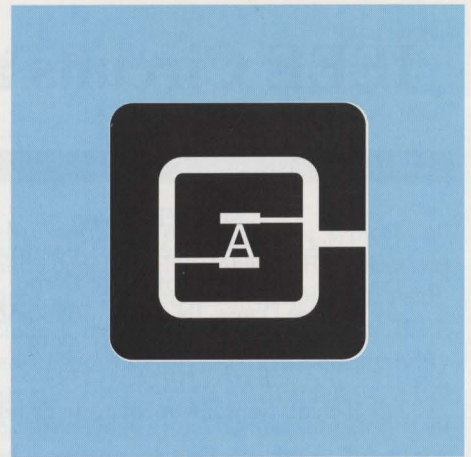


IEEE

CIRCUITS AND SYSTEMS

NEWSLETTER SOCIETY

Volume 5, Number 4, December 1994



In This Issue...

President's Report	3
Society Awards Nomination Criteria	4
Awards Nomination Forms	5
Chapter Notes	
Delhi Chapter	6
Tokyo Chapter	6
Region 8	7
Romania Chapter	7
The Adventures of the 'Umble Ohm	6
Additions to Distinguished Lecturers List.....	7
IEEE 1994 Fellow Profiles	8
Special Issue on VLSI for Video Signal Processors	10
ONR Grants	10
Additional Associate Editors of <i>CAS I</i>	11
Calls for Papers for Special Issues of <i>CAS I</i>	11
Coming Conferences	
38th MWSCAS	12
ISCAS '95	12
EURO-DAC '95	13
IV Brazilian School of Microelectronics	13
ICSICT '95	13
ISSCC '95	13
VLSI Design '95	13
Nonlinear Signal & Image Processing Workshop	13
ECCTD '95	13
Calls for Papers	
ISCAS '96	14
Combined ASP-DAC, CHDL, VLSI '95	14
Low Power Design Report	14
Crossword Puzzle	15
Fellow Nomination Procedure	16
New CAS Society Award Announced	16



SEPTEMBER

JUNE

MARCH

IEEE Circuits and Systems Society Newsletter

Editor

Michael K. Sain
Electrical Engineering Department
University of Notre Dame
Notre Dame, IN, USA 46556-5637
Phone: (219) 631-6538
Fax: (219) 631-4393
E-mail: jordan@medugorje.ee.nd.edu

IEEE Publishing Services

Robert Smrek
Production Manager
IEEE Service Center
445 Hoes Lane
P.O. Box 1331
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Phone: (908) 562-3944

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C.Y. Wu, *1994 APCCAS General Chairman*
L. P. Calóba, *1995 MWSCAS General Chairman*

CAS: HOW IS IT DOING?

President's Report

This is my last column as president of the Circuits and Systems Society for 1994. There have been a number of changes during this period. Before I present those changes, let me reintroduce your president for 1995: Professor Ruey-wen Liu of the University of Notre Dame.

The Board of Governors has approved an increase in the CAS membership fee from \$5 to \$7 and a 10% increase in the non-member subscription rate. The membership fee is primarily for the publication of the *Circuits and Systems Society Newsletter* and a small subsidy for the *Circuits & Devices Magazine*. Even at a \$7 membership fee, we are still the second lowest among the 35 IEEE societies. Our intention is to make the Newsletter financially self-supporting. The Technical Activities Division took action on the elimination of the Biomedical Technical Committee and the Solid-State Circuits Committee owing to their ostensible lack of technical and related other scheduled activities, and issued a call for proposals for new technical committees. The Division also announced the possibility of forming "technical tracks" to streamline the technical activities for which the Division is responsible. These tracks would somewhat mirror the track organization adopted at ISCAS'94. The purpose of these actions is to make sure that technical committees reflect the needs of the membership.

The popular Distinguished Lecturer Program has added four more distinguished lecturers for 1994-96. They are Professor Sung-Mo (Steve) Kang of the University of Illinois at Urbana-Champaign; Professor Robert Spence of Imperial College of Science, Technology and Medicine; Professor Keshab K. Parhi of the University of Minnesota; and Professor John Choma of the University of Southern California. The maximum support for each lecture has now been increased from US \$1,000 to \$2,000.

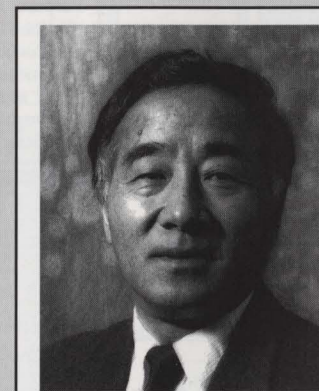
To help members and regions facing financial difficulties, we have shipped our surplus transactions and conference proceedings to selected individuals and chapters and/or sections. Also, under consideration by your Board of Governors is a proposal to adopt the concept for the IEEE to establish a new category of membership called the *IEEE Joint Membership*. Each Joint Membership consists of four joint members, pays a single full membership fee, and receives one publication-benefit like a full member does. Otherwise, each joint member

receives full benefits normally provided to a typical full member. A publication benefit includes the IEEE transactions and other publications at a reduced membership cost. Additional benefits include a reduced registration fee for IEEE members at conferences sponsored by the IEEE, and eligibility for potential member rank advancement to IEEE fellow. A full membership can be converted to a joint membership only if all the other three joint members are new members. Therefore, each joint member pays only one-fourth of a full membership fee. Since the IEEE does not have to bear the traditionally significant cost of any publication-benefit, this incremental cost should not impose a heavy financial burden on the IEEE, but will increase its membership, expand the technical activities and enhance its visibility.

We have made the societal awards more accountable by formalizing and strengthening the procedures and administrative details underlying the awards process. Specifically, the president will appoint awards committees chairs, each of whom in turn will select and appoint a committee of five, taking into consideration the geographical distribution and the technical interests of our membership. In this way, the committee appointment process can start right after the awards ceremony during ISCAS, resulting in more time to publicize the awards and to honor the most deserving. The past-president will then handle the awards details.

Finally, your Society allocated approximately \$50,000 of Design Automation Conference (DAC) surplus funds for CAD related activities. The use of DAC surplus for this purpose was previously agreed upon between CAS Society and DAC. Of this amount, \$44,000 was allocated for conference support that enhances and stimulates the DAC/CAD activities.

In this, my last column as president of the CAS Society, I wish to express my gratitude to members of the Board of Governors and the officers of our Society for their support, dedication, hard work and imagination to the CAS agenda. Indeed, it has been an exciting and rewarding year. Professor Ruey-wen Liu will serve as President next year. In the light of the contributions he has made already, the Society can look forward to productive and exciting times under his leadership.



Wai-Kai Chen

Gone Fishing

"This is my last column as President of the Circuits and Systems Society for 1994."

Outstanding Young Author Award

Professor Isao Shirakawa, Chair
Department of Information Systems Engineering
Osaka University, Yamada-Oka, Suita, Osaka, 565 JAPAN
Fax: +81-6-875-5902 E-mail: sirakawa@ise.eng.osaka-u.ac.jp
Purpose: To honor an especially meritorious paper published in any one of the CAS Society's Transactions whose author at the date of submission is less than 30 years of age. The award is based on general quality, originality, contributions, subject matter and timeliness. Anyone who is an author of papers published in any one of the CAS Society Transactions during the two calendar years preceding the award, who at the date of submission of the paper shall be less than 30 years of age is eligible. **Prize:** Certificate and \$250 check for each author (maximum of \$1,000 per award).

C

Education Award

Professor Adel S. Sedra, Chair
Office of the Vice President and Provost
Simcoe Hall, 27 King's College Circle, Room 225
University of Toronto, Ontario, CANADA M5S 1A4
Fax: (416) 978-3939 E-mail: adel@cstri.toronto.edu
Purpose: To honor a person with outstanding contributions to education in a field within the scope of the CAS Society as documented by publications of textbooks, research supervision of graduate and undergraduate students, development of short courses and participation in adult education. The award is based on general quality and originality of contributions and continuity of effort. Anyone who is a member of the CAS Society is eligible. **Prize:** Plaque and \$500 check.

