**CALENDAR**

**AUGUST 1977**

First Annual Rocky Mountain Symposium on Microcomputers: Systems, Software, Architecture, August 31-September 2, Pingree Park Retreat, Fort Collins, Colorado. Contact Mike Andreas, Department of Electrical Engineering, Colorado State University, Fort Collins, CO; (303) 491-5767.

Sixteenth Lake Arrowhead Workshop, August 31-September 2, Contact Professor W. Chu, program chairman, Department of Computer Science, UCLA, Los Angeles, CA 90024.

**SEPTEMBER 1977**

IFAC Control and Management of Integrated Industrial Complexes, September 6-8, Toulouse, France. Contact M.G. Singh, L.A.A.S.-C.N.R.S. 7, avenue du Colonel-Roche, 31400 Toulouse, France.

COMPCON Fall 77, September 6-9, Washington, D.C. Contact COMPCON Fall 77, P.O. Box 639, Silver Spring, MD 20901; (301) 439-7007.

U.S. Department of Commerce Catalog Exhibition at INTELEC 77, September 6-10, Basel, Switzerland. Contact Catalog Exhibition Section, Office of International Marketing, United States Department of Commerce, Domestic and International Business Administration, Washington, D.C. 20230; (202) 377-3873.

1977 MUMPS Users' Group Meeting, September 7-9, Boston, Massachusetts. Contact Richard Zapolin, The MITRE Corp., P.O. Box 208, Bedford, MA 01730; (617) 271-2534.

Symposium on Data Analysis and Informatics, September 7-9, Rocquencourt, France. Contact IRIA Symposium Secretariat, External Relations Department, Domaine de Voluceau, Rocquencourt, B.P. 5, 78150 Le Chesnay, France.

Wescon, September 19-21 (date change), San Francisco, California. Contact W.G. Weber Jr., Wescon, 999 N. Sepulveda Blvd., El Segundo, CA 90245.

SEMICON/East 77, September 19-21, Boston, Massachusetts. Contact Golden Gate Enterprises, Inc., 1307 South Mary Ave., Suite 210, Sunnyvale, CA 94087.

New Orleans Hamfest/Computerfest, September 24-25, Kenner, Louisiana. Contact publicity chairman, Jan R. Edwards, P.O. Box 1011, Jefferson, LA 70181.


Fifth Data Communications Symposium, September 27-29, Snowbird, Utah. Contact Joe Marchese, IBM Corp., 18100 Frederick Pike, Gaithersburg, MD 20760.


Fifteenth Annual Allerton Conference on Communication, Control, and Computing, September 28-30, Urbana, Illinois. Contact Professor F. P. Preparata, Coordinated Science Laboratory, University of Illinois at Urbana-Champaign, Urbana, IL 61801.

Computers in Cardiology, September 29-October 1, Rotterdam, The Netherlands. Contact Dr. Jerome Cox, Department of Computer Science, Box 1045, Washington University, St. Louis, MS 63130.

**OCTOBER 1977**

Third International Symposium on Modelling and Performance Evaluation of Computer Systems, October 3-5, Bonn, Germany. Contact Dr. P. Heyderhoff, G.M.D. Postfach 1240, D-5205 St. Augustin, Germany.

Third Euromicro Symposium on Microprocessing and Microprogramming, October 3-6, Amsterdam, The Netherlands. Contact J. D. Nicoud, LCD EFP1, Bellerive 16, CH-1007, Lausanne, Switzerland.

MICRO-10, October 5-7, Niagara Falls, New York. Contact Gideon Frieder, Department of Computer Science, State University of New York at Buffalo, 4226 Ridge Lea Rd., Amherst, NY 14226; (716) 831-1351.

Third International Conference on Very Large Data Bases, October 6-8, Tokyo, Japan. Contact Professor Stuart Madnick, MIT, Sloan School of Management, 50 Memorial Dr., Cambridge, MA 02139.


DPMA's InfoExpo 77, October 9-12, Washington, D.C. Contact George Nagel, Washington Suburban Sanitary Commission, Hyattsville, MD.

Tenth Convention of Electrical and Electronic Engineers, October 10-13, Tel Aviv, Israel. Contact Daphna Knassim, 444 Madison Ave., New York, NY 10022.


Microprocessor Peripherals, October 11-12, Laurel, Maryland. Contact The Johns Hopkins University, Applied Physics Laboratory, Laurel, MD.

