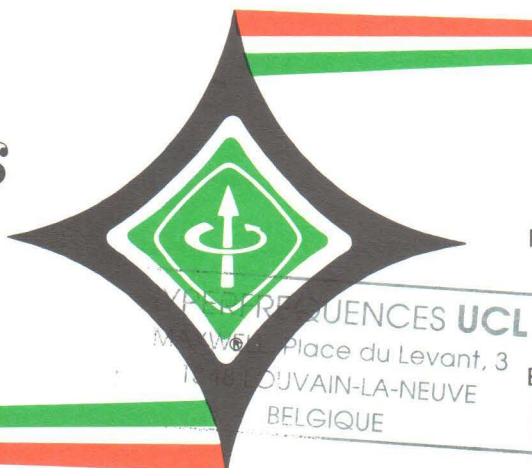


IEEE Region 8 News

No 116 - November 1996
Europe, Middle-east and Africa



Editor

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Farewell From the Regional Director

Due to the transfer of the IEEE Information System to a new computer, the last two years could be well described as "turbulent" both for the renewal of membership and member services generally. However, it is my impression that the membership database is now correct for more than 90% of the data; the Sections have received a complete list of their members, with updates in July and August. For some countries the addresses are still not correct but the Sections have offered to send to Piscataway a list of addresses needing correction. Database changes cannot be made on-line, but only in a written form by authorised members of the Regional Activities staff; failure to operate in this way would certainly introduce an element of chaos into the system.

Future Membership Growth

Region 8 has an enormous potential for enrolling new members from Eastern Europe and Africa, but many of these members cannot afford to pay the normal dues and fees - their average income may be less than \$300 per month. The Minimum Income Program is applicable when the annual income is less than \$8,600 and gives 50% reduction in dues and assessment, and 50% reduction for one Society. Some Societies have offered a limited number of free memberships to Eastern European countries in order to stimulate membership, and also to form core groups of members for the development of IEEE meetings, the establishment of Chapters and eventually a Section. The Region 8 Committee will approve an application for a new Section only if it is supported by 50-60 active members of Member grade or above.

Libraries in Eastern Europe

In order to obtain an estimate of the number of libraries in Eastern European countries that could benefit from a donation of IEEE Press Books and Publications, the previous Region 8 Forward Planning Officer, Mr. R. C. Winton, has collected a list of over fifty potential beneficiaries. Last year 56 sets of IEEE Press Books, donated by the IEEE Publications Department, were shipped to selected libraries on condition that the books should be available for all interested persons. Twenty two Societies have supported microfiche programmes for a group of fifteen libraries. Some Societies provide ten years back issues of their Transactions, and three years future issues, to keep the process going.

TAB Colloquia:

The Technical Activities Board has decided to organize annually, a TAB Colloquium series in various countries in Regions outside the United States. The aim of these colloquia is to encourage existing Sections by offering them a programme of meetings

given by Distinguished Lecturers; the Section members would also have the opportunity to take part in discussions with senior officers of the Institute.

The 1994 TAB colloquium went to Benelux, Finland, Germany, Hungary, Poland, Russia, Sweden, Switzerland and Ukraine. This year the programme is less ambitious, with visits to only 5 countries in our Region: Bulgaria, Czech Republic, Hungary, Romania and Slovenia. Two Distinguished Lecturers: Peter W. Spencer from the Power Engineering Society, and Dieter Setzer the Electron Devices Society, together with the Region 8 Director are included in the technical programme. Further visits to local industry and meetings with Section/Chapter officers, members and students form an additional part of the programme.

For 1997 the IEEE Executive Director T.W. Hissey is planning a series of Entrepreneurial Skills Workshops in St. Petersburg, Kiev and Minsk. Financial support for development of educational material has been received from the IEEE Foundation.

Regional Conferences

MELECON '96 in Bari, Italy on May 13-16, 1996. The Technical Program included 232 papers and 162 posters. The sponsoring industry created an exhibition in a separate hall in the park of Villa Romanazzi, where the conference took place. The six finalist from the Student Paper Contest took part in this event.

AFRICON '96 took place in Stellenbosch, South Africa, on 24-27th September 1996. The conference attracted an attendance of more than four hundred members from some fifty countries including nine from Africa; over 200 papers were presented. The first day of the conference was dedicated to Tutorials.

The IEEE President-Elect Charles Alexander and the Region 8 Director took part in the opening and closing sessions. The organizers of the Conference deserve our sincere appreciation for solving so effectively all those problems inseparable from the practical realization of a Conference.

IEEE Organisational Improvement.

The Implementation Committee for Structural Reorganization, of which the Region 8 Director is a member, has developed an aggressive schedule for the structural reorganization of the Institute. After the cap of all member assessments, the next step for all parts of the IEEE is to decide, before the end of 1996, which of their activities can become self-funded and which of its goods and services are indispensable.