A

Mac Van Valkenburg Award

Professor George Moschytz, Chair
Institute for Signal and Information Processing
Swiss Federal Institute of Technology
ETH-Zentrum, 8092 Zurich, SWITZERLAND
Fax: +41-1-262-0823 E-mail: moschytz@isi.ee.ethz.ch
Purpose: To honor a person with outstanding technical contributions in a field within the scope of the CAS Society and outstanding leadership in the field. The award is based on quality and significance of contribution and continuity of technical leadership. Anyone who is a member of the CAS Society is eligible. **Prize:** Plaque and \$1,000 Check.

S

Darlington Award

Professor Josef A. Nossek, Chair
Institut für Netzwerktheorie und Schaltungstechnik
Technische Universität München
Arcisstr. 21, 80333 München, GERMANY
Fax: +49-89-2105-8504 E-mail: nossek@nws.e-technik.tu-muenchen.de
Purpose: To recognize the best paper bridging the gap between theory and practice published in the *IEEE Transactions on Circuits and Systems*. The award is based on general quality, originality, contributions, subject matter and timeliness. Anyone who is an author of papers bridging the gap between theory and practice published in the *IEEE Transactions on Circuits and Systems* during the two calendar years preceding the award is eligible. **Prize:** Certificate and \$250 check for each author (maximum of \$1,000 per award).



Guillemin-Cauer Award

Dr. Kenneth W. Martin, Chair
Stanley Ho Professor of Microelectronics
Department of Electrical and Computer Engineering
University of Toronto, CANADA M5S 1A4
Fax: (416) 971-2326 E-mail: martin@eecg.toronto.edu
Purpose: To recognize the best paper published in the *IEEE Transactions on Circuits and Systems*. The award is based on general quality, originality, contributions, subject matter and timeliness. Anyone who is an author of a paper published in the *IEEE Transactions on Circuits and Systems* during the two calendar years preceding the award is eligible. **Prize:** Certificate and \$250 check for each author (maximum of \$1,000 per award).

A

Meritorious Service Award

Dr. Philip Lopresti, Chair
Engineering Research Center
AT&T Bell Laboratories
P.O. Box 900
Princeton, NJ 08540
Fax: (609) 639-2393 E-mail: pvl@ohm.att.com
Purpose: To honor a person with outstanding long-term service to the welfare of the CAS Society. The award is based on dedication, effort and contributions. Anyone who is a member of the CAS Society is eligible. **Prize:** Plaque and \$500 check.

W

Chapter-of-the-Year Award

Professor Ruey-wen Liu, Chair
Department of Electrical Engineering
University of Notre Dame
Notre Dame, IN 46556
Fax: (219) 631-4393 E-mail: ruey-wen.liu.1@nd.edu
Purpose: To recognize the CAS Society Chapter with the best yearly activities. The award is based on best yearly activities in the categories of Chapter-sponsored technical activities, increase in membership and participation in BOG meetings. Anyone who is a member of the CAS Society Chapters is eligible. **Prize:** Certificates to Chapter Officers.

A

CSVT Transactions Best Paper Award

Dr. Ming L. Liou, Chair
Department of Electrical and Electronic Engineering
Hong Kong University of Science and Technology
Clear Water Bay, Kowloon, HONG KONG
Fax: +852-358-1485 E-mail: eeliou@uxmail.ust.hk
Purpose: To recognize the best paper published in the *IEEE Transactions on Circuits and Systems for Video Technology*. The award is based on general quality, originality, contributions, subject matter and timeliness. Anyone who is an author of papers published in the *IEEE Transactions on Circuits and Systems for Video Technology* during the two calendar years preceding the award is eligible. **Prize:** Certificate and \$250 check for each author (maximum of \$1,000 per award).

R

CAD Transactions Best Paper Award

Professor Malgorzata Marek-Sadowska, Chair
Department of Electrical Engineering and Computer Science
University of California, Santa Barbara, CA 93106
Fax: (805) 893-3262 E-mail: mms@drum.ece.ucsb.edu
Purpose: To recognize the best paper published in the *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*. The award is based on general quality, originality, contributions, subject matter and timeliness. Anyone who is an author of a paper published in the *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* during the two calendar years preceding the award is eligible. **Prize:** Certificate and \$250 check for each author (maximum of \$1,000 per award).

D

Technical Achievement Award

Professor S. Louis Hakimi, Chair
Department of Electrical & Computer Engineering
University of California at Davis
Davis, CA 95616
Fax: (916) 752-8428 E-mail: slhakimi@ucdavis.edu or mitchell@ece.ucdavis.edu
Purpose: To honor a person with outstanding technical contributions over a period of years within the scope of the CAS Society as documented by publications (including patents). The award is based on the general quality and originality of contributions and continuity of effort. Anyone who is a member of the CAS Society is eligible. **Prize:** Plaque and \$500 check.

S

IEEE Circuits and Systems Society 1995 Outstanding Paper Award Nomination

Outstanding Young Author Award—CAD Transactions Best Paper Award
Guillemin-Cauer Award—CSVT Transactions Best Paper Award
Darlington Award—VLSI Transactions Best Paper Award

Paper Award Recommended: _____

Paper Title: _____

Paper Authors: _____

Paper Listing:

Name of Transactions: _____

Month: _____ Year: _____ Pages: _____

Nominator:

Name: _____ Tel (day): _____ Tel (home-opt.): _____

Address: _____ Fax: _____ E-mail: _____

Basis for Nomination:

Please give the reasons you believe this paper is deserving of the outstanding paper award. Judging is based upon general quality, originality, contribution, subject matter, and timeliness. Continue on additional page(s).

IEEE Circuits and Systems Society 1995 Society/Achievement Award Nomination

Education Award—Mac Van Valkenburg Award—Meritorious Service Award
Chapter-of-the-Year Award—Technical Achievement Award

Name of Award: _____ Date: _____

Nominee: _____

Name: _____

Address: _____ Present Employment Position(s): _____

_____ Highest Degree Attained: _____

_____ Birthdate: _____

_____ Telephone (day): _____

Nominator:

Name: _____ Telephone (day): _____

Address: _____ Tel(home-opt.): _____

_____ Fax: _____

_____ E-mail: _____

1. Proposed Citation:

Provide a brief statement, not exceeding 100 words, giving the major accomplishments for which the award is being made. This will be used if the nominee is selected as the awardee. Continue on separate page(s).

2. Basis for Nomination:

Prepare a statement not exceeding 750 words on why the candidate is being nominated for the award. This statement should then be followed by the record of accomplishments of the candidate as an educator, as a researcher and/or as an administrator, as appropriate. Continue on separate page(s).

3. Curriculum Vitae:

Include degrees earned (list universities and granting dates); other postgraduate study; record of all positions held (chronologically starting with the most recent position and outlining the duties for each); IEEE activities and offices; other society memberships and offices; awards, honors, publications, inventions and other relevant contributions. Continue on separate page(s).

4. Publications:

List all books, book chapters, journal papers and patents published. If appropriate, include these in the vitae. Select no more than 10 of the most important publications stating the engineering significance of each. Continue on separate page(s).

5. References:

No more than five brief supporting letters from colleagues (and former students for the CAS Society Education Award) should be included with each award nomination. List the names of the references on the nomination form. The reference letters can either be collected by the nominator and forwarded unopened to the award committee chair or the references can be instructed to forward their recommendations directly to the chair. All reference letters must be received by the due date of the nominations, February 1, 1995.

TOKYO CHAPTER

The CAS Society Tokyo Chapter cooperated with the Technical Groups on Circuits and Systems, Nonlinear Problems, Digital Signal Processing and VLSI Design of the Institute of Electronics, Information and Communication Engineers (IEICE) in holding the Karuizawa Workshop on Circuits and Systems on April 11-12, 1994 at Karuizawa Prince Hotel, Karuizawa, Japan. This is a well-known resort area in the mountains one hundred and fifty kilometers north of Tokyo.

Since its inception in 1986, this workshop has repeatedly been one of the most preeminent and successful annual workshops on circuits and systems held in Japan covering all areas of circuits and systems. This year's was no exception. This workshop particularly encourages young researchers' active participation. There were over two hundred participants, and more than seventy papers were presented in sixteen sessions covering all areas of circuits and systems.

One highlight of the workshop was the plenary session given by Professor S. Kumagai of Osaka University. His talk entitled "Concurrent Engineering and Net Theory" was very well-received.

A panel discussion on "Hardware/Software Codesign" was another highlight. Following a tutorial talk by Professor H. Yasuura of Kyushu University, five different panelists and approximately sixty participants engaged in a lively discussion of the topic.