Computer Applications in Medical Care, October 11-12, Arlington, Virginia. Contact Dr. Abund O. Wist, Medical College of Virginia, Box 16, Richmond, VA 23286.
Third International Conference on Software Engineering: May 10-12, Atlanta, Georgia. Papers are solicited, in particular, which provide details of experience using software engineering techniques, including data which serves to evaluate these techniques. Examples of subjects likely to serve as focal points of the conference are the following: systems development methodology—testing and verification, automated aids; programming—languages, standards; management of software development—productivity, staffing; case studies—real-time systems, family systems; software quality—reliability, security, integrity; and education—curricula, professional development. Abstracts are requested by October 1, 1977. Four copies of the complete paper are due by November 15th; papers should be 2000 to 5000 words long (counting figures as 300 words apiece). Final copy is due March 15, 1978. Send abstracts and papers to the program chairman, Mr. L. A. Belady, IBM T. J. Watson Research Laboratory, P. O. Box 218, Yorktown Heights, NY 10598; (914) 945-2825.

Fourth Joint College Curricula Workshop in Computer Science and Engineering: February 2-3, Orlando, Florida. Short papers are invited in the areas of computer science and engineering and data processing education on topics related to these areas: current issues regarding data processing programs at community and junior colleges, information science programs, determinants of system learning performance with CAI, course and subject integration techniques (spiral approaches), analyses of curricula material, and special undergraduate teaching techniques. Three copies of contributed papers (double spaced, 2 to 15 pages long) should be sent to the program co-chairman, Professor David Rine, Information Science, Western Illinois University, Macomb, IL 61455, by November 15, 1977.

International Conference on Management of Data: June 29-30, 1978. Fast, Milano, Italy. Research and application papers are solicited on these and other topics: data base systems architecture, data base languages, data base models, distributed data bases, data base management systems on minicomputers, access control, performance evaluation, and applications. Three copies of papers, complete with name, affiliation, and telephone of author, are required by November 30, 1977. They should be sent to program committee chairman, Giorgio Vacca, Universita di Bologna, Via del Pellegrino, 40136 Bologna, Italy, or to Dennis Tsichritzis, Computer Systems Research Group, University of Toronto, Toronto, Canada M5S 1A4.

Fourth International Joint Conference on Pattern Recognition: November 7-10, 1978, Kyoto, Japan. Research papers on all aspects of pattern recognition are invited, including the following topics: statistical methods, clustering, image enhancement and restoration, line drawings, reconstruction problems, pattern perception, character recognition, speech recognition, robot vision, digital techniques, and special hardware. Submit three copies of either a long paper (about 6000 words) or a short paper (about 3000 words) with a summary by March 1, 1978, to program chairman, Professor Makoto Nagao, Department of Electrical Engineering, Kyoto University, Saky, Kyoto, 606 Japan. Camera-ready copy of accepted papers is due August 1, 1978.

CALENDAR

Continued from p. 104


Annual AICA Congress, October 12-14, Pisa, Italy. Contact Secretary, Italian Association for Computing Machinery, I.E.I.—C.N.R., Via S. Maria, 46, 56100 Pisa (Italy).

Tutorial on Oceanographic Application for Microcomputers, October 15, Los Angeles, California. Contact Professor Jack Lipovski, Electrical Engineering Department, University of Texas, Austin, TX 78712.

Oceans 77 Conference, October 15-19, Los Angeles, California. Contact conference secretary, Dave Weissman, Jet Propulsion Laboratory, 4800 Oak Grove Avenue, Mail Station 185-501, Pasadena, CA 91103; (213) 554-7278.

ACM National Conference, October 16-19, Seattle, Washington. Contact James S. Kelch, P.O. Box 16156, Seattle, WA 98116; (206) 935-6776.

SYSTEMS 77, October 17-21, Munich, W. Germany. Computer systems and their application, international seminars and trade fair. Munchener Messe- und Ausstellungs GmbH, Messegelande, Postfach 12 10 09, 800 Munchen 12, W. Germany.

International Conference on Modelling Semi-conductor Devices, October 18-20, Cernobbio, Como, Italy. Contact the Secretariat des Journées d'électronique de l'EPEL 16, chemin de Bellverve, CH-1007 Lausanne, Switzerland.

Design Automation Workshop, October 19-21, Michigan State University, East Lansing, Michigan. Contact Harry M. Taxin, Computer-Aided Design Dep., Hughes Aircraft Company, Culver City, CA 90230; (213) 391-0711, Ext. 2273 or 4186.


Second International Computer Music Conference, October 26-30, San Diego, Calif. Contact Computer Music Conference, University of California at San Diego, G-037, La Jolla, CA 92039.


Eighteenth Annual Symposium on Foundations of Computer Science, October 31-November 2, Providence, Rhode Island. Contact J. W. Carlyle, 4532 Boelter Hall, UCLA, Los Angeles, CA 90024; (213) 825-2240.

Computers in Aerospace, October 31-November 2, Contact H. J. Harrington, McDonnell Douglas Corporation, Department E411, Blvd. 106/4, St. Louis, MO 63166.


