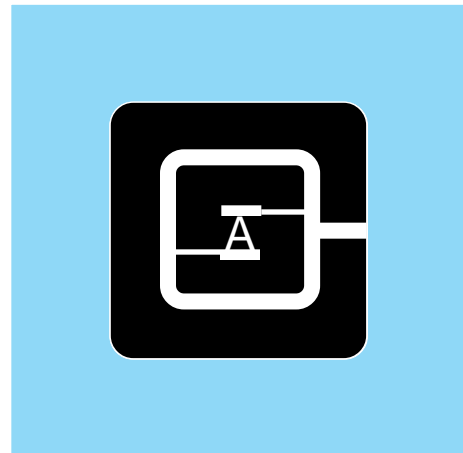


IEEE

CIRCUITS AND SYSTEMS

NEWSLETTER SOCIETY



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DECEMBER

JUNE

MARCH

IEEE Circuits and Systems Society Newsletter

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MILESTONES, COMINGS AND GOINGS

From the Editor

Michael K. Sain
Electrical Engineering
University of Notre Dame
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It can be quite a mental exercise to attempt a visualization of the activities of our Circuits and Systems Society.

On the one hand, the Society exists in time; and so it has a past, a present, and a future. On the other hand, the Society exists also in space, and

is spread out over the world in a manner that daily becomes more surjective, or onto, in the language of algebra. And of course, via the time zones, there is an obvious relationship between the times and the spaces.

One of the remarkable modern images that we have is the World Wide Web, a figure of speech most aptly chosen to describe a certain aspect of our computer communications. Our own characteristic in the Circuits and Systems Society is certainly similar, is it not? Perhaps we could think of CAS as a World Wide Circuit!

Clearly, therefore, our events have a time and a place. In this issue, we address this paradigm in several ways.

First, we celebrate a milestone on the interface between past and future, by means of the contribution of Professor Árpád Csurgay, who writes of the 80th birthday of Károly Simonyi, professor emeritus of the Technical University of Budapest. Too often, perhaps, we focus intently on the present, with the intent of shaping the future. In doing so, we may fail to account properly for the past. Or we may overlook the possibility of integrating our work properly into the present. This timely birthday story provides an opportunity for each of us to reconsider our own book of life, and to consider how it fits onto a shelf in the library of volumes from all of our col-

leagues, both professional and otherwise.

Second, we peruse once again the most vivid of our time-and-place phenomena, which are the conferences of the Society. Spread out over the year and over the world, these meetings capture in a special way the efforts of our members to get together, to share, and to progress. In this age, it seems that we are always coming and going. We arrive at one meeting only to leave for the next. Some faculties report that their members are away half the time.

In this Age of Information, one can wonder if conferences as we know them will not be transformed by modern communications. It will be most interesting to see what happens in the next few years.

Third, it is time once again to call for nominations for the various Society awards. This is a most important yearly opportunity to recognize contributions and those who participated in them. Do you know anyone whose work could be an inspiration for other members of the Society? If so, do not miss this chance to nominate them for one of the awards.

Fourth, we chronicle the coming of new associate editors to our journals, in this case the *Transactions on Circuits and Systems, Part I*. And we continue our review of the stories of those who have been elected Fellows of the IEEE. And we follow the activities of our Technical Committee on Digital Signal Processing and of our chapter in Delhi.

It is an exciting World Wide Circuit....

fyi:// CAS Society Newsletter / Now on the Web /

We have begun a web page so that you may read the CAS Newsletter from the Internet via the World Wide Web. In order to maintain its appearance, the Newsletter can be read using Acrobat Reader. We also hope to make it much easier for you to find more information about CAS related conferences and to reach us with newsworthy items and your opinions. Check us out as we develop our page at URL—

<http://www.nd.edu/~stjoseph/newscas>

This report is an update of activities of the IEEE Delhi Section and its joint Chapter on Circuits, Systems, and Control during the past year.

Our first activity to report was on the evening of November 18, 1995, at EIL Guest House. Dr. Sadashiva Godbole of Babcock and Wilcox Nuclear Technologies (now Framatome Technologies), USA, delivered a two-hour-long seminar on simulation in power plants using modular modelling systems software. Dr. Godbole presented an historical account of progress of simulation technology in industrial scenarios and also talked on training simulators. Dr. M. S. R. Murthy of the Simulation Division of Bharat Heavy Electricals Ltd. gave an account of power plant simulation activities at BHEL, and Dr. Jagannathan, general manager at BHEL, spoke on the contributory role of Framatome in their activities. MMS software basic details were demonstrated on a PC by Dr. Godbole.

The final event of 1995 was the annual Prof. Mahalanabis memorial seminar on December 11, in the Senate room of IIT, Delhi. The theme of the seminar was "Manufacturing Automation". Prof. Rajan Suri, director of the Manufacturing System Engineering Program at the University of Wisconsin, delivered the memorial talk and Prof. N. K. Tewari of IIT, Delhi, chaired the session. Mr. M. M. S. Puri, chairman of the Delhi Chapter, delivered the welcome address.