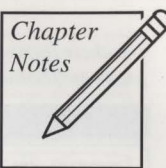
In addition, sixteen invited papers were presented. Among those presentations were such topics as, "Issues and Perspectives in Circuit Synthesis and Optimization", "Trends of Performance Driven Layout CAD", "Practice of Concurrent Engineering to Drastically Shorten the Time to Market of New Products Development" and "Visualization of Algorithms as Teaching and Thinking-Out Tools".

The Eighth Karuizawa Workshop on Circuits and Systems is scheduled for April of 1995 at the same conference site.

— Takashi Matsumoto
Chapter Chair

CAS DELHI JOINT CHAPTER

Chapter Notes



J.K. Pal
Engineers India Limited
New Delhi

IEEE Delhi and its Joint Chapter on Circuits, Systems and Control organized three one-day meetings during the first six months of the year. The first was a tutorial session on MATLAB at the Electrical Engineering Department, Delhi College of Engineering (DCE), on March 19, 1994.

The session started with Prof. J.K. Das of DCE and Dr. J.K. Pal of IEEE, Delhi, delivering the welcome address. Prof. P.E. Sharma, principal, DCE, inaugurated the tutorial session. In his very illuminating inaugural address, Professor Sharma highlighted the importance of proper training and continuing education in the important branch of study of control engineering.

The technical session started with Dr. Chakraborty of IIT, Kharagpur, giving a tutorial introduction to MATLAB. Prof. Y.P. Singh spoke on MATLAB and its various tool boxes and their application for control system design. Mr. J. Govindhakannan of Engineers India, Ltd., spoke

on linear quadratic Gaussian/loop transfer recovery design and computations involved to identify potential use of MATLAB. Dr. J.K. Pal, chairman, Joint Chapter (of Engineers India, Ltd.) deliberated upon changing computing environment for control system design and implementation. He covered some aspects of evolving concepts of open system architecture in control computing and issues of open MATLAB architecture and its working in a general open computing environment. Laboratory sessions were arranged in the Computer Laboratory of DCE. This was directed by Dr. Y.P. Singh, and Mr. Kochar of Vision Infotech installed the software as a measure of courtesy extended to IEEE. About 40 participants attended.

The next seminar, Power System Monitoring and Control, was on April 16, 1994, at the Electrical Engineering Department, IIT Delhi. Mr. William I. McMillan, president of Power Measurements, Ltd., Canada, delivered the talk. He explained the features of a system manufactured by them using video presentation. Prof. J. Nanda, Department of Electrical Engineering, IIT Delhi, chaired the technical session. Lt. Col. Vinod Behl of Beghum India Consultants Pvt., Ltd., made a few remarks. About 30 participants attended the meeting. Lunch was served in a nearby restaurant to the participants courtesy of Beghum India Consultants. A momento was presented to Mr. McMillan on behalf of IEEE by Professor Nanda.

On May 14, 1994, IEEE Delhi and its Joint Chapter on Circuits, Systems and Control celebrated their major annual event to commemorate Professor A.K. Mahalanabis (Ex-IIT Delhi) who, within a relatively short

span of his lifetime, gave a new direction to control and estimation theory, research on theory, and application of these techniques to power, communication engineering and digital signal processing in India while being at IIT Delhi.

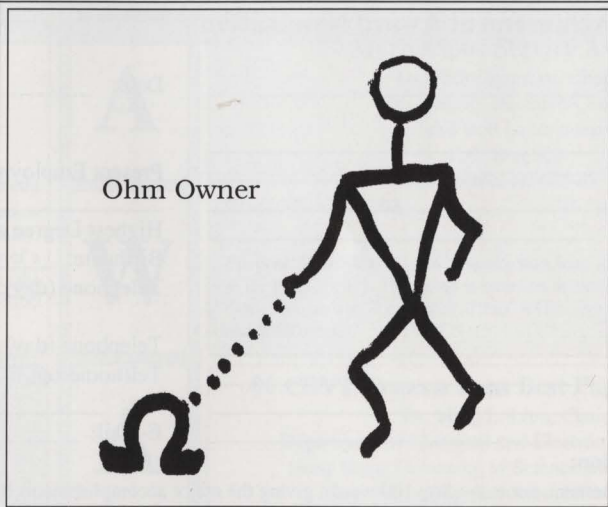
This year's seminar, held at the Senate Room of IIT, Delhi, was on communication science. Mr. P.K. Shrivastava, chairman, IEEE Delhi, presented a momento to the technical session chair of the seminar, Prof. S.C. Duttaroy of IIT Delhi. Professor Duttaroy spoke in memory of Professor Mahalanabis, during which he touched upon the noble aspects of Professor Mahalanabis' personality and remembered his personal association with

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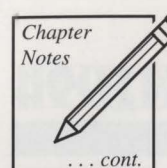
THE ADVENTURES OF ...

...THE 'UMBLE OHM

...Shlomo Karni



Chapter Notes



REGION EIGHT WORKSHOPS

Anthony C. Davies
King's College
University of London

The Second Workshop on Nonlinear Dynamics of Electronic Systems (NDES'94) took place in July at the University of Mining and Metallurgy of the historic city of Krakow, former capital of Poland. It was attended by some 60 delegates, with representation from France, Germany, Hungary, Ireland, Italy, Japan, Russia, Romania, Spain, Switzerland, Ukraine, UK, USA and, of course, Poland. The program included talks by invited experts including Leon Chua from Berkeley, USA, Martin Hasler from Lausanne, Switzerland, Tetsuro Endo of Japan and Rene Lozi from Nice, France.

Following the workshop, a pleasant outing was arranged in which participants took part in a raft-journey on the Dunajec River, in the Pieninski National Park, where they had the opportunity to observe some chaotic dynamics and turbulence at close hand, as well as a bifurcation formed by the Poland-Slovakia national border which follows the winding route of the river.

Dr. Maciej Ogorzalek and his colleagues at the University of Mining and Metallurgy are to be congratulated on their hard work and excellent organization of this very successful event, and for the supply of sufficient liquid refreshments to ensure that the participants could survive the exceptionally high environmental temperatures which were affecting Central Europe at the time.

Proceedings of NDES'93

A book containing extended versions of the papers presented at NDES'93 in Dresden, edited by A.C. Davies and W. Schwarz, has been published by World Scientific Publishing Co. Copies are available for 86 dollars (half price for participants of NDES'93).

NDES'95

The Third Workshop on Nonlinear Dynamics of Electronic Systems (NDES'95) is planned for Dublin, Ireland, July 28-29, 1995. For details, contact Dr. Michael Peter Kennedy (mpk@midir.ucd.ie).

List of CAS Distinguished Lecturers Expanded

At its meeting held in London on May 29, 1994, the CAS Board of Governors approved the addition of four new distinguished lecturers. Their names, addresses and the titles of the talks they have offered to present at CAS chapters are given below. For further information about inviting any of the CAS distinguished lecturers, please contact the chair of the CAS Distinguished Lecturers Program: B.A. Sheno, Department of Electrical Engineering, Wright State University, Dayton, Ohio, 45435. Ph: (513) 873-5033; Fax: (513) 873-5009; E-mail: bsheno@kiwi.cs.wright.edu.

Sung-Mo Kang

Department of Electrical Engineering
University of Illinois
Urbana-Champaign, IL 61801
Ph: (217) 244-0577, Fax: (217) 244-1764
E-mail: kang@uivenus.csl.uiuc.edu
Title: *High Speed Electrical and Optical Interconnects: Their Modeling and Computer-Aided Design*

Keshab K. Parhi

Department of Electrical Engineering
University of Minnesota
200 Union St. S.E.
Minneapolis, MN 55455
Ph: (612) 624-4116, Fax: (612) 625-4583
E-mail: parhi@ee.umn.edu
Titles: *Pipelined VLSI Digital Filters High-Level Transformations for DSP Synthesis*

John Choma, Jr.