WANG LABORATORIES, November 1-3, Los Angeles, California. Contact Conference Director, Sheldon G. Adelson, 160 Speen St., Framingham, MA 01701.


AUTOTESTCON 77, November 2-4, Hyannis, Mass. For more information on the International Automatic Testing Conference, contact general chairman, E. B. Galton, RCA Corporation, P.O. Box 586, Burlington, MA 01803.

Aiscolmar Conference on Circuits, Systems and Computers, November 6-8, Pacific Grove, California. Contact John W. Woods, Rensselaer Polytechnic Institute, School of Engineering, Troy, NY 12181.

MIDCON, November 8-10, Chicago, Illinois. Contact Electronic and Electrical Expositions Inc., 999 N. Sepulveda Blvd., El Segundo, CA 90245; (213) 772-2965.

Sixth Texas Conference on Computing Systems, November 14-15, University of Texas. Contact Prof. James Sneeringer, Dep. of Computer Science, Painter Hall 3.28, University of Texas, Austin, TX 78712.

COMPSCAC Tutorials, November 8, Chicago, Illinois. Three daylong tutorials will precede the main conference. For further information see Update. Tutorial contact is Richard Merwin, Editor, IEETC, P.O. Box 32222, Washington, D.C. 20007.

Computer
Resume

DECEMBER 1977

Winter Simulation Conference, December 5-7, Gaithersburg, Maryland. Contact Paul F. Roth, B250 Technology Building, National Bureau of Standards, Washington, D.C. 20234; (301) 921-3545.


National Telecommunications Conference, December 5-7, Los Angeles, Calif. Contact Marvin K. Simon, Chairman, Technical Program, Jet Propulsion Laboratory, 4800 Oak Grove Dr., Pasadena, CA 91103 (213) 354-9321.


Decision and Control, Adaptive Processes, December 7-9, New Orleans, Louisiana. Contact K. S. Fu, Purdue University, School of Electrical Engineering, Lafayette, IN 47907.

Computer Networks Symposium, December 15, Gaithersburg, Maryland. Contact Computer Networks, P.O. Box 639, Silver Spring, MD 20901; (301) 639-7007.


1978 CONFERENCES

Hawaii International Conference on Systems Sciences, January 5-6, Honolulu, Hawaii. Contact conference chairman, Dr. Ralph H. Sprague, Jr., College of Business Administration, University of Hawaii, 2404 Maile Way, Honolulu, HI 96822.


Fourth Joint College Curricula Workshop in Computer Science and Engineering, February 2-3, Orlando, Florida. Contact Professor David Rine, Information Science, Western Illinois University, Macomb, IL 61455; (309) 296-1698.

CLEOS '78, the Second Conference on Laser and Electro-Optical Systems, February 7-9, San Diego, California. Contact publicy chairman, Milton Chang, Newport Research Corporation, 18235 Mt. Baldy Circle, Fountain Valley, CA 92708.


COMPON 78 Spring, February 28-March 2, San Francisco, California. Contact COMPON 78 Spring, P.O. Box 639, Silver Spring, MD 20901; (301) 639-7007.

Trans-national Data Regulation Conference, February, Brussels, Belgium. Contact Online, Cleveland Road, Uxbridge UB8 2DD, England.

Editorial schedule for...

IEEE TRANSACTIONS ON SOFTWARE ENGINEERING

Editor: Prof. Raymond T. Yeh, Dept. of Computer Science, Physics Bldg. 328, University of Texas, Austin, TX 78712

November 1977

Methodology
- "The Evolution of Programs: Automatic Program Modification," Nachum Dershowitz and Zohar Manna
- "On Partitioning Program-Graphs," Mr. R. Paige (Communicated by Jack Grimes)
- "Model, Design and Evaluation of a Compiler for a Parallel Processing Environment," J. L. Baer and C. Ellis
- "An Argument in Favor of Mechanized Software Production," Gruia-Catalin Roman (Communicated by Harlan Mills)

Languages
- "The Definition Mechanism for Standard PLI," Michael Marcotty and Frederick G. Sayward (Communicated by Thomas Cheatham)

Performance Modeling
- "Analysis of the Multiple Attribute Tree Data Base Organization," R. L. Kashyap, S. Subas, and S. B. Yao

Short Notes
- "A Contrast Between Language Level Measures," R. R. Oldehoeft (Communicated by Thomas Cheatham)
- "Computing With Impute Numbers: Automatic Consistency Checking and Units Conversion, Using Computer Algebra," David R. Stoutemyer (Communicated by Thomas Cheatham)