Region 8 is unique in that with a few exceptions its 37 Sections each speaks its own language and has its own cultural background. Experience shows that two meetings of the Region 8 committee are necessary for the interchange of experience and information, and also for training purposes. Membership Development, Student Activities,

Chapter Coordination, Electronic Communication, Conference Organisation, and Educational Activities, are all considered by the Region 8 Committee to be core activities. All members in the Region benefit from the regional support of Sections and Chapters; and the better the training of IEEE volunteers, the better can the members be served. Region 8 News too, is obviously a core service for the members of the Region.

Student Activities

At the end of July, Region 8 had 5,777 student members, corresponding to 18% of the total membership of 32,177. IEEE membership is attractive for engineering students in Western Europe; for less than \$30 they receive Spectrum and one or two Society Publications. Many Student Branches are very active, and the Region 8 arranges annually a Student Paper contest in conjunction with a major (regional) conference. The contest during the MELECON'96 was organized in commemoration of the late Dick Poortvliet, who served as Student Activities Committee Chairman for many years.

When a student joins the IEEE he/she indicates the expected date of graduation; on that date the student membership is automatically transferred to regular membership. It is essential for delivery of the IEEE Publications and Correspondence that students keep the IEEE informed about changes of address. Too many student members drop out due to lack of an up-to-date address in the database. This is an important matter, which should be handled by Student Counsellors.

Au voir!

It has been a great pleasure to meet so many members, volunteers, committee members and staff during my term of office. The IEEE is a complicated organisation involving a large number of people, all of whom are dedicated to their various functions. However, the primary goal is to serve our members fast and effectively through publications, standards, educational programmes, and conferences. I wish my successor Maurice Papo good luck as Region 8 Director in the forthcoming two years, and I am looking forward to 1997 as Past Director.

Peer Martin Larsen

South Africa

AFRICON '96

By Professor Duncan Baker (R8 News South Africa Correspondent)

Now that its political isolation has ended, South Africa is becoming increasingly popular as a venue for international conferences. While the engineering and scientific community here has to some extent been less affected by isolation than other sectors, nevertheless the hosting of Region 8's AFRICON '96 at the University of Stellenbosch from 24-27th September 1996 gave clear notice that this isolation is a thing of the past. Previous AFRICON conferences were held in Nairobi, Abidjan and Mbabane.

The conference was sponsored jointly by IEEE Region 8, the IEEE SA Section, the SAIEE, the Foundation for Research Development, and the University of Stellenbosch. In cooperation with the IEEE Power Electronics Society, the IEEE SA Energy, AP-MTT and COMSIG Chapters, and the SA National Committee for CIGRÉ. Several exhibitors demonstrated state-of-the-art equipment in the power and communications fields. The AP-MTT and COMSIG Chapters incorporated their annual conferences into the general framework of AFRICON '96.

Over two hundred papers were selected from the three hundred and twenty abstracts submitted. These papers were drawn from South Africa-136, W. Europe and UK-33, Rest of Africa-29, Middle East-9, USA-5, Eastern Europe-3, Japan and Singapore-3 and Australia-2.

Electrical energy, technology, communications and human resources development were well represented. Nine tutorials covering these themes were presented on the first day of the Conference.

Participants in AFRICON '96 were welcomed by Prof. A.H. van Wyk, Rector and Vice-Chancellor of the University of Stellenbosch. The welcoming address was presented by IEEE President-elect Dr. Charles K. Alexander and the Director of Region 8 Prof. Peer Martin Larsen. Prof. David H. Jacobson, Group Executive Director of ALTRON, delivered an inspiring opening address. AFRICON '96 provided an ideal forum for colleagues from many countries to address issues affecting the social and commercial betterment of all the peoples of Africa, and the significant role that electrical and electronic engineering has in achieving this objective. The hard-working Organising Committee under the able leadership of Prof. Johan H.R. Enslin and our other colleagues at the University are to be congratulated on their excellent organisation. Arrangements are already being considered for the next AFRICON. Initial proposals will be discussed by the Region 8 Committee at its meeting in Denver, after the Sections Congress at the beginning of November 1996.

Copies of the two volume Transactions of AFRICON '96 may be obtained from the IEEE offices in Piscataway, New Jersey. The reference numbers are:

IEEE Catalog No: 96CH35866

ISBN: 0-7803-3019-6 Softbound Edition

ISBN: 0-7803-3020-X Casebound Edition

0-7803 3021-8 Microfiche Edition

Library of Congress: 95-80272

Professor Duncan Baker (duncan.baker@ee.up.za) was vice chair of the organising committee of AFRICON '96
Section Chairman: Professor Willem Perold



IEEE Power Engineering Society

1997 Summer Meeting

**will be held in Region 8
for the first time!**

**20-24 July, 1997
Berlin, Germany**

Co-located with the annual meeting of Germany's VDE-ETG, PES registrants may attend sessions of either meeting. Simultaneous translation of the plenary, entitled *Development of New Regulatory Environments in Europe and the United States*, and its two related special technical sessions allows meeting-goers to listen in German or English.