Department of Electrical Engineering
University of Southern California
University Park; MC: 0271
Los Angeles, CA 90089-0271
Ph: (213) 740-4692, Fax: (213) 915-0944
E-mail: johnc@mizar.usc.edu
Titles: *Signal Flow Tools for Design-Oriented Circuit Analysis Broadbanded Analog Integrated Circuits*

Robert Spence

Department of Electrical Engineering
Imperial College of Science, Technology & Medicine
Exhibition Road
London SW7 2BT, England
Ph: +44 71-225-8505, Fax: +44 71-823-8125
Titles: *Visualization in Circuit Design Design 2020 AD*

ROMANIA CHAPTER

Our Chapter was founded in 1991 and started to work in 1992. Since this time, we have organized several scientific and educational meetings. These include a Workshop on Nonlinear Circuits and Systems in October, 1992, a Panel Discussion on Teaching of Circuit Theory and Systems Theory in November, 1992 and the First International Symposium on Signals, Circuits and Systems in October, 1993.

This summer we established a CAS chapter library containing recent proceedings of international conferences and books. If anyone has a surplus of recent conference proceedings or books in CAS area, please contact me or send them to me.

Call for Papers

Next year we plan to organize the Second International Symposium on Signals, Circuits and Systems on October 19-21 in Iassy. Some well-known personalities in our area agreed to participate in the scientific committee of this symposium. These include Martin Hasler from Lausanne, Anthony Davies from London, Wolfgang Schwartz of Dresden and Michael Kennedy from Dublin.

Author's Schedule

March 1, 1995
submission of papers
June 1, 1995
notification of acceptance
July 1, 1995
submission of camera-ready copies

For further information please contact Prof. Liviu Goras, Technical University Iasi, Faculty of Electronics and Telecommunications, Bd. Copou nr.4, Iasi 6600, Romania. Phone: +40.32.142283, fax: +40.32.147923, E-mail: Igoras@uaic.ro.

— Florin Constantinescu
Chapter Chair

FELLOW PROFILES-1994



Kurt J.
Antreich

Kurt Antreich received the Dipl.-Ing. degree from the Technical University of Munich, Germany, in 1959, and the Dr.-Ing. degree from the Technical University Fridericiana Karlsruhe, Germany, in 1966.

In 1959 he joined AEG-Telefunken where he was involved in computer-aided filter and circuit design for telecommunication systems. From 1968 to 1975 Dr. Antreich was head of the Advanced Development Department of AEG-Telefunken, Backnang, Germany. This Division of AEG-Telefunken has merged with Bosch GmbH and is now named ANT Bosch Telecom.

Since 1975 Dr. Antreich has been professor and head of the Institute of Electronic Design

Automation at the Technical University of Munich, Germany. He and his research group are publishing technical papers on a wide range of electronic design automation and have implemented various well-known design tools. He received the best paper award from the Institute of Informationtechnology Engineers (ITG), Germany, in 1976.

Dr. Antreich was a member of the executive board of ITG from 1979 to 1982 and chairman of the professional group "CAD" of ITG from 1985 to 1989. He has served for various conferences as a member of steering and program committees and for several technical journals as a member of editorial boards.

Zhenming Chai

For leadership in building a premier research and teaching institute in electronics, and propelling circuits and systems activities in China.

Zhenming Chai received the B.S. degree from Shanghai Chiao-Tung University in 1955 and the Ph.D. E.E. (equivalent) from Academia Sinica in 1962. He was awarded the Humboldt-Fellowship as visiting professor at Technical University of Aachen, Germany, from 1979 to 1981. Having served as institute director at Academia Sinica from 1984 to 1991, he is currently chairman of the Scientific Council at the Institute of Electronics at Academia Sinica. He is also a councilor of the Academic Degree Committee of the State Council in China.

Dr. Chai's research has been on CAS theory,

communication systems, signal and image processing, neural network, video and HDTV technologies. He has published over eighty technical papers, and organized or chaired twelve international and national conferences in these fields.

Dr. Chai is editor-in-chief of the *Journal of Electronics* and editor of *Scientia Sinica* and *Chinese Science Bulletin*. In addition, he is the founding president of IEEE-CAS chapter in Beijing, vice-president of China Association of Medical Imaging Technology and fellow and CAS Society acting-chair of the Chinese Institute of Electronics.

Edward Kamen

For contributions to the algebraic theory of linear infinite dimensional and arbitrary length time delay systems.

Edward Kamen is a professor of electrical and computer engineering and holds the Julian T. Hightower Chair in Manufacturing Engineering at the Georgia Institute of Technology in Atlanta, Georgia. He received the B.E.E. degree from Georgia Tech in 1967, and the M.S. and Ph.D. degrees in electrical engineering from Stanford University in 1969 and 1971, respectively.

Dr. Kamen was on the faculty of the School of Electrical Engineering at Georgia Tech from 1971 to 1981 and was professor of electrical engineering at the University of Florida from 1981 to 1986, serving as associate director of R. E. Kalman's Center for Mathematical System Theory during part of that time. From April, 1986 to December, 1990, he was professor and chairman of electrical engineering at the University of Pittsburgh.

His current research interests include linear time-varying systems, adaptive control of systems with time-varying parameters, multiple target tracking based on symmetric measurement equations (the SME filter formulation), modeling and control of event timings in discrete-event dynamical systems, and applications of systems and control to manufacturing.

Dr. Kamen is the author of over one hundred technical publications and the author of the textbook *Introduction to Signals and Systems*. He recently completed a three-year term as an associate editor of the *IEEE Transactions on Automatic Control*, and is an associate editor of *Mathematics of Control, Signals, and Systems*. He has been appointed program chairman of the 34th Decision and Control Conference, to be held in New Orleans in December, 1995.

IEEE CAS MEMBERS

Robert J. Thomas

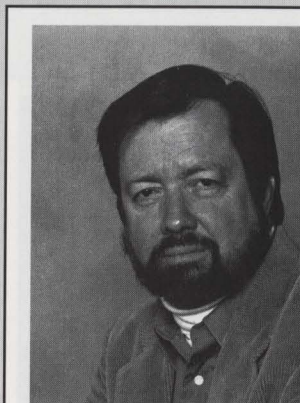
For leadership in power systems engineering education and research, and for contributions to the analysis and control of power systems.

Robert J. Thomas is a professor of electrical engineering at Cornell University. During the 1979-1980 academic year he spent his sabbatical leave with the U.S. Department of Energy Office of Electric Energy Systems (EES) in Washington, D.C. In 1987 and 1988 he was on assignment from Cornell University to the National Science Foundation as the first program director for the Power Systems Program in the Engineering Directorate's Division of Electrical Systems Engineering (ESE).

Dr. Thomas has been a consultant to NASA, the Aero-space Corporation, the Oak Ridge National Laboratories, the Solar Energy Research Institute and to the U.S. Department of Energy on various electric utility system related issues. He was the *IEEE Transactions on Circuits and Systems* Associate Editor for Power Networks, Graph Theory, and Large-Scale Systems. He is

an associate editor of the John Wiley and Sons, Inc. *Journal of Computer Applications in Education* and the Control System Society's representative on the IEEE United States Activity Board's Energy Policy Committee.

His current research interests are in the areas of analysis and control of nonlinear continuous and discrete time systems with applications to large-scale electric power systems. His educational research interests are concerned with electronically mediated instruction in engineering education and collaborative design. He is a member of the honorary and professional societies Tau Beta Pi, Eta Kappa Nu, Sigma Xi, ASEE and the IEEE. Dr. Thomas is currently a member of the Board of Directors, Cornell's principal investigator and director of Cornell Coalition Projects for the SYNTHESIS National Engineering Education Coalition.



Robert J.
Thomas

Bernard C. Levy

For contributions to the modeling and estimation of multidimensional random processes.

Bernard C. Levy received the diploma of Ingénieur Civil des Mines from the Ecole Nationale Supérieure des Mines in Paris, France, and the Ph.D. degree in electrical engineering from Stanford University. From July 1979 to June 1987 he was assistant and then associate professor in the Department of Electrical Engineering and Computer Science at M.I.T.

Since July 1987, he has been with the University of California at Davis, where he is currently professor of electrical engineering and a member of the Graduate Group in Applied Mathematics. He was a consultant with the Charles Stark Draper Laboratory in Cambridge, Massa-

chusetts from 1986 to 1989, and from January to July 1993, he was a visiting researcher at the Institut de Recherche en Informatique et Systèmes Aléatoires (IRISA), in Rennes, France.

Dr. Levy's research interests are in multidimensional and statistical signal processing, estimation, detection, inverse problems and scientific computing. He is a member of SIAM and the Acoustical Society of America, an associate editor for the journal *Multidimensional Systems and Signal Processing*, and a member of the Image and Multidimensional Signal Processing Technical Committee of the IEEE Signal Processing Society.