The Delhi Chapter began the new year with a day-long seminar of IEEE. Prof. P.R. Kumar of University of Illinois, USA, spoke in an IEEE forum at IIT, Delhi on January 6, 1996. Prof. Kumar spoke on performance evaluation of computer and communication networks.

The most notable event of the year was the IEEE India's annual convention (ACE '96) at the Hyatt Regency Hotel on March 26 & 27, 1996. The theme of the conference was "Electronics in Manufacturing". The conference was inaugurated by Mr. S. G. Awasthi, managing director of DCM Daewoo, New Delhi. IBM TJ Watson Research Centre's Dr. Jai Menon delivered a talk on research frontiers in CAD. He also conducted a video program. The conference had seven technical sessions covering manufacturing automation, simulation, robotics, etc., and about 30 papers were presented.

Several special invited talks were also presented during the course of the convention. Mr. J. Chatterjee, President & CEO of Allen Bradley India Ltd., spoke on challenges in 21st century manufacturing. Dr. J. K. Pal of Engineers India Ltd., and chairman of the Delhi Chapter, presented a talk entitled "Adapting Automation to Man, Culture, and Society". A third talk entitled "Manufacturing Quality Systems" was given by delegates from Allen Bradley.

A final highlight was the panel discussion arranged on the theme of the conference. Dr. V. P. Kodali, fellow of IEEE and advisor in the Department of Electronics, Government of India, and Mr. Sarathchandran of Telco participated in the discussion. They deliberated on research and education for electronics in manufacturing.

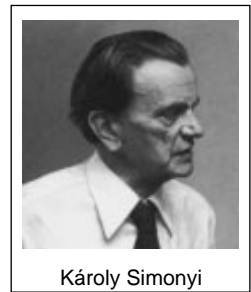
The following article from the IEEE Hungary Chapter is to honor Prof. Károly Simonyi, the renowned Hungarian educator who has taught numerous engineers and educators who can currently boast leadership stature within our electrical engineering community.

An Electrical Engineer's Profile from East-Central Europe

This autumn, Károly Simonyi, professor emeritus of the Technical University of Budapest, an outstanding scholar-educator, will be 80 years old. His teaching has inspired generations of engineers. His brilliant lectures, and the trilogy of his great books *The Foundations of Electrical Engineering*, *The Physics of Electronics*, and *Electromagnetic Theory* founded an international "invisible college" in electrical and electronic engineering. His book *The Cultural History of Physics* bridges the gap between the "two cultures", contributing to a new enlightenment.

Károly Simonyi was born on October 18, 1916 in Egyházasköze, a small village in western Hungary, as the seventh child of a farming family of ten children. The local priest soon recognized the exceptional talent of the bright boy, and brought him to the notice of a distant member of the Simonyi family, a well-known scholar who, for a few months in 1920, was Hungary's Prime Minister. This relative agreed to sponsor the education of the young Simonyi. Many years later in an interview Professor Simonyi said, "Great teachers and other individuals have never had a decisive influence on my personal development. Instead, my world view has been formed by the family atmosphere, and by the experience derived from great books. ... In grammar school they regarded me as a future mathematician and physicist, and naturally I read many books on these subjects, ... but I was also fascinated by literature and history. ... I clearly remember being captivated by two vast volumes: *The Story of Philosophy* by W. Durant, and *The Outline of History* by H. G. Wells. ... I left school with a spirit of longing to know all about everything." Along with gaining a scientific and engineering education, Professor Simonyi also qualified in law and the political sciences, pursued the study of a dozen ancient and modern languages and is proficient in seven, including Chinese. The breadth and depth of his knowledge are legendary, and his students and colleagues describe him as a "Renaissance man", one of the last great "encyclopedists".

In 1940 Károly Simonyi obtained the Dipl. Ing. degree with full distinction from the Technical University of Budapest, and gained the L.L.D. degree in law from the University of Pécs. After graduation he became assistant professor of the newly established Department of Atomic Physics at the Technical University of Budapest, and research associate at the Tungsram Laboratory directed by Zoltán Bay. He spent the war years working in quantum mechanics, atomic physics, and



Károly Simonyi

electromagnetics. Near the end of the war he was called into military service and spent the last months in Russia and Poland as a prisoner of war. “I was a skeleton of a man, a living corpse in rags.” Returning home in 1946, he re-joined Zoltán Bay’s research team, working on radar systems. His contributions to the first radar-astronomy Moon Echo Detection experiment were fundamental.

