 2461 East 2nd St Brooklyn, NY 11223

Ray A. Starr 8912 Hallmark Ave S Cottage Grove, MN 55016

Ken Stavinoha 301 Krenek Tap Rd Apt #101 College Station, TX 77840

John L. Stevenson 9901 Stoneybrook Dr Kensington, MD 20895

Charlie C. Sumrell 5002 Saddle Dr Austin, TX 78727

Dale R. Sunstrom So 78 W20642 Pasadena Dr Muskego, WI 53150

Alistair T. Sutherland 2 Crombie Wynd Westhill Skene Aberdeen Scotland

Jiann-Tai Sytwu P.O. Box 3345 Stanford, CA 94305

Frank J. Szipszky NYNEX Enterprises 441 Ninth Ave Rm 802 New York, NY 10001

Takashige Tamamushi 1-3-8 Tsunogoro Sendai 980 Japan Robert M. Taylor Leeds & Northrup Technical Ctr Sumneytown Pike North Wales, PA 19454

John L. Thompson 235 Quarry St Bridgeport, CT 06606

Eliot W. Traiman 192 Lewis Rd Northport, NY 11768

Michael Y. Tse 3919 Seven Trees Blvd Apt A 104 San Jose, CA 95111

Zygmond Turski Loral Advanced Tech Labs 5001 G Forbes Blvd Lanham, MD 20706

Raymond W. Tuthill Rt 5, Box 423B Blountville, TN 37617

Boris G. Usherovich 74 Shlomo Hameleh Str Tel-Aviv Israel

Jose T. Velez c/o Intel Pr Inc. So Industrial Pk State Rd 183, P.O. Box 125 Las Piedras, PR 00671

Harold S. Vitale 168 Clover Way Los Gatos, CA 95030

Galen C. Walters 10141 Parlett Place Cupertino, CA 95014

John R. Ware DRI Inc 1375 Piccard Dr Rockville, MD 20850

Bob Walsh Sys Calc 6020 Constitution NE Apt 4 Albuquerque, NM 87110

Geoffrey Waters Hewlett-Packard Ltd South Queensferry West Lothian EH30 9TG Scotland

James C. Weiler, Jr. 24130B Avenida Rancheros Diamond Bar, CA 91765

Mark B. Wiechec 2942 MacArthur Blvd Northbrook, IL 60062

Donald S. Williams 3118 La Mesa Dr San Carlos, CA 94070 Ray A. Williams 2170 Fort Harrods Dr Apt 29 Lexington, KY 40513

Michael A. Winchell 3500 Ambleside Austin, TX 78759

Jerry C. Whitaker 16620 W. 145th Place Olathe, KS 66062

Walter L. Whirry P.O. Box 5362 Torrance, CA 90510

Jeffrey K. White 125 Swan St Apt 4 Lawrence, MA 01844

David M. Williams P.O. Box 67 Roberta, GA 31078

Edward C. Wong IBM Corp D/F04 B/052 P.O. Box 390 Poughkeepsie, NY 12602

Yeu-Haw Yang National Chiao-Tung Univ Dorm 4 Hsin-Chu 300 Taiwan

Ronald D. Yantzi 2328 Heatherwoods Way Carrollton, TX 75007

Susumu Yasuda c/o Toshiba America Inc 2900 MacArthur Blvd Northercok, IL 60062

Jin Yoshimura SUNYESF Biology Dept 133 Illick Hall Syracuse, NY 13210

Arthur Zabell 221 W. Wayne Ave Apt A l Wayne PA 19087

Wojciech H. Zakrzewski 22052 Arcos Mission Viejo, CA 92691

Victor O. Zambrano 101 Isaqueena Trail 22 Regency Apts Central, SC 29630

Joseph A. Zarrella 20 Princeton St Leominster, MA 01453

Ren Zhen Chonocuing Univ Dept of Elec Eng Chongging Sichuan, China

Dan Ziegler 3724 Violet Ave No Brooklyn Center, MN 55429

IEEE Membership Fees

It should be noted that the IEEE membership fees have been revised for 1986. Regional assessments have been increased by \$2 for the United States and \$3 for Canada. More significantly, the \$15 membership entrance fee has been abolished. A revised payment schedule follows:

Residence	September 1-February 28	March 1-August 31
United States	\$67.00	\$33.50
Canada	62.00	31.00
Europe, Africa,		
Middle East	59.00	29.50
Latin America	52.00	26.00
Asia, Pacific	53.00	26.50



AdCom Meeting



At AdCom: Al Plait, President and Dr. Irving Engelson, IEEE Staff Director, Technical Activities



Dr. Derald A. Stuart accepts the award from Al Plait

We thought it would be useful for us to reprint the following brief description of AdCom for new RS members:

The AdCom is the Advisory Committee of the Reliability Society. This committee of eighteen members manages the society by the guidelines stated in the Constitution and Bylaws. These eighteen members serve three years each on a rotational basis. Every year one-third (or six) members' offices come up for re-election. (Only two consecutive terms are allowed and the AdCom member must sit out for a term.) Once the entire AdCom is elected, these eighteen members in turn elect the President of the Society, and four Vice Presidents for a term of one year each.

The entire AdCom holds three meetings during the year. The first meeting is held in conjunction with the RAM Sym-

posium in January, the second in conjunction with the Reliability Physics Symposium in April, and the third in the fall (Chapter Chairman's Meeting). At these meetings various issues are discussed and each Vice President presents his or her report.

The AdCom meeting for January, 1986 was held on Monday, January 27, in conjunction with the RAM Symposium at the Riviera Hotel in Las Vegas. The culmination of the meeting and dinner which followed was the presentation of the Annual IEEE Reliability Award to Dr. Derald A. Stuart of Lockheed Corporation for his outstanding management support of the Reliability discipline. (Refer to January 1986 issue of RS Newsletter for biography and details.)

Technical Operations

The Vice President of Technical Operations presides over a number of Technical Committees, each of which maintains liaison in its respective functional area and reports progress at each AdCom meeting. Reports and articles generated by these committees frequently appear in the Newsletter. As of January 1986, the committees and their chairpersons were:

Advanced Reliability Techniques Health Care Engineering Policy Philip Eisenberg Vernon Gardner Human Performance Reliability
IEEE Energy Technology Assessment
International Reliability
Maintainability
Mechanical Reliability
Nuclear Systems Safety & Reliability
Quality Assurance Management
Software Reliability
Standards and Definitions
Systems Screening

Vacant
Henry Wolf
Marion Smith
Dr. Richard Kowalski
Henry Hegner
Dr. Jerry Fussell
Henry Malec
Irving Doshay
Augustus Constantinides
William Wallace

Call for Papers 1987 ANNUAL RELIABILITY AND MAINTAINABILITY SYMPOSIUM

January 27, 28, 29, 1987

Marriott City Line Hotel

Philadelphia, PA USA

Assurance Technologies In The Automated Engineering Environment SUBMITTAL DEADLINE—1986 APRIL 15 PAPER SUBMITTAL REQUIREMENTS

If you wish to present a paper, now is the time to contact us. We need the following as soon as possible but April 15, 1986 is the deadline.

• For each author and coauthor:

Name

Work address and phone number Home address and phone number Brief biographical sketch

- Paper title must not exceed 50 letters and spaces—count them—the printer will truncate at 50.
- Paper summary shall not be more than 1000 words structured in the following three sections:
 - (1) Problems or Questions Addressed
 - (2) Work Performed
 - (3) Results and/or Conclusions Reached

Please note that initial screening for candidate papers is based solely on these summaries. If a summary does not clearly indicate the paper's value (i.e., the 3 sections itemized above), it will generally receive no further consideration. Therefore, it is essential that your initial submission be carefully prepared.