Take advantage of the opportunity to network with power engineers from around the world, and learn more about our international technology and standards as well as the global marketplace.

For information and registration forms, see the November and December issues of *Power Engineering Review*, POWERFAX, the PES fax-on-demand system (dial 908-981-9327 from the handset of your fax machine) or the World Wide Web (<http://www.ieee.org/power>).

The Shape of Things to Come

By Maurice Papo (Region 8 Director-elect)

In political circles it is the custom, if not the rule, to forget all "before election" statements immediately after taking office. Fortunately the IEEE is not a political arena, and I intend to remember the commitment I made last year

"...I shall put my experience at the service of Region 8, with the aim of encouraging members to take a more active part in the corporate affairs of the Institute, affairs conducted principally in the USA. It would be seen that the Region was in this way making worthwhile contributions to the committees and boards on which its members serve..."

I am now making an early start on that programme, and in a typical engineering fashion, I am attempting to evaluate the situation before launching a development project. That evaluation requires some information to which we do not at the moment have access.

To my surprise, I find that the IEEE staff in Piscataway are unable to answer the simple question: "Who are the Region 8 members serving in the USA on Boards, Standing or Ad-hoc Committees, Task Forces etc., be they in the IEEE itself or in any of its Divisions or Societies"? Clearly, in spite of the IEEE so-called "globalism" programme, no one has yet bothered to gather that information, the absence of which makes it quite difficult to devise a programme of improvements for the conduct of our Regional business.

So I have to go back to you, the members of Region 8, to ask for help. I request those of you who are presently assigned to any task or function on the other side of the Atlantic - in the IEEE itself or in a Division or Society - to drop me a note, preferably by E-mail (m.papo@ieee.org) or by fax if E-mail is not available (+33 493 532673). Our secretary Basil Osborne (b.osborne@ieee.org) would appreciate a copy.

This is the information I am seeking:

Last Name (Family Name) and first Name.

IEEE Membership Number.

Your function(s) in Region 8 or Section, if any.

Address.

Business Phone.

Business Fax.

Home Phone.

Home Fax.

E-mail.

Your Function in the USA - President, Secretary etc., if specified.

Date and method of assignment (nomination, election, and by whom?) Is the duration specified? If you were elected, could you be re-elected? How many meetings per year?

Who pays your travel costs?

Without disclosing the details of my future programmes, I have to tell you that I intend to submit to the Region 8 Committee and the IEEE entities, a proposal to fund half the

travel costs for Region 8 members who receive a worth while USA assignment in the Institute, provided that the receiving body funds the other half.

One of the reasons why I ask for this information is obviously to be able to establish a budget and negotiate with counterparts. The next step will be to select the areas for such assignments, and ask for volunteers from our Region.

Congratulations to all those who have pioneered the field of Region 8 representation in the USA. I hope their example will be followed by many others.

Director-elect: Mr. Maurice Papo, 14 Blvd Prince de Galles, 06000 Nice, France. Tel: +33 4 93 81 41 12. Fax: +33 4 93 53 26 73.
E-mail: m.papo@ieee.org

Digital Signal Processing

DSP Solutions - Challenge 1997

Texas Instruments are repeating their competition to find original solutions to practical problems with the use of TI DSP chips and associated hardware and software.

Teams of university students, and an advising professor, will be expected to suggest their topic, produce a functional model and a written report, with an English translation if necessary. The 1995 winners produced a motion picture restoration system which works by erasing damaged areas of the digitised film and filling the empty space with information captured automatically from elsewhere in the film. Other possibilities are:

- A low cost automotive volume control responsive to background noise. Develop a system that will automatically adjust a car's audio system volume depending on the environment of the automobile.
- A Digital still camera using DSP. The critical code is the Huffman encoding and decoding portion of the JPEG algorithm. Hand-held camera pictures are digital and can be stored on the PC hard drive.
- Portable voice organiser for recording quick memos in a car, for example. The speech would be compressed and stored in the "organiser". Later, it could be downloaded via an infrared connection to a PC. The compressed voice would then be stored in a S/w package on your PC. Develop a speech-to-text s/w package to convert spoken voice to text (memo).
- For more application examples, check the worldwide web site at http://www.ti.com/sc/dsp_challenge.

Awards ranging from \$1,000 to \$100,000 will be made in accordance with the rules of the contest. Further information may be obtained from:

Mr. Robert Owen,
European University Programme Manager
DSP Solutions Challenge 1997
M/S TIF 100, PO Box 5
Avenue Jack Kilby
06271 Villeneuve-Loubet Cedex
FRANCE.

Fax: +334-93 22-22-98. Phone: +33 4-93 22921909
E-mail: 2dc@msg.ti.com

France

by Professor Edwige Pissaloux

1996 International Workshop on Millimeter Waves

With technical co-sponsorship by the IEEE France Section, and organised by the ED & MTT Chapter, this workshop was held in Orvieto (Italy), 11-12th April 1996. Dr. V. Fouad Hanna from France acted as a co-organiser.