In 1948 he became professor of electrical engineering at the University of Sopron, where he designed and built a nuclear particle accelerator. “The accelerator was ready, we were prepared to conduct the first particle acceleration experiment in Hungary. The complex ion source was controlled from the ground; but, to observe the phenomena, I myself was aloft in the metal sphere of the high-voltage part of the equipment, instrument in hand, curled up like a baby in his mother’s womb. They locked me into the sphere, tightened all the screws, and polished the surface of the sphere before applying the voltage. They increased the voltage gradually to three-quarter million volts, while I was calling out to them from time to time. The experiment was successful, and finally I could clamber out from my place of work at four o’clock in the morning.”

In 1952 Professor Simonyi returned to Budapest, taking up a post as full professor and founding a new chair at the Technical University. At the same time, he became one of the founders of the National Research Institute for Physics, leading the Department of Atomic Physics. He led nuclear physics experiments, designed and built a series of particle accelerators, and pioneered experimental techniques; for example, his team was the first to study a “star-like fusion reactor”. Among his many major contributions to the field was a paper on the steady state of a deuterium tritium plasma mixture under constant pressure in a spherical container, attracting worldwide attention.

During the Hungarian Revolution of 1956, Professor Simonyi was elected chairman of the Revolutionary Council of the National Research Institute for Physics. “I felt that I must accept this role: I loved the Institute, I built it, I regarded its every building, every item of equipment as one of my own children, and I believed that I might use my position and capabilities to protect it from political extremists on either side.” However, after the revolution he was dismissed from his post at the National Research Institute for Physics, and had to give up his research. “In 1957 I had to leave my institute. They even suppressed the publication of my book on nuclear reactors. This left a void in my life. To fill it, I turned to the study of Chinese characters. This saved me from a nervous breakdown—a life-saver.” Some years later he was also forced to leave the chair he

founded at the Technical University of Budapest.

The students lost most. He had always been an inspired teacher. “The writer of a textbook is akin to a concert performer: not the composer, but a creative interpreter.” Truly, he had been an exceptional teacher, offering to his audience a memorable creative performance at each lecture. Aggrieved by his absence from the University, the students invited him to give classes at their halls of residence. As he explained in an interview in 1991: “My students asked me to select my subject freely. I chose history: the history of physics, the exciting period of the 17th Century. I talked of demolishing the old order and building the new. I talked of the emergence of modern physics, but also of the context of the subject: of life, of art, of philosophy. The interest and excitement of young people was astonishing. They did not allow me to rest, they asked me to continue: when am I holding the next talk, where can they read about the subject. I am a teacher, I could not ignore my students, I had to respond to their questions. That’s when I started to make a systematic study of the history of science.”

So, in 1970, Professor Simonyi decided to devote his attention to the history of physics, to the integration of human knowledge, to filling the gap between the “two cultures”. In an interview he said, “I am convinced that there is one single human culture, to which every branch of science and art contributes.”

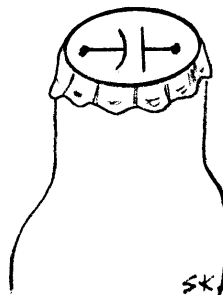
His whole life changed. “I have always been longing for *vita contemplative*,” he explained in 1991. He started lecturing on the history of the sciences, and working on a new book: *The Cultural History of Physics*, published in 1976, achieving great acclaim. One of the reviewers wrote, “This book presents the history of physics as the passionate search for truth, a delightful intellectual adventure, a continuing process whose

... Continued on Back Cover

THE ADVENTURES OF ...

...THE 'UMBLE OHM

...Shlomo Karni



State-of-the-Art Capacitors—
a Bottle Cap and a Baseball Cap

AWARDS NOMINATIONS 1997

It is once again time for nominations for the Circuits and Systems Society Awards, either in the category of a Society Achievement Award or an Outstanding Paper Award. This year, to simplify the procedure, all nominations are to be sent to one person. **Please use the forms on the following page and send your nomination(s) to Dr. Michael R. Lightner at:**

**Department of Electrical & Computer Engineering
University of Colorado, Campus Box 425, Boulder, CO 80309
Ph: (303) 492-5180; Fax: (303) 492-2758;
E-mail: lightner@boulder.colorado.edu**

◇◇ Guillemin-Cauer Award ◇◇

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).

◇◇ Education Award ◇◇

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.

◇◇ Darlington Award ◇◇

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).

◇◇ Technical Achievement Award ◇◇

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.

◇◇ CAD Transactions Best Paper Award ◇◇

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).

◇◇ Mac Van Valkenburg Award ◇◇

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.

◇◇ VLSI Transactions Best Paper Award ◇◇

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).

◇◇ Chapter-of-the-Year Award ◇◇

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.

◇◇ CSVT Transactions Best Paper Award ◇◇

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).

◇◇ Meritorious Service Award ◇◇

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.

◇◇ Outstanding Young Author Award ◇◇

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).