All papers must be new and must not have been presented at a national meeting prior to the Symposium. Papers

presented at local meetings are acceptable. Authors must indicte the status of any previous or planned presentation/publication of the subject material covered in their submittal. All submittals become the property of the Symposium and cannot be returned.

TEN COPIES of each author's (and coauthor's) name, work address and phone number, home address and phone number, brief biography, paper title and paper summary must be sent to:

Anthony Coppola RAMS Program Chairman RADC/RBET Griffis AFB New York 13441-5700 USA

Authors will be notified of Program Committee decisions in early June 1986. Full text drafts will be required by 1986 August 1 for review. Comments from this review will be returned to the authors by September 3. Final camera ready papers must be submitted not later than October 1, 1986, and must be accompanied by the author's signed release for publication in the Symposium Proceedings. These dates do not have slack, and authors should fully recognize the responsibility of their commitment to this schedule when the initial submittal is made.

RAMS Best Paper Award

At each year's Symposium banquet the P. K. MeElroy Award is presented to the author of that paper which was voted "best paper" at the prior year's symposium. That honor was bestowed upon Mr. J. C. Bear of General Dynamics Corporation for his 1985 paper, "Training 1500 Engineers to Improve R & M."

John Bear is the engineering manager in charge of the reliability functions at General Dynamics Pomona Division, with responsibilities on a variety of tactical weapon system programs. His experience has included thirty-three years

with General Dynamics, three years with ARINC Research Corporation, and three years with the Army Signal Corps in WWII. His primary interest has been with the management of reliability functions, but he has also worked in research, design, testing, quality control, and logistics. He has authored a text and a number of papers on reliability, and is a recipient of the U.S. Navy's Willoughby Award for outstanding contributions to fleet readiness. He has a BS degree in electrical engineering from Caltech.

Symposia Management Committees Chapter Awards Committee

It is the desire of AdCom to see greater member participation on the Management committees for the Reliability and Maintainability Symposium (RAMS) and the International Reliability Physics Symposium (IRPS). Those wishing to get into the management committee queue should contact the following:

For RAMS: Mr. V. R. (Val) Monshaw (609) 426-2182 Mr. J. W. (Bill) Thomas (301) 585-0421

For IRPS: Mr. A. L. (Al) Tamburrino (315) 330-2813

The Reliability Society Chapter Awards Committee is also interested in adding new members to its roles. RS members interested in more information should contact the following:

Mr. R. A. (Bob) Jaquess (303) 977-6462

April 1986

Call For Practical Papers

The IEEE Transactions on Reliability is looking for practical papers. The following is an excerpt from the Transactions:

badly as you, the readers, want to see them. They are hard to find. We established the Special Papers Board to search out practical papers. We reject very few practical papers, because we want to encourage their submittal.

When next you complain about how few practical papers appear in this, or any similar journal, ask yourself this question: "When was the most recent time that I, or someone from this division of my company, submitted a practical paper to this journal?"

The main reason why you see so many theoretical papers, and so few practical papers, is that university professors get paid to write theoretical papers, and engineers get paid to produce hardware rather than to write papers about it. Both do their jobs reasonably well.

Examples of general areas which both you and we want are as follows.

- 1. Case histories.
- 2. Reliability techniques which engineers actually found to be useful on a job, and those which were not useful or were too expensive.
- 3. How engineers and managers set realistic R&M requirements for a system or equipment.
- 4. The kinds of reliability testing which were actually cost-effective.
- 5. Use of reliability data from the field instead of from

We, the Editors, want to publish practical papers just as special reliability tests. Comparison of field data with reliability tests.

- 6. Engineering comments on the worth of standards such as the international or US military standards on reliability and maintainability.
- 7. Ideas, from experience, on the major obstacles to setting and achieving worthwhile reliability requirements in commercial, military, or other fields.
- 8. Where to find information. For example, a list of trade and professional journals of value to reliability and quality control practitioners.
- 9. Information summaries. For example, annotated lists of computer programs for analyzing electronic circuits or for generating fault trees; tell what the programs do, how big a computer they need, and where they are available.
- 10. Papers without equations.
- 11. Actual reliability and maintainability field experience with several technologies for accomplishing the same thing; e.g., in the microwave field.