GAAS '96 and its associated Workshop

was held in Paris, CNAM, June 5-6. The workshop involved several European Chapters: France, Germany and United Kingdom.

WOLTE-96, 2nd European Low Temperature Electronics Workshop

was held in Leuven, Belgium, June 26-28. Participants from 21 different countries attended the workshop.

EDS & MTT Chapters organised two conferences (Distinguished Lecturers Programme) at CNAM, Paris on October 11th

i) Miniaturisation Techniques for Microwave Components for Mobile Communication Systems using low loss dielectrics; speaker Dr. Kikuo Wakino, Murata Mfg Co., Kyoto, Japan.

ii) Technology and industrial research for a product with large scale applications. Speakers: Dr. Derek Smith and Dr. Gilles Dupont, LEP-Philips Microwave Limeil, Limeil Brevannes, France.

NEWS IN FRENCH

La Section Française est sur l'Internet. A l'adresse: <http://w3.upicardie.fr/~cerin/ieee/> -vous trouverez Kiosque WEB de l'IEEE France. Nous remercions l'Université d'Amiens pour son soutien des activités de notre Société.

Création du CHAPITRE français de la Power Electronics Society (PELS). M. le professeur Gérard-André CAPOLINO organise ce chapitre; les intéressés sont invités à le contacter à l'Université de Picardie, IUP, Département Génie Electrique & Informatique Industrielle, 33 rue Saint-Leu, 80039 Amiens Cedex; tél.: (03) 22 32 78 21; fax: (03) 22 82 78 22

Rectification: le CHAPITRE Robotics and Automation est présidé par M. Pierre DAUCHEZ, LIRMM Université de Montpellier, et Mlle Yasmina BESTAOU de l'Ecole Centrale de Nantes est vice-présidente. Les intéressés peuvent contacter Mlle Bestaoui au Laboratoire d'Automatique de Nantes, Ecole Centrale de Nantes, 1 rue de la Noe, 44072 Nantes; tél: 02 40 3 7 25 12; fax: 02 37 25 22; E-mail: Yasmina.Bestaoui@lan.ec-nantes.fr. Nous présentons toutes nos excuses pour l'erreur qui s'est glissée dans le numéro précédent de Region 8 News à ce sujet.

Les Anciens de la Radio et de l'électronique

Vous invitent aux conférences suivantes:

- le 19 novembre 1996, << Les Programmes Spatiaux Français et Européen >> par Michel BIGNIER, ancien Directeur Général du C.N.E.S., et ancien Directeur de l'Agence Spatiale Européenne.

- le 21 janvier 1997 <<L'électronique dans les transports ferroviaires>>, par Michel CHATEAUREYNAUD (X64, ESE69), Direction des Equipements et Systèmes électriques SNCF, et Marc PROVOOST (ESE81), Direction de l'Electronique, SNCF.

- le 18 mars 1997, <<Le télescope Hubble>>, par Olivier LE FEVRE, astronome à l'Observatoire de Paris-Meudon.

La section française recherche des personnes pour s'occuper de des activités étudiants merci de contacter Christine NORA

Section Chairman: Dr. Christine Nora, 14 Rue de la Tour, 75116 Paris, France. Fax: 01 46 92 21 32. Tel: +01 46 92 21 60.

E-mail: nora@poly.polytechnique.fr

IECON '97



Call For Papers

The 23rd Annual International Conference of the IEEE Industrial Electronics Society November 9-14, 1997 - New Orleans, Louisiana, U.S.A.



Sponsored by: IEEE Industrial Electronics Society
Co-Sponsored by: Society of Instrument and Control Engineers of Japan (SICE)



IECON '97 is an international conference on industrial applications of the technologies listed below. The objectives of the conference are to promote a high quality of research and professional interactions for the advancement of science, technology and fellowship. The technical program will be organized around the following five conference themes:

EMERGING TECHNOLOGIES: Industrial applications of neural networks, fuzzy algorithms, industrial applications of intelligent systems, artificial intelligence and expert systems, and intelligent mechatronics.

ROBOTICS, VISION AND SENSORS: Advanced robotics, intelligent sensors, machine vision and intelligence, actuators and motion control, micro electromechanical systems, multi-sensor fusion and integration, and autonomous mobile robots.

POWER ELECTRONICS: Power electronics devices and systems, high frequency power converters, digital control of power electronics, energy systems, electrical drives, static VAR and harmonic compensations, and analytical and simulation methods.

FACTORY AUTOMATION: Factory communications, flexible manufacturing, manufacturing system architectures, industrial automation, process automation, CAD/CAM/CAT/CIM and LAN.

SIGNAL PROCESSING AND CONTROL: Advanced control and measurement, computer and microprocessor-based control, data reduction and signal processing, estimation and identification techniques, Instrumentation electronics, modeling and simulation, automotive electronics, human Interface, software design and tools, and nonlinear control systems.