IEEE Circuits and Systems Society 1997 Outstanding Paper Award Nomination

Outstanding Young Author Award—CAD Transactions Best Paper Award
Guillemain-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 1997 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: _____

Address: _____

Telephone (day): _____

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 Michael Lightner or the references can be instructed to forward their recommendations directly to Professor Lightner. All reference letters must be received by the due date of the nominations, February 1, 1997.

IEEE CAS FELLOW PROFILES 1996

Eric Dubois

For contributions to the multidimensional signal processing and coding of video signals.

Eric Dubois received the B.Eng. (honors) degree with great distinction and the M.Eng. degree from McGill University in 1972 and 1974, and the Ph.D. degree from the University of Toronto in 1978, all in electrical engineering.

He joined the Institut National de la Recherche Scientifique (University of Quebec) in 1977, where he currently holds the position of professor in the INRS-Telecommunications Centre in Montreal. He has also been an adjunct professor in the Department of Electrical Engineering, McGill University since 1981.

His research has centered on the source coding and processing of still and moving images, and in multidimensional digital signal processing. He has been particularly interested in motion estimation and in the processing of multidimensional signals on lat-

tices. He has collaborated extensively with the Image Services Department of Bell-Northern Research, the Engineering Department of the Canadian Broadcasting Corporation, and the Communications Research Center, Ottawa. He is a principal investigator in the Canadian Institute for Telecommunications Research.

Dr. Dubois is co-recipient of the 1988 Journal Award from the Society of Motion Picture and Television Engineers. He is a member of the Order of Engineers of Quebec and is an associate editor of the *IEEE Transactions on Image Processing*. He is a member of the editorial board of the EURASIP journal *Signal Processing: Image Communication*. He was co-guest editor of the June 1994 issue of that journal, a special issue on motion estimation and compensation technologies for standards conversion.



Eric
Dubois

Toru Toyabe

For contributions to numerical device modeling and physics of metal-oxide-semiconductor devices.

Toru Toyabe received the B.S. and M.S. degrees in physics, and the D.E. degree in electrical engineering from the University of Tokyo in 1964, 1966, and 1981, respectively. In 1969 he joined the Central Research Laboratory, Hitachi Ltd., Tokyo. His initial work was the research and development of GaAs devices such as the Gunn diode, and GaAs and Si IMPATT diodes. Since then, his activities include device physics, device modeling and CAD tool development. In 1974 he started a work on two-dimensional device simulations and developed a simulator CADDET, which has been used extensively to calculate short-channel effects, avalanche multiplication, and carrier injection in Si MOSFETs.

He has worked on reliability problems of LSI, especially alpha-particle soft error modeling, since 1981, and has contributed to the company's development of 64k, 256K, 1M-bit

DRAM and so on. He developed a three-dimensional device simulator CADDETH taking full advantage of the supercomputer (vector processor) in 1985. He was a Mackay Lecturer and Visiting Industrial Fellow at the University of California at Berkeley from 1989-1990, and studied massively parallel algorithms for three-dimensional device simulation. In 1994 he joined Toyo University as professor in the Department of Information and Computer Sciences.

Dr. Toyabe has authored or co-authored more than 70 technical papers and served the IEEE Circuits and Systems Society as a member of the Far East Steering Committee of the *Transactions on Computer-Aided Design of Integrated Circuits and Systems* from 1989-1991. He is now a program committee chairman of Simulation of Semiconductor Processes and Devices (SISPAD '96).



Toru
Toyabe

CIRCUITS AND SYSTEMS SOCIETY MEMBERS

Randy H. Katz

For contributions to computer system design, engineering education, and government service.

Professor Randy H. Katz carries out researches in computer system design and implementation. His research experience has spanned numerous disciplines. He has written over 120 technical publications on CAD, VLSI design, database management, multiprocessor architectures, high performance storage systems, and video server architectures. He was one of the first researchers to understand the importance of electronic computer-aided design databases. This work led to two best presentation awards and one best paper award at the annual Design Automation Conference.

Professor Katz led the implementation of the SPUR (Symbolic Processing Using RISCs) multiprocessor memory system, the first such system to integrate coherent multiprocessor cache memories with efficient virtual memory management. This project implemented an early instance of the “snooping

cache” protocol that has subsequently been adapted and extended for virtually all of the multiprocessor workstation server systems on the market today. He was also responsible for developing the concept of Redundant Arrays of Inexpensive Disks (RAID).

Katz’s recent research has focused on distributed hierarchical storage management, video server architectures, wireless communications, and mobile computing applications. From January 1993 through December 1994, Katz was a program manager and deputy director of the Computing Systems Technology Office of ARPA. He was responsible for establishing the White House on the Internet and setting up computer mail accounts for the President and Vice President. He also assisted the Clinton Administration in formulating policies related to the National Information Infrastructure and wireless technologies.



Randy H. Katz

Mona E. Zaghoul

For leadership in education and research in integrated circuit design and their application to neural networks.