Bernard C.
Levy

Chen-Ching Liu

For contributions to development of knowledge-based systems for power system applications.

Chen-Ching Liu received the B.S. and M.S. degrees in electrical engineering from National Taiwan University, Taiwan, in 1976 and 1978, respectively, and the Ph.D. from the University of California at Berkeley in 1983. Since then, Dr. Liu has been with the University of Washington, where he is a professor of electrical engineering.

Dr. Liu's areas of interest are knowledge engineering methodologies/applications and power system analysis. He chaired the CAS Technical Committee on Power Systems and Power

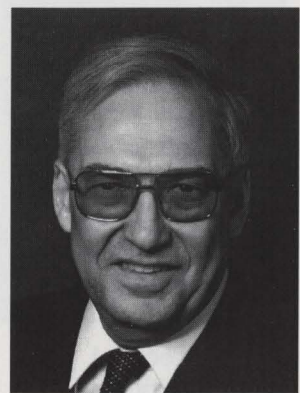
Electronics Circuits and served as an associate editor of the *CAS Transactions*.

Dr. Liu has been working on power system dynamics, particularly on the analysis of dynamic mechanisms leading to a voltage collapse. He has been extensively involved in the development of knowledge-based systems and related methodologies for power system applications over the last decade and served as guest editor of a special issue, "Knowledge Based Systems in Electric Power Systems," of the *Proceedings of the IEEE*, in May of 1992.



Chen-Ching
Liu

...FELLOWS CONTINUED



Ahmed M. El-Serafi

Ahmed M. El-Serafi

For contributions to the understanding of the cross-magnetizing effect in synchronous machines.

Ahmed M. El-Serafi received the B.Sc. degree from Cairo University, Egypt, in 1950, the Ph.D. degree from the University of Manchester Institute of Science and Technology, UK, in 1955 and the Dr.-Ing. degree from the Technical University (T.H.) Darmstadt, Germany, in 1964, all in electrical engineering. He held positions at Cairo University, Egypt, and the University of Manchester Institute of Science and Technology, UK, as well as the Technical University (T.H.) Darmstadt, Germany, where he was a fellow of the Alexander von Humboldt Foundation from 1961 to 1965.

Dr. El-Serafi also served as a consultant for the Egyptian Commission of Electricity from 1957 to 1961, and head of the Electrical Engineering Department at the University of Libya from 1965 to 1968. He then joined the University

of Saskatchewan, Saskatoon, Saskatchewan, Canada, where he is presently professor of electrical engineering and a member of the Power Systems Research Group.

From 1986 to 1988, he was the director of graduate studies and the chairman of the research committee of the Department of Electrical Engineering.

Dr. El-Serafi is the author or co-author of more than one hundred twenty scientific papers and several technical reports. His current research works are in the areas of dynamic performance of synchronous machines, their modeling, the representation of saturation and the cross-magnetizing phenomenon in their models, the torsional oscillations of turbo-generators and the use of dual-excited synchronous generators as wind-driven generators.

IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS FOR VIDEO TECHNOLOGY

>> CALL FOR PAPERS <<

SPECIAL ISSUE ON VLSI FOR VIDEO SIGNAL PROCESSORS October 1995

The purpose of this special issue is to report on some recent advances in hardware and software architectures for programmable VLSI video signal processors. The topics of interest for this special issue include, but are not limited to:

- Caching and memory bandwidth
- Models of interprocessor communication
- Applications of video signal processors
- Programming models and software tools
- Motion estimation engines
- VLSI implementation
- Low power architectures
- Specialized instruction sets
- MIMD, SIMD and multiple issue architectures

The Guest Editors for this Special Issue are:

Dr. Bryan Ackland
AT&T Bell Laboratories
4E-508
Holmdel, NJ 07733
USA
bda@research.att.com

Dr. Takao Nishitani
NEC C&C Research Labs.
4-1-1 Miyazaki, Miyamae-Ku
Kawasaki 213
JAPAN
takao@dsp.cl.nec.co.jp

Prof. Peter Pirsch
Univ. of Hannover
Appelstr. 9A,
D-30167 Hannover
GERMANY
pirsch@tnt.uni-hannover.de

Manuscripts are subject to review. Please send your submission, before **February 1, 1995**, to one of the guest editors listed above. All manuscripts should conform to the standard format as indicated in the "Information for Authors" printed in the *IEEE Transactions on Circuits and Systems for Video Technology*.

Innovative Research Funding Available

The Office of Naval Research is interested in funding integrated science research and technology development in the area of innovative circuits and systems by exploiting the latest advances in electronic devices. In particular, ONR is interested in funding the following topics:

- Circuits employing quantum well devices
- Circuits employing resonant tunneling devices
- Circuits employing single electron transistors
- Modeling, analysis, and simulation of these circuits
- Innovative circuit architectures for signal processing
- High power RF circuits and devices
- Low power digital logic circuits
- Cellular neural network circuits and analysis
- Ultra-reliable logic circuits
- Innovative and unconventional circuits

This is the traditional ONR individual research grants program, and will be funded as such. Please send a 2- to 3-page "white paper" to:

Dr. Clifford Lau
Director (Acting)
Electronics Division, ONR 312
800 N. Quincy Street
Arlington, VA 22217-5660
(703) 696-4216
FAX: (703) 696-2611
clau@charm.isi.edu

CAS TRANSACTIONS: PART I

Martin Hasler Names Two Additional Associate Editors for CAS Transactions: Part I

Two additional associate editors have been named by Dr. Martin Hasler, editor of the *IEEE Transactions on Circuits and Systems, Part I*.

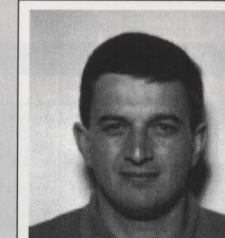
Alberto Tesi received the Laurea in Electronic Engineering from the Università di Firenze, Italy, in 1984. Upon completion of this degree, he worked as a system engineer at Autostrade s.p.a (Italian Highway Agency) until 1986. In 1989 he was granted the Ph.D. degree from the Università di Bologna, Italy. Then, in 1990, Dr. Tesi joined the Dipartimento di Sistemi e Informatica of the Università di Firenze, where he is currently an associate professor of automatic control. His research interests are mainly in robust control of uncertain linear systems and analysis of nonlinear dynamics of complex systems including chaos and neural networks. Dr. Tesi has co-authored more than fifty technical papers on these topics.

Marian K. Kazimierzczuk received the M.S., Ph.D. and D.Sci. degrees in electronics engineering from the

Department of Electronics, Technical University of Warsaw, Warsaw, Poland, in 1971, 1978 and 1984, respectively.

He was a teaching and research assistant from 1972 to 1978 and assistant professor from 1978 to 1984 with the Department of Electronics, Institute of Radio Electronics, Technical University of Warsaw, Poland. In 1984, he was a project engineer for Design Automation, Inc., Lexington, Mass. In 1984-85, he was a visiting professor with the Department of Electrical Engineering, Virginia Polytechnic Institute and State University, Virginia. Since 1985 he has been with the Department of Electrical Engineering at Wright State University, Dayton, Ohio, where he is currently a professor.

Dr. Kazimierzczuk has published over 120 technical papers, more than 50 of which have appeared in IEEE transactions and journals. In 1991, he received the IEEE Harrell V. Noble Award for his contributions to the fields of aerospace, industrial and power electronics. He is also a recipient of the 1991 Presidential Award for Faculty Excellence in Research and the 1993 Teaching Award from Wright State University. He serves as an associate editor for the *Journal of Circuits, Systems and Computers*.



Alberto Tesi



Marian K. Kazimierzczuk

>> CALLS FOR PAPERS <<

TRANSACTIONS ON CIRCUITS AND SYSTEMS, PART I

October 1995

Special Issues

November 1995

Nonlinear Waves, Patterns and Spatio-Temporal Chaos in Dynamic Arrays

In the last few years, there have been many significant advances in the study of wave phenomena in physics, chemistry, biology, ecology, etc. It is expected that the nonlinear wave phenomena will lead to new applications in communications and signal processing. The nonlinear dynamic arrays are nothing else than a more evolved way of artificial neural networks where information is not any more processed by convergence to equilibria, but where the processing takes place through more complicated dynamics. First examples are optical character recognition by autowaves and texture recognition by Turing patterns.