For further information contact:

Michael Greene, Dept. E.E.
Auburn University
Auburn, AL 36849 U.S.A.
Ph: +1 334 844 1828
Fax: +1 334 844 1809
Email: greene@eng.auburn.edu

Deadlines:

Summary and video submission,
special sessions & tutorials: **March 1, 1997**
Notification of acceptance: **May 15, 1997**
Final manuscripts due: **August 17, 1997**

THE MILE HIGH CITY - DENVER COLORADO

SECTIONS CONGRESS 1996

At three-yearly intervals the IEEE organises a congress where the Sections from every Region express their opinions about the future services which should be provided by the Institute. Arrangements are also made to enable Section representatives to discuss anything they wish; not with the members of the many boards, divisions and councils, but with those who actually do the work. The staff are able to explain to their customers (you and me) how the Institute works and what services are available to ease the lot of those hard-working slaves who defend and extend the Institutional Empire. The 1996 Congress was held in Denver Colorado (alt. 5,280 feet), close to the Rocky Mountains; the modern architecture is attractive and the buses are free.

Financial Advantage. A scheme to provide a miscellany of financial and other services, including mutual funds (English=Unit Trusts), a credit card and various kinds of insurance. Some care is needed here since most of the services are restricted to USA; the minimum investment is \$5,000. The Institute is anxious to extend the project to countries outside USA but it will be in competition with the similar schemes that now infest the European market; everyone wants to lend you money or insure you against possible or improbable disasters; be especially careful with the word "insure"!

E-mail: fap-issues@ieee.org. Fax:
1 908 981 053

Publications: The Institute is a publisher of technical literature on a large scale but of recent years its works have not been a model of clarity and modern publishing practice. It is clear from the Congress display stand that there is now a new era: books, pamphlets, leaflets and membership forms, all have the stamp of professionalism. This cannot but improve the Institute's administrative image, both in the eyes of members and the wider public

Future Plans: Regional delegates met in camera and put forward suggestions for improving future IEEE services. The Region 8 list was as follows:

- i) Free first-year membership for students
- ii) Provision for representation on Society AcComs
- iii) Subsidise membership where very low incomes prevail
- iv) Better support for student activities
- v) Proper market analysis of membership potential
- vi) See ii)
- vii) More Conferences should be located in Central Europe
- viii) Database of non-members: National Societies, Technical Conferences etc.

The two most voteworthy suggestions from each Region were voted upon, collated and sent to a full meeting of the delegates, where the new list was subjected to yet another vote (Results in February Region 8 News). Readers will no doubt have noticed that the very difficult words "money" or "feasibility" do not appear in these suggestions; the cynic might imagine that they are reserved for use as an "optout" by politically experienced high ranking committees.

The Globe Programme, which has the support of the IEEE, is a worldwide science and education project with the intention of bringing together the work of students, teachers and scientists to study and understand our global environment. More information from:

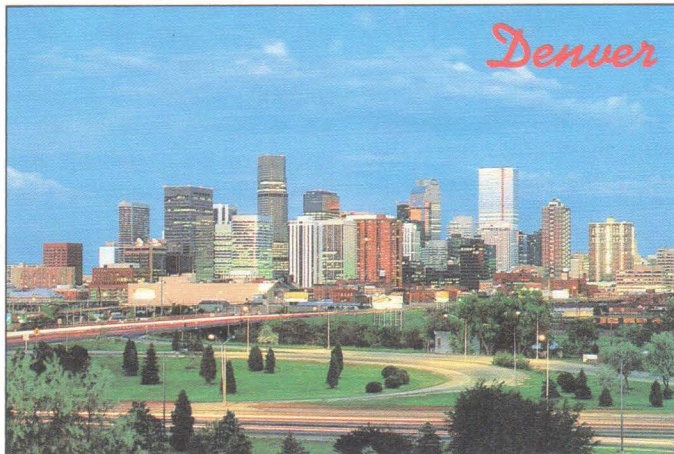
Cecelia Jankowski, Managing Director Regional Activities. Tel: 908 562 5501 (USA). E-mail c.jankowski@ieee.org. The Globe home page is [HTTP://WWW.globe.gov](http://WWW.globe.gov).

Good Bye Telephone: We note with considerable satisfaction that within the IEEE, the latin "vox" is replacing the English "telephone". It is to be assumed that with progress this will become "vox humana", and the customary stereotyped Piscataway reply will come not from a Telephone Answering Machine but from "vox Piscataway". No doubt technological progress will change the customary "I am not at my desk as of this moment", into some more appropriate latin text. The ultimate technical triumph will enable one or more "voxes Piscataway" to conduct a conversation amongst themselves, and report back their decision to whichever party merits a reply; all in the complete absence of human intervention.

IEEE Pressbooks may be purchased at discounts of up to 50% off the list price, when they are used as awards for Section or Society-sponsored functions. Substantial discounts are also available for books used as premiums, or included in the registration fee for meetings.