Mona E. Zaghoul is professor and chair of the electrical engineering and computer science department at The George Washington University. She received her Ph.D. in electrical engineering in 1975, M.Math in computer science and applied analysis in 1971, and M.A.Sc. in electrical engineering in 1970 from the University of Waterloo, Canada. Since 1975 she has worked extensively in the general areas of circuits and systems, nonlinear systems, and microelectronic systems, and is active in the areas of digital and analog VLSI circuit design and test, electronic implementation of neural networks, and neural systems algorithms and their implementation, micromachining, and electronic sensors.

She has published over 100 technical

papers and contributions to several books. She was neural networks associate editor for the *IEEE Transactions on Circuits and Systems I*, from 1993-95, and serves as reviewer for numerous technical journals. Professor Zaghoul is a member of the Board of Governors of the IEEE Circuits and Systems Society, the Technical Committee on Neural Networks, and the Technical Committee on VLSI Systems and Applications. She was general chair of the IEEE 35th Midwest Symposium on Circuits and Systems. She consults at the National Institute of Standards and Technology, Semiconductor Electronic Division, where she is helping with research on integrated circuit testing and design and in the design of microelectro-mechanical systems and their circuitry.



Mona E. Zaghoul



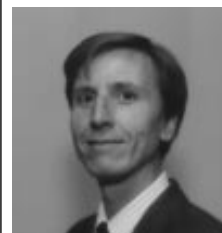
Ed F. Deprettere



José Piñeda de Gyvez



José E. da Franca



David A. Johns

Dr. Josef A. Nossek, editor for the *IEEE Transactions on Circuits and Systems—I: Fundamental Theory and Applications*, has announced associate editors for the journal.

Ed F. Deprettere received the M.Sc. degree from the Ghent State University, Ghent, Belgium, in 1968, and the Ph.D. degree from Delft University of Technology, Delft, The Netherlands, in 1981. In 1970, he became a research assistant and lecturer at the DUT, where he is now professor in the Department of Electrical Engineering, circuits and systems section, signal processing group. His current research interests are in modern signal processing: algorithms, VLSI architectures and applications, and in methodologies for the mapping of parallel signal processing algorithms, network graphs and numerical computations onto silicon. In addition to the *IEEE Transactions on Circuits and Systems*, he is on the editorial boards of the *Journal of VLSI Signal Processing and Integration*, the *VLSI Journal*.

José Piñeda de Gyvez is an assistant professor in the Department of Electrical Engineering and holds a joint faculty appointment with the Department of Computer Science, both at Texas A&M University. He received the degree in electronic systems engineering from the Technological Institute of Monterrey, Mexico, major in computer engineering, the M.Sc. degree from the National Institute of Astrophysics, Optics, and Electronics, Mexico, and the Ph.D. degree from the Eindhoven University of Technology, The Netherlands, in 1982, 1984 and 1991, respectively. Dr. Piñeda was a junior scientist with the Foundation for Fundamental Research on Matter, The Netherlands, from 1986 to 1991, working on CAD for yield, defect, and fault modeling. His interests are in the general areas of CAD for manufacturability and nonlinear analog signal processing.

José E. da Franca received the EE degree from the Instituto Superior Técnico (IST), in 1978, and the Ph.D. degree from the Imperial College, University of London, in 1985. Since 1978 he has

JOSEF NOSSEK NAMES ASSOCI- ATE EDITORS FOR TCAS— PART I



Tobias G. Noll



Akio Ushida

been with the Department of Electrical and Computer Engineering of IST, where he is currently an associate professor (*Agregado*), and a founding director of the recently created IST Center for Microsystems. He is also a director of SITAF, an IST company for education technologies. His research interests are in the areas of IC design, circuit theory, signal processing, and computer-aided design of analog-digital circuits and systems.

From 1980 to 1981 **David A. Johns** worked as an applications engineer in the semiconductor division of Mitel Corp., Ottawa, Canada. He received the B.A.Sc., M.A.Sc. and Ph.D. degrees from the University of Toronto, Canada, in 1980, 1983 and 1989 respectively. From 1983 to 1985 he was an analog IC designer at Pacific Microcircuits Ltd., Vancouver, Canada. His doctoral work focused on analog and digital adaptive filters including the development of an orthonormal structure for analog filters. In 1988, he was hired at the University of Toronto where he is currently an associate professor. He has ongoing research programs in the areas of analog CMOS and BiCMOS circuits, oversampling, and adaptive systems, resulting in more than 40 publications.

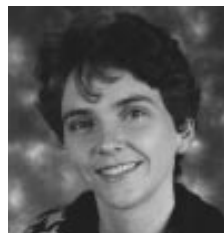
Tobias G. Noll received the Ing. (grad.) degree in electrical engineering from the Fachhochschule Koblenz, Germany, in 1974, the Dipl.-Ing. degree in electrical engineering from the Technical University of Munich in 1982, and the Dr.-Ing. degree from the Ruhr-University of Bochum in 1989. Since 1984 he has been with the corporate research and development department of Siemens, and since 1987 he has headed a group of laboratories concerned with the design of algorithm-specific integrated CMOS circuits for high-speed digital signal processing. Since 1992 he has been professor and holds the chair of electrical engineering and computer systems at the University of Technology RWTH Aachen, Germany.