Rarely, if ever, will a mathematical or statistical paper qualify as a practical paper, regardless of how good it is.

If you have an idea for a practical paper you would like to write, let us know. The Editor and our Special Papers Board will help you with it. Or give us the name of a colleague who wants to write a practical paper.

Call for Practical Papers—Computer Programs

The IEEE Transactions on Reliability is looking for practical papers dealing with computer programs.

Two types of papers are anticipated!

- 1. Descriptions of hands-on experience with somebody else's proprietary software.
- 2. Descriptions of your non-proprietary, publicly available

Both types must be related to reliability.

1. Experience with Proprietary Software

These papers should help the reader decide whether or not he should use the software and/or what difficulties are likely to be encountered in using it. Comments should be specific not just statements that you hated the program or consider it too expensive. These papers will receive minimal review (viz, be treated similarly to correspondence items)—usually by the editorial board rather than by referees.

2. Description of Non-Proprietary Software

These papers must summarize the software's functions and provide sample I/O, so that the reader can reasonably judge whether further exploration is worthwhile. What the user must provide—hardware type, operating system, memory requirements-should be defined. As a minimum, source listings and documentation must be available either as a Supplement or directly from the author. If you are willing to provide more-e.g., a program copy on a user-provided 51/4-inch DSDD floppy—say so. You may request compensation for out-of-pocket expenses such as postage and materials: if you do, the amount must be stated in the paper.

If you'd like to discuss your ideas on this subject with someone, or if you want a checklist to guide your preparation of this type of paper, write to Paul Gottfried at: 9251 Three Oaks Dr., Silver Spring, MD 20901 USA.

Checklist for Papers on Non-Proprietary Computer Programs

- perform and identify constraints (such as system size).
- 2. Identify existing software that performs similar functions and indicate the ways or circumstances in which your program is preferable.
- 3. Include a representative sample of I/O to cover each major function performed by your program.
- 4. Sample I/O (and any listings intended for NAPS) must be suitable for photoreproduction.
- 5. Identify hardware and system software required to execute your program.
- 6. Indicate source-code size and operational memory requirements in KBytes.
- 1. State clearly the functions your program is intended to 7. Source listings and essential documentation must be made available, except that source code or executable code in machine-readable form may be substituted for listings. Unless the listings and documentation are to be made available as a Supplement (see Information for Readers & Authors at rear of each Transactions issue), you must indicate what is required to obtain such materials from you.
 - You must indicate that your program is non-proprietary and that it may be used and copied freely. If you request compensation to cover out-of-pocket expenses such as postage and materials (see #7), your paper must indicate the amount and its purpose.

Computer Conferencing

The March 1986 issue of the IEEE Transactions on Professional Communication is a special issue on computer conferencing as a form of communication that combines techniques of speaking and writing. As engineers and writers exchange ideas ranging from simple memos to collaborative writing projects, they are finding computer conferences indispensable. IEEE Transactions on Professional Communication, Volume PC-29, number 1 (March 1986) explores the human dimension of the form. Articles cover a variety of topics, such as:

structuring a computer conference indexing comments and responses

moderating a computer conference motivating the participants comparing a computer conference to other forms of communication

using a computer conference in education

The price per copy is \$6.00 for IEEE members and \$12.00 for nonmembers. For individual copies contact

IEEE Service Center **Publication Sales** 445 Hoes Lane Piscataway, NJ 08854-4150