For information on Special Offers: Karen Hawkins, Editor, Tel: 1 908 562 3964 or K.hawkins@ieee.org

A Sheep-dog Service is operated by Marianne Schmit (Member services) to round-up "delinquents" and return these wayward members to the Institute's fold: it is said to be financially efficient. A complex operation about which more in the February R8 News. Careful! "juvenile delinquent" in colloquial english= young criminal.



Region 8 News Awards & Recognitions

To Mesdames Vera Sharoff and Marianne Schmidt: a Special Region 8 News *Certificate of Merit* for Patience & Competence in the face of a barrage of difficult (and sometimes stupid) questions.

To Mr. Kenneth Moor, editor of The Institute: the Region 8 News "Clarity" Medal for his translation of **three solid pages of this**

derstanding of arcing and interruption phenomena and development of commercial vacuum interrupters; Yasusada Kitahara, Nippon Telegraph & Telephone Corp., Tokyo, for leadership in the promotion of the Information Network System, and contributions to related R&D activities; Makoto Kitazawa, Toshiba Komukai Works, Kawasaki-shi, Japan, development of television broad-

Japan, practical application of digital signal-processing (DSP) techniques for telecommunications systems through the development of algorithms and DSP LSI chips; Matthew S. Mashikian, University of Connecticut, Storrs, understanding, diagnosis, and mitigation of premature failure of extruded dielectric cables; Takeshi Matozaki, University of Tokyo, Noda, Japan, application of

into three pages of this

NELSON SIMON SAKS, Naval Research Lab, Washington, D.C., for contributions to the understanding of the basic mechanisms of radiation damage in metal-oxide-semiconductor devices;

FATHI M. A. SALAM, Michigan State University, East Lansing, Mich., for contributions to the development of tools for the analysis and design of nonlinear and chaotic circuits and systems;

LUIGI SALVADERI, ENEL S.p.A., Rome, Italy, for contributions to the application of Monte Carlo techniques in

From "The Institute"

1993 and 1996

To the Congress organisers: Everyone's thanks

From the Conference *Co-ordinator*

Professor Baldomir Zjac

Cellular Neural Networks NAA '96

CNNA '96 was the Fourth International Workshop on Cellular Neural Networks and their Applications organized by the Spanish National Microelectronics Centre and University of Seville. Among the co-sponsors were the IEEE Circuit and Systems Society, F.A.M.E. European Circuits Society and also the Region 8. This workshop followed a series of three similar events held in 1990 Budapest, in 1992-Munich, and in 1994-Rome. CNNA '98 will be held in London.

The workshops provide a platform for establishing the basic properties of the CNN paradigm; they also outline major applications. CNNs seem to be the architecture most likely to exploit the advantages which may be derived from massively parallel computations. Some industrial applications are being explored using the new generation of stored-program CNN chips and their associated development systems. The analysis, simulation and verification of these chips raise complex computational problems and require the development of proper CAD-based design and test methodologies.

The 1996 workshop demonstrated a very strong emphasis on practical design using commercial grade CNN universal chips; systems level applications using these chips were also described. In addition to maintaining the high standard of theoretical contributions reached in the previous Workshops, one of the goals was to attract some of the many outstanding circuit designers who are now working on various aspects of Neural Networks

The contributions received for the CNNA series of workshops continues to grow satisfactorily, with eighty four selected papers coming from twenty countries: there were sessions for Image Processing, CNN Computers, Learning, Design, and Implementation Issues.

The last day of CNNA '96, was also the first day of NDES'96

Nonlinear Dynamics of Electronic Systems NDES '96

NDES'96 was the Fourth International Workshop on the Nonlinear Dynamics of Electronic Systems; it was organised by the same group as was responsible for CNNA'96. Among the co-sponsors were: IEEE Circuits and Systems Society, European Circuit Society, Cajasur, Regional Government of Andalusia, the Spanish Section and Region 8. The series started in Dresden-1993; it continued in Krakow-1994 and Dublin-1995. From the beginning these workshops were intended to provide a discussion forum focussed on the theory and applications of the nonlinear dynamics in electronic circuits and systems. NDES'97 will be in Moscow.

The response to these workshops has been most satisfactory: in Dresden 23 papers were presented, in Krakow-52, in Dublin-64 and this year in Seville-79; all have been organised on the basis of two parallel tracks running throughout the workshop. One track was devoted mostly to theoretical issues, whilst the other was focussed on applications, with a clear

dominance of chaotic synchronization and its use for communications. In these areas there were the same number of papers as in the whole dresden workshop - a clear indication of the growing interest in the topics. The remaining papers covered: Analytical Methods, Chaos and Periodicity in Circuits, Coupled Dynamic Systems, Topics on Chua's Theorem, Nonlinear Dynamics, Control of Chaos, Discrete Time Systems, and Chaos in Systems with Time Delay. There were also four plenary lectures and several live demonstrations.

An interesting novelty was to schedule the NDES workshop only one day after CNNA'96, the intervening day being used for the discussion of topics common to both meetings. Although these two events have a different focus and have in the past been held independently on different dates and at different locations, there was in fact a considerable interaction between the combined audiences; both were attracted by a common desire to exploit the applications of nonlinear science and high technology in the design of intelligent, compact and real-time nonlinear systems.