Born in Kagawa, Japan, **Professor Akio Ushida** received the B.E. and M.E. degrees in electrical engineering from Tokushima University

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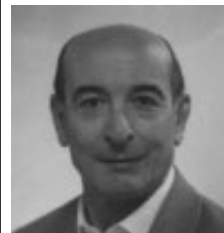
Tetsuo Nishi



Orla Feely



Vedat Tavsanoglu



Pier Paolo Civalleri

in 1961 and 1966, respectively, and the Ph.D. degree in electrical engineering from University of Osaka Prefecture in 1974. He was associate professor from 1973 to 1980 at Tokushima University. Since 1980 he has been professor in the Department of Electrical Engineering at the University. He was a member of research groups on nonlinear oscillations and numerical analysis at the Research Institute for Mathematical Sciences of Kyoto University, at various times. His current research interests include numerical methods, especially computer-aided analysis of nonlinear systems, and design techniques and applications of cellular neural networks.

Tetsuo Nishi received the B.E., M.E., and D.E. degrees from Kyushu University, Fukuoka, Japan, all in electronics engineering in 1964, 1966, and 1969, respectively. After graduation, he joined the Department of Communication Engineering of Kyushu University and was promoted to associate professor in 1970. Since 1983 he has been professor in the Department of Computer Science and Communication Engineering at the same university. His research interests include linear and nonlinear circuit theory and graph theory.

Professor Nishi has served as the guest editor of several special issues of the *IEICE English Transactions*. He was an associate editor of the *IEICE English Transactions* in 1990–1994 and is presently editor of the *IEICE Transactions-A* (in Japanese).

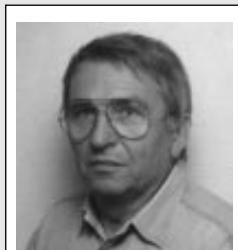
Orla Feely received the B.E. degree in electronic engineering with first class honors from University College Dublin in 1986, and the M.S.



Bing Sheu



Raimund J. Ober



Kurt J. Antreich

and Ph.D. degrees in electrical engineering from the University of California, Berkeley, in 1990 and 1992, respectively. Since 1992 she has been a college lecturer in the Department of Electronic and Electrical Engineering at University College Dublin. Her research interests lie in the area of nonlinear dynamics of electronic systems, with special reference to discrete-time systems in general and analog-to-digital converters in particular.

Dr. Feely has been the recipient of the National University of Ireland Bursary in Electrical and Electronic Engineering, 1986, University of California Regents' Fellowships, 1987–1990, and the Intel Foundation Graduate Fellowship, 1991.

Since 1987 **Vedat Tavsanoglu** has been a member of staff in the School of Electrical and Electronic Engineering at South Bank University, London. He received the Diploma from Istanbul Technical University (ITU), Turkey, in 1969 and the Ph.D. degree from Bath University, England, in 1974, both in electrical engineering. Until 1982 he was with the faculty of electrical and electronic engineering at ITU. From 1982 to 1987 he was a visiting professor at the Institute of Network Theory and Circuit Design of the Technical University of Munich, Germany. His research interests are in the areas of digital filters and filter banks, cellular neural networks, and state-space techniques as applied to the optimization of linear systems.

Pier Paolo Civalleri received the degree in electrical engineering from the Polytechnic of

... Continued on Page 13.



Wolfgang Mathis



Hans Peter Graf



Anton Kummert



Uwe Feldmann

DSP-TC: NSIP'97

The Technical Committee on Digital Signal Processing announces a **Call for Papers** for the 1997 IEEE Workshop on Nonlinear Signal and Image Processing which it is co-sponsoring with the IMDSP Technical Committee of the IEEE Signal Processing Society and Purdue University. The workshop will be held September 7-11, 1997. NSIP'97 is the third in a series of international workshops on these topics. The first was held in the winter of 1993 in Tampere, Finland, and the second was held in the summer of 1995 in Neos Marmaras, Greece.

The '97 workshop will continue the practice of being located at unique vacation spots. It will be held in the early Fall at the *Grand Hotel* on Mackinac Island in northern Michigan. The island is located in the Mackinac Straits, where Lake Michigan flows into Lake Huron. It is very scenic and has pleasantly warm, clear weather in September. It is unique in that no automobiles are allowed; all transportation on the island is by bicycle, horse, or horse-drawn carriage. The *Grand Hotel* is known for its luxurious accommodations and gourmet food.