IEEE TRANSACTIONS ON COMPUTERS

Editor: Dr. Richard E. Merwin, P.O. Box 32222, Washington, D.C., 20007

September 1977

Applications
- "Iterative Solution of Linear Equations on a Parallel Processor System," V. Conrado and Y. Wallach

Dynamic Memories
- "Fast Random and Sequential Access to Dynamic Memories of Any Size," J. Lenfant

Image Processing
- "Least Squares Image Restoration Using Spline Basis Functions," H. S. Hou and H. C. Andrews
- "Image Processing by Transforms Over a Finite Field," I. S. Reed, T. K. Truong, Y. S. Kwoh, and E. L. Hall

Pattern Recognition
- "Computer Detection of Freehand Forgeries," R. N. Nagel and A. Rosenfeld

For subscription information on Transactions, circle Reader Service Number 78 on p. 111.
Classified Ads

Rates
Minimum charge — $30.00 up to 10 lines, average of six words per line; $3.00 per line thereafter. No ad shall be longer than 30 lines. Payment with order, due the first of the month prior to month of publication.

Exceptions — IEEE Computer Society members may place ads for positions at $10.00 up to 10 lines; $1.00 per line thereafter. Situations wanted ads for unemployed Society members are free. Include IEEE member number in either case.

FACULTY POSITION IN COMPUTER SCIENCE
The University of Alabama in Huntsville welcomes applications for faculty positions in Computer Science. Applications are invited to: Assistant Professor of Computer Science, September 1, 1977, or until filled. Candidacies must be addressed to: Dr. Mark E. Peterson, Chairperson, Computer Science, University of Alabama in Huntsville, PO Box 2247, Huntsville, AL 35807.

FACULTY POSITION: Area of interest and specialization is Computer Engineering. Applicants must be research oriented, have a Ph.D. and an Electrical Engineering background, and teaching and industrial experience is preferred. Interested persons may send resumes to: Dr. J. David Irwin, Dept. of Electrical Engineering, Auburn University, Auburn, AL 36832. An Equal Opportunity Employer.

Managers/Engineers: We are a technical recruiting firm specializing in the placing of highly motivated Engineers/Managers with our line client companies nationwide. There is never a charge for our service, no contracts to sign and our client companies assume all interview and relocation costs. You can be assured of confidential handling of your resume. Career Advisors, 125 Wolf Rd., Albany, NY 12205.

Computer science: Faculty position available in the Programs in Mathematical Sciences. Research productivity and the ability to teach computer science at graduate and undergraduate levels and to direct Ph.D. dissertations are required. Qualified applicants in mainstream computer science will be considered. Other things being equal, candidates with research interests in the hardware-software interface, databases, data base design, programming languages, or computer architecture will be given slight preference. Salaries, rank, and starting date are flexible. Send resume (indication of ethnicity and sex for affirmative action purposes is requested) no later than October 15, 1977 to:

Dr. Alexander L. Clark, Vice President for Academic Affairs
The University of Texas at Dallas
P.O. Box 886
Richardson, Texas 75080

The University of Texas at Dallas is an Equal Opportunity/Affirmative Action Employer.

Faculty Positions in Digital Systems: Applications are invited for faculty positions related to digital systems in the Department of Electrical Engineering at the University of Minnesota. Applicants should have a Ph.D. in Electrical Engineering or Computer Science and teaching and research capabilities in one or more of the following areas: computer architecture and design, large scale integration, and microcomputer distributed systems design. The Department has approximately 40 full-time faculty members in a wide spectrum of digital engineering. Preference will be given to people whose interests overlap with other areas of electrical engineering. The University is an affirmative action employer. Send detailed resume (by September 30th) to PROFESSOR LORNE CHAININ, University of Minnesota, Electrical Engineering Department, 123 Church St. S.E., Minneapolis, MN 55455.

COMPUTER ENGINEER
Faculty Position
Assistant Professor of Engineering
For graduate/undergraduate teaching and research. Knowledge in hardware, operating systems, compilers, architecture, real time applications, microcomputers. Recent or soon to finish Ph.D. in Computer Engineering or Computer Science. Send resume to:

Dr. N. R. Kornfield
Dean of Engineering
Widener College
Chester, PA 19013
(Suburban Philadelphia)

Computer Scientist: Texas Instruments Incorporated has a position available for a computer scientist at the Ph.D. level to perform applied research in areas that enhance the users' programming interface. Suggested backgrounds include: programming languages, artificial intelligence, compilers, software engineering. Some design and implementation experience is desirable. The successful candidate will be expected to make creative and innovative contributions to and interact with other software development in product divisions. Send resume in complete confidentiality to: Staffing Manager/Texas Instruments Incorporated, P.O. Box 5474, M/S 217/Dallas, Texas 75222.

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