The topics of this special issue include, but are not limited to:

- Autowaves
- Spiral waves
- Concentric (target) waves
- Scroll waves
- Solitons
- Turing patterns
- Spatio-temporal chaos
- Reaction-diffusion dynamics

Guest Editor

Professor Leon O. Chua
Department of Electrical Engineering and Computer Sciences
University of California at Berkeley
Berkeley, CA 94720

Manuscripts are subject to review and should be submitted to Professor L.O. Chua before **January 15, 1995**. All manuscripts should conform to the standard format as indicated in the "Information for Authors" printed in the *IEEE Transactions on Circuits and Systems*.

Low-Voltage and Low-Power Analog and Mixed-Mode Circuits and Systems

The topics of this special issue include, but are not limited to: Fundamental Limitations for Low-Voltage and Low-Power Circuit Design; Technologies, Design Primitives, Models and Limitations; Circuit Strategies and Design of Analog Building Blocks; Low-Voltage Operational Amplifiers and Comparators; Function Circuits; Filters and Front-End Circuits; Digital-to-Analog and Analog-to-Digital Converters; Mixed System Architectures for Low-Power Consumption; System Integration in Low-Voltage Technologies

Contributions should be sent to one of the Guest Editors:

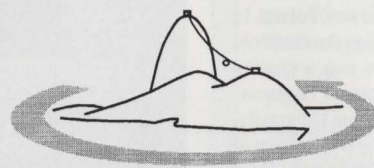
Dr. Angel Rodriguez-Vazquez
Dept. of Analog Design, CNM
CICA-CNM Building
Avda. Reina Mercedes
41012 Sevilla-SPAIN
Phone: +34-5-423-9923
Fax: +34-5-462-4506
E-mail: angel@cnm.us.es

Dr. Edgar Sanchez-Sinencio
Dept. of Electrical Engineering
Texas A&M University
College Station, TX 77843-3128
Phone: (409) 845-7498
Fax: (409) 845-7161
E-mail: sanchez@sinencio.tamu.edu

Manuscripts are subject to review and should be submitted to the Guest Editors before **February 15, 1995**. All manuscripts should conform to the standard format as indicated in the "Information for Authors" printed in the *IEEE Transactions on Circuits and Systems*.

UPCOMING CONFERENCES AROUND THE WORLD...

Welcome to Rio de Janeiro, Brazil



Call for Papers
**38th MIDWEST SYMPOSIUM ON
CIRCUITS AND SYSTEMS**
Hotel Glória, Rio de Janeiro, Brazil
August 13-16, 1995

The 1995 Midwest Symposium on Circuits and Systems will be organized by the Federal University of Rio de Janeiro. The symposium will be devoted to all aspects of the theory, design and applications of circuits and systems.

Prospective authors are invited to send 4 copies of a **1000-word** summary of the paper headed by the title, author's name(s), address(es), affiliation(s), e-mail address(es) and telephone number(s) and a **50-word abstract** for inclusion in the technical program if the paper is accepted, to:

Prof. Luiz P. Calôba
COPPE/UFRJ/EIétrica/MWSCAS
CP 68504
21945-970 Rio de Janeiro, RJ
Brazil

Paper summaries and abstracts must be received by **February 1, 1995**. Notification of acceptance or rejection and Authors Kits will be sent by **May 15, 1995**. Proposals for *special sessions, tutorials and workshops* should be submitted by **January 15, 1995**.

In particular, papers are solicited for a Special Session on Neural Modeling and Control. Interested authors are requested to submit a two-page abstract by **January 13, 1995**, to: Prof. Vincenzo Piuri, Organizer of the Special Session on Neural Modeling and Control, Department of Electronics and Information, Politecnico di Milano, Italy, piazza L. da Vinci 32, I-20133 Milano, Italy. Phone: +39-2-2399-3623.

Brazil, and particularly, Rio de Janeiro, is a nice and exotic place to visit. Rio is a very beautiful and friendly city, located between mountains and sea. Copacabana and Ipanema beaches are in the city. Full day boat cruises allow you to explore tropical islands at the south of Rio. In an hour drive distance is located the mountain city of Petropolis, former summer residence of Brazilian Emperors in the last century.

ISCAS 1995

IEEE International Symposium on Circuits and Systems

Seattle, Washington
April 29 - May 3, 1995

The 1995 IEEE International Symposium on Circuits and Systems (ISCAS) will be held at the Sheraton Seattle Hotel and Towers in Seattle, Washington. Included will be regular sessions on all aspects and special invited sessions on specific advanced aspects of the theory, design and applications of circuits and systems. In addition, tutorials in selected subjects will also be featured in conjunction with ISCAS '95.

Topics for regular sessions include, but are not limited to, the following:

- Circuit & System Theory
- Digital Signal Processing
- Power Systems & Electronics
- Computer-Aided Design
- Emerging & Innovative Topics
- VLSI Design & Test
- Neural Networks and Fuzzy Systems
- Digital Circuits
- Image Processing & Video Technology
- Analog Circuit

General Chair: Robert J. Marks II Department of EE, FT-10 University of Washington Seattle, Washington 98195 Phone: (206) 543-6990 FAX: (206) 543-3842 E-mail: marks@u.washington.edu	Technical Chair: Mani Soma Dept. of EE, FT-10 University of Washington Seattle, Washington 98195 Phone: (206) 685-3810 FAX: (206) 543-3842 E-mail: soma@ee.washington.edu
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Special Sessions Chair:
David J. Allstot
Department of ECE
Carnegie Mellon University
Pittsburgh, PA 15213
Phone: (412) 268-2872
FAX: (412) 268-3204
E-mail: allstot@ece.cmu.edu



For more information, contact: Meeting Management, 2603 Main Street, #690, Irvine, CA 92714; Tel: (714)752-8205; Fax (714)752-7444; E-mail: 74710.2266@compuserve.com.

FRANCE, BRAZIL, CHINA, TURKEY GREECE, INDIA, USA

IV Brazilian School of Microelectronics

Microelectronics for Telecommunications Design and Process Development
Focused on the design, simulation and process techniques for telecommunications.
Recife-PE-BRAZIL
January 15-20, 1995

For further information contact Edval J.P. Santos, Chairman, Dept. de Fisica, Universidade Federal de Pernambuco - UFPE, Cidade Universitaria, 50670-901 Recife PE Brazil; Tel: +55 81 271 84 50; Fax: +55 81 271 03 59; E-mail: ivebmicro@df.ufpe.br or edval@df.ufpe.br.

ICSICT '95

FOURTH INTERNATIONAL CONFERENCE ON SOLID-STATE AND INTEGRATED-CIRCUIT TECHNOLOGY
October 24-28, 1995, Beijing, China

This conference is the fourth in a series designed to provide an international forum on solid-state and integrated-circuit technology. It will be held at the Beijing International Convention Center. The technical focus of this conference will be a broad review of materials and processing issues associated with the fabrication of integrated-circuit and solid-state devices. It will feature talks, panel discussions and technical tours. The technical proceedings will be available at the conference. The Beijing location will provide an important opportunity to establish mutual contacts between a large number of Chinese and other international scientists and technologists.

General Co-Chairs: **E. Kuh, University of California, Berkeley, USA**
Y.Y. Wang, Peking University, China

For further information, please contact: **Ms. Xiaonan Zhang** (Secretariat, ICSICT '95), PO Box 165, Beijing 100036, China. Tel: (1) 826-3459; Fax: (1) 826-3458; e-mail: shaz%bepe2@scs.slac.stanford.edu or **Dr. C.C. Tsai**, Xerox Palo Alto Research Center, 3333 Coyote Hill Road, Palo Alto, CA 94304, USA. Tel: (415) 812-4515; Fax: (415) 493-6349; e-mail: tsai.parc@xerox.com

ISSCC 95

Feb. 15-17, 1995
San Francisco Marriott Hotel
San Francisco, CA

Sponsored by the IEEE Solid-State Circuits Council with Co-Sponsors: The University of Pennsylvania, IEEE San Francisco Section and IEEE Bay Area Council.