The workshop will be a forum for the presentation and discussion of the most recent work in the area of nonlinear signal and image processing. Participation in the workshop will be by both invitation and application. The size of the workshop will be limited in order to encourage interaction of the participants. The topics to be addressed by the workshop will include: order statistic type filters: medians, weighted medians, stack filters, etc.; morphological signal/image processing and analysis; neuromorphic networks for signal processing; volterra and general polynomial type filters; nonlinear circuits and signal processing; applications of nonlinear signal and image processing; and implementation of nonlinear systems.

The tentative schedule for authors is: **January 15, 1997** for submission of two-page summary; **March 30, 1997** for notification of acceptance; and **June 15, 1997** for receipt of camera-ready paper and registration due with deposit.

To obtain further information about the workshop please contact: Prof. Edward J. Coyle, School of Electrical and Computer Engineering, Purdue University, 1285 EE Building, West Lafayette, IN 47907-1285; tel: 317/494-3470; fax 317/494-3358; coyle@ecn.purdue.edu.

Workshop information is available at <http://www.ecn.purdue.edu/conferences/nsip>.

Prof. Edward J. Coyle
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ASP-DAC '97 Homepage

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... TCAS-IAE'S

New Associate Editors. . .continued from Page 11.

Turin in 1959 and the degree of Professor in Network Theory (Libera Docenza) from Ministry of Public Education in 1966. In 1960 he became a researcher and from 1971 to 1975, a research director at Istituto Elettrotecnico Nazionale Galileo Ferraris, Turin, Italy. From 1967 to 1986 he was professor of applied mathematics and since 1975 he has been professor of electrotechnics in Polytechnic of Turin.

His research interests have covered network topology, analysis and synthesis of single-element-kind networks, multilayer n -port analysis, modeling of active and passive distributed circuits, controllability and observability of linear systems, and modeling of dielectric guides. His present interests are mainly in the field of cellular neural networks and nonlinear dynamics. He was awarded the IEEE Centennial Medal in 1984.

Bing Sheu received the B.S.E.E. degree in 1978 from National Taiwan University, and the M.S. and Ph.D. E.E. degrees from U. C. Berkeley, in 1983 and 1985, respectively. In 1985 he joined the faculty of the electrical engineering department at the University of Southern California and is currently associate professor. His research interests include VLSI chips and systems, neural networks and image processing, and high-speed interconnects. He serves as associate editor of *IEEE Transactions on VLSI Systems*, of *IEEE Transactions on Circuits and Systems, Part I* and *Part II*, and as CAS editor of *IEEE Circuits and Devices Magazine*. He served as the tutorials chair of the 1995 ISCAS, and as the technical program chair of 1996 ICNN.

Raimund J. Ober studied mathematics and physics at the University of Tuebingen and continued his studies at Cambridge University where he received the Certificate of Advanced Study in mathematics, the M.Phil. degree in control engineering and operations research and, in 1987, the Ph.D. degree in electrical engineering. In 1980 he joined the University of Texas at Dallas, where he currently is associate professor with appointments in the Program in Mathematical Sciences and in the Department of Electrical Engineering.

Prof. Ober's research interests are parameterization problems for linear systems, model reduction and robust control. He has also worked extensively on system theoretic aspects of infinite dimensional systems, and on system identification. More recently he has developed an interest in questions of molecular structure determination using nuclear magnetic resonance.

Kurt J. 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 and from 1968 to 1975 was head of the Advanced Development Department in Backnang, Germany. Since 1975 he has been professor and head of the Institute of Electronic Design Automation at the Technical University of Munich, Germany. His research interests are in computer-aided design tools for electronic circuits and systems, with particular emphasis on circuit optimization, layout synthesis, testing, and synthesis of digital systems.

After he was educated in television service, **Wolfgang Mathis** studied electrical engineering at the Fachhochschule

... Continued on Back Cover.

1997 IEEE International Symposium on Circuits and Systems

Circuits and Systems in the Information Age



June 9-12, 1997
Hong Kong Convention
& Exhibition Centre
Hong Kong



The 1997 IEEE International Symposium on Circuits and Systems will be the 30th in the series of annual international conferences sponsored by the IEEE Circuits and Systems Society. It will include regular sessions on all aspects as well as special sessions on specific advanced topics of circuits and systems. About one third of the papers will be presented in poster sessions, which give the audience greater interaction with the presenters.