In order to enhance future cross-fertilisation between the two workshops and also to encourage an increased participation by members of the Circuits and Systems Society in these predominantly European activities, it was decided to strengthen this link by organizing future similar events in the same week and on the same site. The interfacing day linking these two activities, included a Distinguished Plenary Lecture session entitled: "Visions of Nonlinear Science in the 21st Century", where twelve eminent scientists delivered lectures on their visions of the challenges and possibilities which might derive from nonlinear science, mathematics and technology during the next century.

Student Activities

By Dr. Levent Onural

Region 8 Student Paper Contest. Every year each Student Branch holds a local Paper Contest, at any time convenient to the Branch. The winner(s) of each contest - one winner for each fifty students - may compete in the Regional Student Paper Contest; an international jury will grade the submitted papers

The work presented has to be completed before the first university degree. Doctoral theses are not considered. The original paper may be written in any language but please provide an English translation if the original is not in English.

Travel and accomodation expenses for the authors of the five selected papers Awards of \$500, \$300, and \$200, will be given to the three winners; in addition there will be an award of \$250 to the Student Branch of the winner. Deadline for submission of papers is 15th December 1996.

Student Branch Formation. A minimum of twenty student members at a university must sign a petition for the formation of a Student Branch at a particular university. There must be an IEEE member of the university faculty willing to act as Branch Counsellor. The signatures of the Department head, the Dean and the Section chairman are also required.

Material describing the degree programmes must also be included. Further information may be obtained from: <http://www.e.bilkent.edu.tr/onural/sac.ht.ml>

Student activity chairman: Dr. Levent Onural, Electrical Engineering dept., Bilkent University, TR-06533, Ankara Turkey. Fax: +90 312 266 4126. E-mail: l.onural@ieee.org

TWO 3-DAY ADVANCED ENGINEERING COURSES ORGANIZED BY
Electronics Laboratories of the Swiss Federal Institute of Technology Lausanne, Switzerland



MODELING AND SIMULATION OF MOS ANALOG ICs

Course 1 : February 19-21, 1997

An Overview of the SPICE FET Modeling Infrastructure
Benchmarking FET Models for Circuit Design
SPICE : Its Use, Its Limitations and How to Overcome Them
MOS Modeling Dedicated to LV and Low-Current Circuit Design
Matching of MOS Transistors
Interconnect Modeling
Behavioral Model. and Simulation of Analog and Mix.-Signal Circuits
Simulation Techniques for RF Circuits

D. FOTY, Gilgamesh Assoc.
D. FOTY, Gilgamesh Assoc.
M. GREEN, SUNY
C. ENZ, EPFL
M. VERTREGT, Philips Research
N. ARORA, Simplex Solutions
G. GIELEN, KUL
G. GIELEN, KUL

SPECIAL TECHNIQUES FOR HIGH- PERFORMANCE OP-AMP IC DESIGN

Course 2 : February 24-26, 1997

Systematic Design of CMOS and BiCMOS Op-amps
High Frequency Amplifiers for RF Applications
Introduction to Low-Noise Amplifiers
Low-Noise Amplifiers for Capacitive and Inductive Charges
High-Performance SOI CMOS Op-Amps
High-Voltage Amplifiers in Standard CMOS Process
Off-Chip Drivers
Low-Voltage Operational Amplifiers

W. SANSEN, KUL
B. RAZAVI, UCLA
C. ENZ, EPFL
W. SANSEN, KUL
D. FLANDRE, UCL
G. DECLERCQ & H. BALLAN, EPFL
R. CASTELLO, Univ. of Pavia
J.H. HUIJSING, TU Delft

Deadline for Registration : **January 17, 1997**

Registration Fees : Any One Course = 1'500.- CHF, Both Courses = 2'500.- CHF

FIRST ANNOUNCEMENT AND PRELIMINARY PROGRAM

ADVANCED ENGINEERING COURSE ORGANIZED BY
Electronics Laboratories of the Swiss Federal Institute of Technology Lausanne, Switzerland

ADVANCED CMOS & BiCMOS IC DESIGN '97

August 18 - September 5, 1997
EPFL, Lausanne - Switzerland

ADVANCED DIGITAL IC DESIGN

Session I : August 18-22, 1997

Evolution and Trends of Microelectronics	M. DECLERCQ, EPFL
CMOS & BiCMOS Static Logic	P. DUCHENE, EDAS
High-Speed Single-Phase Dynamic Logic	C. SVENSSON, Linköping Uni.
Interconnects and Related Problems	C. SVENSSON, Linköping Uni.
Archit. and System Opt. of Power Cons.	A. CHANDRAKASAN, MIT
Ultra Low-Power Digital Design	C. PIGUET, CSEM
High-Speed BiCMOS Circuit Techniques	H.-J. PFLEIDERER, Uni. Ulm
Clocking Strategies	K. ESHRAGHIAN, E. Cowen Uni.
Systolic Arrays	H.-J. PFLEIDERER, Uni. Ulm
Memories and Regular Structures	K. ESHRAGHIAN, E. Cowen Uni.
PLA, Latch-up and Protections	K. ESHRAGHIAN, E. Cowen Uni.
I/O and Chip Assembly	K. ESHRAGHIAN, E. Cowen Uni.
VHDL for VLSI Design	A. VACHOUX, EPFL
Design for Testability	A. OSSEIRAN, EPFL