Conference Calendar

DATE 1986	CONFERENCE	PLACE	CONTACT
April 1 – 3	1986 Reliability Physics Symposium	Anaheim, CA	H. C. Jones Westinghouse Corp. P.O. Box 1521 MS 3664 Baltimore, MD 21203 (301) 765-7387
April 15-16	Product Assurance Forum '86	Dover, NJ	Sid Markowitz Registration Chairman AMCOM Bldg. 62 Dover, NJ 07801-5001
April 17	24th Annual Spring Reliability Seminar	Framingham, MA	Ms. Vivian Thorsen Technical Program Chairman Raytheon Company EDL-N9 528 Boston Post Road Sudbury, MA 01776
June 2-5	INTER-RAM	Syracuse, NY	Paul Wilde Niagara Mohawk Power Corporation Quality Assurance/F-2 300 Erie Boulevard W. Syracuse, NY 13202
June 22 – 25	International Conference on Communications '86	Toronto, Canada	Rob Paterson QAMC ICC '86 Chairman Bell-Northern Research Box 3511, Station C Ottawa, Ontario Canada, KLY 4H7 (613) 726-5377
14			Reliability Society Newslette

July 1-3

16th International

Symposium

on Fault-Tolerant Computing

Vienna, Austria

H. Kopetz Interconvention Hofburg

P.O. Box 80 A-1107 Vienna, Austria (43) 222-520293

CALL FOR PAPERS

Sept. 9-11

AUTOTESTCON

San Antonio, TX

Walter D. Downing Southwest Research Institute P.O. Drawer 28510

San Antonio, TX 78284

CALL FOR PAPERS

Dec. 1-4

IEEE Global

Telecommunica-

tions Conference 1986

Houston, Texas

Dr. Kwei Tu LEMSCO/B12 2400 NASA Rd. 1 Houston, TX 77258 (713) 333-6545 TELEX: 4620667

1987

CALL FOR PAPERS

Jan 27-29

1987 Annual Reliability and Maintainability Symposium Philadelphia, PA

Anthony Coppola RAMS Program Chairman

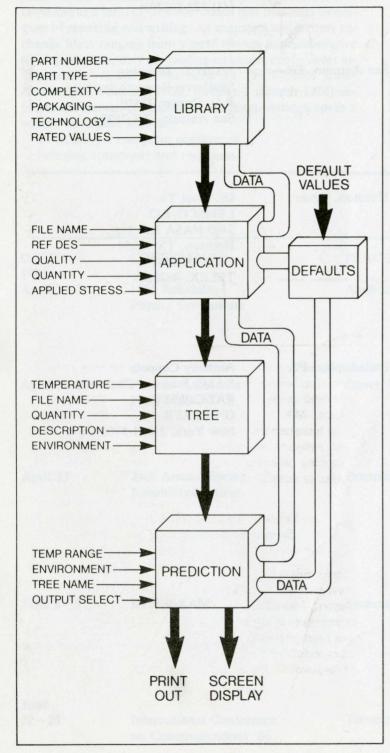
RADC/RBET

Griffis AFB

New York, 13441-5700 USA

New!

REAP



REAP is a powerful, computer-aided engineering (CAE) tool that combines a complete implementation of MIL-HDBK-217 with analytic capabilities greatly exceeding those of a reliability calculator.

...Provides critical reliability prediction data in seconds!

Introducing REAP^M — the productive new Reliability Effectiveness Analysis Program. REAP enables engineering professionals to perform complex reliability predictions quickly and easily by putting the entire MIL-HDBK-217D-1 database at their fingertips. REAP runs on DEC's Professional Series computers and all VAX/VMS systems, including the MicroVAX II.

REAP easily outperforms every other prediction program thanks to its many leading-edge features:

- Complete MIL-HDBK-217 implementation
- Unmatched ease of use
- Menu-driven user interface
- Analysis over a range of temperatures
- Easily defined/modified component library
- Sophisticated prompting and default values
- Modeling of complex configurations

REAP is part of SEA's family of predictive analysis programs. These programs represent the only integrated approach to the full range of predictive analysis operations.

For more information on REAP or other SEA products and services, call 617-762-9252, or write:



20 Vernon Street Norwood, MA 02062

REAP is a trademark of SEA.

DEC, VAX, VMS, and MicroVAX are trademarks of Digital Equipment Corporation.