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

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Linear & Nonlinear Circuit System & Theory, Distributed Networks, Power Electronics & Systems
3. *Communication & Multimedia*
High Definition TV, Image Processing, Video & Multimedia Technology, Visual Communication, Wireless Communication Circuits, Opto-electronic Circuits
4. *Computer-Aided Design*
Modeling and Simulation, Large-Scale Networks, Optimization Methods
5. *Digital Signal Processing*
DSP & Applications, Digital Filters, Speech & Audio Processing, High Speed Modems, Adaptive Signal Processing
6. *Neural Systems*
Neural Networks, Fuzzy Logic and Circuits
7. *VLSI*
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ICM'96

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For further information, contact
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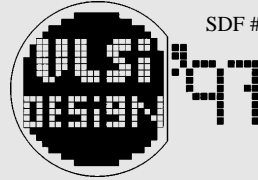
The Tenth International Conference on VLSI Design

January 4-7, 1997

Hyderabad, India

Theme: VLSI in Multimedia Applications

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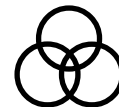
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SMACD'96

**4th International Workshop on
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Leuven, October 10–11, 1996
Dept. Elektrotechniek, ESAT-MICAS
Katholieke Universiteit Leuven
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Since 1991 the bi-annual International Workshop on Symbolic Methods and Applications to Circuit Design (SMACD) has been organized as a forum for exchange of new ideas and advances in the field of symbolic circuit analysis and its applications. In addition, a selection of papers will be considered for a special issue of the *IEEE Transactions on Circuits and Systems—Part II*.

For further information:

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SOCIETY**

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Hungary Chapter Rpt. . . continued from Page 5.

every phase, from the earliest to the contemporary, is worthy of study of the original sources." His lectures were attended by his students of electrical engineering and by students of all faculties, by colleagues, scholars, and high-school teachers. In a decade, 64,000 copies of *The Cultural History of Physics* were sold. In 1990 the book was first published in German, and the second revised edition appeared in 1995.

Professor Simonyi says, "To be cultured is not a static state to be attained once and for all: it is a never-ending process of life-long toil and maintenance. Culture means perceiving general links and structural inter-dependencies: we are part of a material and intellectual world, and our environment includes the exploding stars of distant galaxies, as much as the *Odyssey* of Homer. Culture means knowledge of our place in the universe, in the living world, in society, in our family; and it means deliberate actions arising from our place in the world. Culture includes understanding of major systems and processes such as history and knowledge of facts which anchor general principles in reality. Culture extends to our moral standards and ethical norms."

At a difficult time of the history of Central and Eastern Europe, Professor Simonyi's teaching and personal example radiated hope among those fortunate enough to be his students and work as young scientists under his direction. His beautiful books on physics and electromagnetics will remain a source of fundamental knowledge for future generations of electrical engineers and physicists. *The Cultural History of Physics* is a modern masterpiece: a testimony of the unity of human culture.

Happy birthday, Professor Simonyi, and many happy returns!

**THE INSTITUTE OF ELECTRICAL
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New Associate Editors. . . continued from Page 13.

Hannover, Germany. He then studied physics and mathematics at the Technical University of Braunschweig, Germany, and received the Diploma and Ph.D. degree (Dr.-Ing.) in 1980 and 1984, respectively. In 1988 he obtained the Habilitation degree from this University. From 1980 to 1990 he held the positions of research assistant and as assistant professor at the Technical University of Braunschweig, Germany. In 1990 he joined the University of Wuppertal, Germany, where he is now professor for theory of electrical engineering and CAD methods for electrical networks. His research interests are in linear and nonlinear systems and network theory, CAD methods for electronic circuits, numerical mathematics, and computer algebra.

A distinguished member of the technical staff at AT&T Bell Laboratories in Holmdel, New Jersey, **Hans Peter Graf** is conducting research on massively parallel processors and their applications to industrial machine vision problems. Since 1984 he has been working on neural net models, designing micro-electronic processors and leading the construction of board systems for image analysis. Among Dr. Graf's theoretical work are algorithms for the decomposition of complex images into elementary shapes.

Mr. Graf received the Diploma in physics in 1976 and the Ph.D. in physics in 1981, both from the Swiss Federal Institute of Technology in Zurich, Switzerland.

Anton Kummert received the Dipl.-Ing. (FH) degree in electrical engineering from the Fachhochschule Coburg, Germany, in 1982, and both the Dipl.-Ing. degree and Dr.-Ing. degree in electrical engineering from University Bochum in 1985 and 1988, respectively. He was also a scientific employee at the Institute for Communication Theory at University Bochum from 1985 to 1988, and chief engineer from 1988 until 1991. In 1991 Dr. Kummert joined STN Atlas Elektronik GmbH, Bremen, as a scientist, and in 1993 became head of the section for signal processing and classification there. Since 1995 he has been professor for communication theory at Bergische Universität—Gesamthochschule Wuppertal. His areas of interest include multidimensional network theory and digital signal processing with a focus on adaptive recursive digital filters and wave digital filters.

Uwe Feldmann received the Diploma degree in mathematics from the Technical University of Darmstadt, Germany, in 1967 and the Ph.D. degree from the same university in 1971. In 1971 he joined Siemens company in Munich, Germany. Until 1979 he worked with the components division of Siemens on mathematical programming, optimization and logic minimization. Since 1979 he was responsible for circuit simulation programs at Corporate Research and Development of Siemens. His interests include computational methods for circuit analysis and modeling as well as computer aided circuit design techniques.