Contact:
Diane Suiters
Courtesy Associates
655 Fifteenth St, NW, Suite 300,
Washington, DC 20005.
Tel: 202/639-4255
Fax: 202/347-6109
E-mail: diane+la+rcourtesy%
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CALL FOR DEMOS AT
THE UNIVERSITY BOOTH

+++++
**THE 1995 EURO-
PEAN DESIGN AND
TEST CONFERENCE**
+++++

Paris, France
March 6-9, 1995

A University Booth will be organized for CAD software demonstrations during the EUROPEAN DESIGN AND TEST CONFERENCE, March 7-9.

A form is available to apply for a CAD demonstration (E-mail preferred) from the support center.

Please E-mail to:
university-booth@masi.ibp.fr

or write to:
**Mrs. LOUERAT, MASI, cou-
loir 55-65, bureau 210, UPMC,**
4 Place Jussieu, 75252 Paris
Cedex 05, FRANCE

January 4-7, 1995

VLSI DESIGN '95

The Eighth International Conference on VLSI Design

New Delhi, INDIA

New Delhi is the capital city situated in north central India. This is an area rich in history and offers excellent opportunities for sightseeing and shopping. It is also only a day trip away from other popular tourist destinations such as Agra, home of the Taj Mahal, and the 'pink city', Jaipur in Rajasthan. Information on tourist excursions will be available at the conference hotel, so plan on a few extra days for sightseeing.

For Registration information, contact:
Adit D. Singh, Department of Electrical Engineering
Auburn University, Auburn, AL 36849
E-mail: adsingh@eng.auburn.edu

1995 IEEE Workshop on Nonlinear Signal & Image Processing

**June 20-22, 1995. Hotel Meliton,
Neos Marmaras, Halkidiki, Greece**

Second in a series of international workshops presenting leading edge work in nonlinear digital signal and image processing and computer vision, the workshop will be held in a luxury holiday resort set in one of the most unspoiled and picturesque regions in Greece. The resort set embraces 4500 acres of countryside and stretches along more than 10 kms of secluded coves and sandy beaches of the Aegean Sea.

Obtain information from:
Prof. Ioannis Pitas, Dept. Elect. & Comp. Eng., Aristotle Univ. of Thessaloniki, P.O. Box 463, 540 06 Thessaloniki, Greece
Tel: +30-31-996304, Fax: +30-31-274868, pitas@vergina.eng.auth.gr

ECCTD '95

**12th European Conference
on Circuit Theory & Design**
Istanbul, Turkey August 27-31, 1995

The conference will focus on recent trends and advances on all aspects of signal processing and circuits. The presentations will be made in the form of contributed and invited papers in regular or special sessions, student poster sessions and state-of-the-art talks by keynote speakers.

Conference Chair: **Prof. Dr. Izet Cem Goknar, Istanbul Technical University, Electrical and Electronic Engineering Faculty, Maslak 80626, Istanbul, Turkey.**

1996 IEEE INTERNATIONAL SYMPOSIUM ON CIRCUITS AND SYSTEMS



Site of 1996 Summer Olympics

May 12-15, 1996
Marriott Marquis Hotel
Atlanta, Georgia

PRELIMINARY CALL FOR PAPERS

Papers presenting original work or tutorial overviews in all aspects of circuits and systems are invited. Submissions for regular sessions include, but are not limited to, these topics:

- Adaptive signal processing
- Analog signal processing
- Analog and digital ICs
- Circuit layout
- Circuit modeling for high performance electronic packaging systems
- Computer aided design
- Digital signal processing
- Distributed networks
- Fault analysis
- Filters: digital, analog, and sampled
- Fuzzy circuits and systems
- Image processing
- Large scale networks
- Linear & nonlinear circuits and systems
- Low voltage/low power ICs
- Modeling and simulation
- Multidimensional circuits and systems
- Neural networks
- Optimization theory
- Parallel architectures and systems
- Power electronics and power systems
- Robotics
- Sensors
- Solid state circuits
- Testing: analog, digital, mixed
- VLSI design and application
- Very high speed ICs

Authors' Schedule (Tentative)

Submission of summaries Sept. 11, 1995
Notification of acceptance Dec. 4, 1995
Submission of final paper Jan. 15, 1996

** For up-to-date information on ISCAS-96 **
send blank e-mail to iscas96@ece.gatech.edu
or view Mosaic at <http://www.ece.gatech.edu/conferences/iscas96>.

CONFERENCE REPORT
LOW POWER DESIGN

The 1994 International Workshop on Low Power Design, held on April 24-27, 1994, at the Inn at Napa Valley in Napa, California, was an exceptional success. More than 190 people from industry and academia attended this workshop which was sponsored by the ACM SIGDA and the IEEE CAS.

The workshop addressed topics in the circuit design and CAD realms, from the perspective of enabling the low power system design process. It promoted interaction among professionals working in all areas of design and test of low power electronic systems and provided a forum for presenting and discussing the latest developments and future trends.

Mr. Deo Singh, manager of the MIPS/WATT Division of Intel Corporation gave the keynote address "Prospects for Low Power Microprocessor Design." In his talk, he described the components of a modern mobile PC and their power consumption, enumerated issues relating to low power microprocessor design, packaging and power benchmarking and summarized the potential impact of voltage scaling, process scaling and low power design techniques.

A panel on "Low Power: What's CAD Got to Do with It?" yielded views on the potential impact of low power CAD tools and methodologies on reducing the overall system power (independent of voltage and process scaling). Another panel on "Reversible Computing - What Is the Future?" yielded views on reversible logic and its limitations and promise for significantly reducing the energy dissipation.

Prof. Teresa Meng of Stanford University gave an invited talk, "Portable Video-on-Demand in Wireless Communication" where she described algorithms and circuit design techniques developed for implementing a low power video compression/decompression system at power levels on an order of magnitude below existing solutions.

The paper sessions addressed topics of interest to both circuit designers and CAD tool users as well as academic communities with a wide variety of power-related topics including power modeling and estimation at the logic and behavioral levels, power minimization at the layout, logic and behavioral levels, reversible computing and energy recovery techniques. The poster presentations covered the same areas and were a big success with the workshop attendees.

... continued on back cover

Second Call for Papers

ASP-DAC '95

Asia and South Pacific
Design Automation Conference

CHDL '95

IFIP Conference
on Hardware Description Languages
and their Applications

VLSI '95

IFIP Conference
on Very Large Scale Integration

with EDA Technofair '95

Aug. 29-Sept. 1, 1995

Nippon Convention Center

Makuhari, Chiba, JAPAN

The emphasis of ASP-DAC '95 will be placed on physical design, test design, synthesis, manufacturing, design environments, design methodology, user-oriented topics, and theoretical aspects of CAD/DA.

The emphasis of CHDL '95 will be placed on formal methods, verification, hardware description languages, high-level synthesis, system design, simulation and modeling, design frameworks and design environments.

The emphasis of VLSI '95 will be placed on the exchange of new ideas on systems, circuits and device technologies to make long stride up to the new century.

Prospective authors are invited to submit to the conference secretariat 6 copies of a draft paper in English.

For further information, contact the Conference Secretariat:

ASP-DAC '95/CHDL '95/VLSI '95 Secretariat
Business Center for Academic Societies Japan
5-16-9 Honkomagome, Bunkyo-ku, Tokyo, 113
JAPAN

Tel: +81-3-5814-5800
Fax: +81-3-5814-5823

CIRCUITS AND SYSTEMS #10 "Miscellany"

Patrick M. Sain
Electrical Engineering
University of Notre Dame
Notre Dame, IN 46556

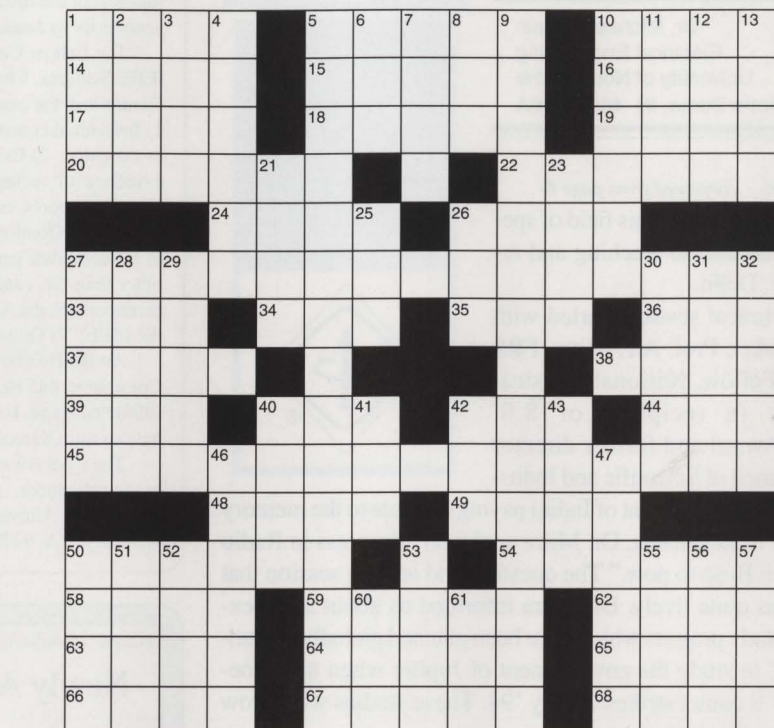
ACROSS

1. Integrated impulse.
5. Snake.
10. Verbal expressions of uncertainty?
14. __OM: dance for engineers?
15. Impulse carrier.
16. High speed description.
17. __n: a series of impulses.
18. Latter part of Mn.
19. Para__.
20. VDT action.
22. Characteristic of certain Bode plots?
24. Polynomial characteristic.
26. __line: points having similar or equal inclination.
27. Plane covering method.
33. See 42 across.
34. ...
35. Co__: what's around 55 down.
36. 42 down + rs__: surpass.
37. __er earth connection.
38. Partial recall?
39. Int__al.
40. Dispersive spectroscopy type (abbr.).

42. C__: zero response?
44. Magne__: Certain devices.
45. Imaginary potential?
48. G__: meter.
49. __C: computer.
50. Intersections of a plane with a torus.
54. Certain pole-zero pairs do this.
58. Ra__ __ontrol.
59. __r series.
62. Integral __in.
63. Hyperbolic function.
64. Sc__: digitized?
65. D__e: infer.
66. Singular.
67. Connection type.
68. Transistor type.

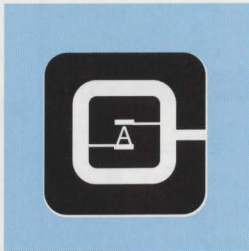
DOWN

1. Collections.
2. "Intercept" modulo its clumsy part.
3. D__t: ceases to track?



4. A __: before.
5. Conversion type.
6. __se: some types of 1 down are this.
7. Infimum?
8. Small potential units (abbr.).
9. Important subclass of BCH codes.
10. Of points.
11. Halation synonym.
12. Scrambled abbr. for electro-motive potentials?
13. MO__: almost always a semiconductor?
21. Singular.
23. Transmission er__.
25. Con__t.
26. D__t.
27. Stack.
28. Im.
29. __nge multiplier.
30. Greek letter.
31. __eneous: differential equation type.
32. Code.
40. Tnemurtsni?
41. __lte: wafer thin?
42. See 36 across.
43. __sing: a source of 23 down.
46. Sequence type.
47. In series.
50. Prefix indicating 10⁻¹⁸.
51. Brow__ motion.
52. Descriptive of an element that is not an inductor?
53. __de: electron multiplier anode.
55. Central part of certain transformers.
56. __sivity: ε.
57. Flow type?
60. __de: positive electrode.
61. Ang__: often represented by 30 down.

Editor: Dr. Michael K. Sain
Electrical Engineering
University of Notre Dame
Notre Dame, IN 46556 USA



Chapter Report. . .continued from page 6

him and contributions in his field of specialization and also to teaching and research at IIT, Delhi.

The technical session started with the first speaker, Prof. A.P. Mitra, FRS Bhatnagar Fellow, National Physical Laboratory (a recipient of S.S. Bhatnagar Award and former director general, Council of Scientific and Industrial Research, Government of India) paying a tribute to the memory of Professor Mahalanabis. Dr. Mitra spoke on "Progress in Radio Science from Bose to now." The question and answer session that followed was quite lively. Dr. Mitra informed us about some experimental study projects which have been planned globally, including in India, to study the environment of Jupiter when the Shoemaker Levy 9 comet strikes in July '94. These studies will throw some light on this issue as well.

Dr. A.K. Ghatak (also a recipient of S.S. Bhatnagar Award), professor of physics, IIT Delhi, spoke on "Progress in Optical Communication in the Last Two Decades." At the beginning of the talk he paid his rich tribute to the memory of Professor Mahalanabis. He discussed all the developments in optical communication in the last two decades and mentioned about inter-continental fibre optic links. The developments that are being carried out at IIT Delhi were also discussed. The question and answer session here included many questions on the engineering and installation aspects of fibre optic communication links.

At the end of the talk, Dr. J.K. Pal, chairman, Joint Chapter, proposed a vote of thanks and discussed briefly about the memorial lecture series. The seminar was co-sponsored by Allen Bradley India, Ltd. and Cegelec India, Ltd.

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445 HOES LANE
PISCATAWAY, NJ 08855

MA 02254

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◆◆ Fellow Nominations Due ◆◆

The IEEE Bylaws define the Fellow grade as one of unusual distinction in the profession, to be conferred only by the invitation of the Board of Directors upon a person of outstanding and extraordinary qualifications and experience in IEEE designated fields (including electrical engineering, electronics, computer engineering and computer sciences, and the allied branches of engineering and related arts and sciences), who has made important individual contributions to one or more of these fields. A nominee must be a Senior Member of the Institute, and have been a member in any grade for at least five years prior to January 1 of the year of election.

The Fellow Committee will consider brief letters of endorsement from IEEE Sections, Chapters, and Committees. In the processing by the Fellow Committee, the candidates' dossiers are evaluated on a basis of eight criteria: 1) Individual contributions as engineer, scientist, originator, technical leader or educator; 2) Evaluation by an IEEE Society; 3) Tangible and verifiable evidence of technical accomplishment, such as technical publications, patents, reports, or published descriptions of products, facilities, and/or service; 4) Opinions of confidential Fellow references who know of the work of the candidate personally (where possible, these should be associated with other than the candidate's own organization); 5) Service to IEEE and its predecessors, the AIEE or IRE; 6) Professional engineering service other than the IEEE; 7) Opinions of endorsers; and 8) Total years in the profession.

An IEEE Fellow Nomination Kit may be obtained from the IEEE Fellow Committee, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, Tel: (908) 562-3844, Fax (908) 981-9019. All completed forms for Fellow nominations must be received by the Fellow Committee no later than April 15, 1995.

The CAS Awards Committee can provide assistance in obtaining Fellow grade references. Contact Leon O. Chua, Chairman, CAS Fellow Awards Committee, University of California at Berkeley, Department of EECS, Berkeley, CA 94720, Tel: (510) 642-3209, Fax: (510) 845-4267.

Awards Nominations 1995. . .continued from page 4

Newly Announced CAS Society Award

◆◆ VLSI Transactions Best Paper Award ◆◆

Professor Steve M. Kang, Chair
Department of Electrical and Computer Engineering
University of Illinois at Urbana-Champaign
Coordinated Science Laboratory 214
1308 West Main Street, Urbana, IL 61801

Fax: (217) 244-1946

E-mail: kang@uivlsi.csl.uiuc.edu

Purpose: To recognize the best paper published in the *IEEE Transactions on Circuits and Systems for Very Large Scale Integration (VLSI) Systems*. The award is based on general quality, originality, contributions, subject matter and timeliness. Anyone who is an author of a paper published in the *IEEE Transactions on Circuits and Systems for VLSI Systems* during the two calendar years preceding the award is eligible. **Prize:** Certificate and \$250 check for each author (maximum of \$1,000 per award).

Conference Report. . .continued from page 14

ees. In fact, a special issue of *Transactions on VLSI Design* has been devoted to this workshop (the target publication date is December 1994).

The workshop was organized and chaired by Prof. Massoud Pedram, USC, and Dr. Bryan Preas, Xerox PARC. The program chair was Prof. Jan Rabaey, UCB.

Next year the workshop will be upgraded to a one-track symposium that will be held in April, 1995, in California. For further information regarding the upcoming symposium, please contact: Massoud Pedram, Dept. of EE-Systems, University of Southern California, Los Angeles, CA 90089. Tel: (213) 740-4458, fax: (213) 740-9803, E-mail: massoud@zugros.usc.edu.