ADVANCED ANALOG IC DESIGN

Session II : August 25-29, 1997

MOS and Bipolar Transistors	E. VITTOZ, CSEM
Modes of Operation and Models	E. VITTOZ, CSEM
Passive Components / Parasitics	E. VITTOZ, CSEM
Analog Layout Techniques	E. VITTOZ, CSEM
Elementary Building Blocks	E. VITTOZ, CSEM
Analog Functional Blocks	W. SANSEN, KUL
Op-Amps and Comparators	W. SANSEN, KUL
Voltage References	E. VITTOZ, CSEM
Oscillators	E. VITTOZ, CSEM
BiCMOS Building Blocks	H. CASIER, MIETEC
Off-chip Drivers	R. CASTELLO, UPV
Delta-Sigma Data Converters	G. TEMES, OSU
Low-Noise Amplifiers	C. ENZ, EPFL
Future Trends in Analog ICs	E. VITTOZ, CSEM

PRACTICAL ASPECTS IN MIXED-MODE

Session III : September 1-5, 1997

Mixed-Signal Circuit Layout Techniques	T. SCHMERBECK, IBM
Noise Coupling in Analog ICs	T. SCHMERBECK, IBM
Design Reducing Noise Coupling	T. SCHMERBECK, IBM
Design of Linear SC Circuits in Digital CMOS	G. TEMES, OSU
Practical Aspects of SC Circuit Design	G. TEMES, OSU
CDS and Chopper Stabilization Techniques	G. TEMES, OSU
Smart Power ICs for DC-DC Converters	T. SZEPESI, ADI
Potentials and Limitations of SI Circuits	P. DEVAL, MEAD
GHz Low Phase-Noise VCOs in CMOS	M. STEYAERT, KUL
CMOS GHz Dual-Modulus Prescalers	M. STEYAERT, KUL
MOS Modeling for LV-LI Circuit Design	C. ENZ, EPFL
Trends in VLSI Technologies	G. DECLERCQ, IMEC
On-Chip Voltage References and Grounding	P. BROKAW, ADI
Battery Backup Circuits, Op-Amps and Bias	A. GANESAN, Consultant

Deadline for Registration : **JUNE 30, 1997**

Registration Fees : Any One Session = 2'600.- CHF, Any Two sessions = 3'600.- CHF, All Three Sessions = 4'600.- CHF

Course Directors: Michel Declercq, Gabor Temes, Vlado Valence and Eric Vittoz

Contact & Registration Address: V. Valence, EPFL-LEG, EL-Ecublens, 1015 Lausanne, Switzerland, Tel : +41-21-695-2222, Fax : +41-21-695-2220, e-mail : valence@mead.ch

- These courses are part of the EPFL Electronics Lab's contribution to the EC program EUROPRACTICE, for which the EPFL has been designated a "Technology Transfer Node" (TTN). -

OUR WEB SITE IS THE FOLLOWING : http://dewwww.epfl.ch/leg/post_ht/postform.htm

Marina Congress Center, Helsinki, Finland September 1-4, 1997

PIMRC'97

The 8th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications

Contact: TPC Secretary Jaakko Talvitie
Fax: +358 8 553 2820. E-mail: jaakko.talvitie@ee.oulu.fi
http://www.pimrc.oulu.fi

Utrecht University, Netherlands 2-4 July 1997

First International Conference on Scale-Space Theory in Computer Vision

Scale-Space '97 Secretariat, Heidelberglaan 100
3584 CX Utrecht - the Netherlands
Tel: +31 30 2507 772. Fax: +31 30 2513 399
E-mail: scalespace97@cv.ruu.nl
URL: http://www.cv.ruu.nl/Conferences/ScaleSpace97.html

London, UK 23-25 June 1997

Marine Electromagnetics Marelec '97

Contact: Ms K. Hancox, Imperial College London.
Tel: +44 171 594 6166
Fax: +44 171 823 8125 E-mail: marelec@ic.ac.uk
(Financial Assistance: A number of bursaries will be available)

University of Warwick, UK 1-3 September 1997

TENTH INTERNATIONAL CONFERENCE ON ELECTROMAGNETIC COMPATIBILITY

Contact: Louise Hudson, IEE Conference Services,
Savoy Place, London WC2R 0BL
Tel: +44 171 344 5467. Fax: +44 171 240 8830
E-mail: lhudson@iee.org.uk

The Computer Society

50th Anniversary

To celebrate its 50th Anniversary the Society has created a special class of Society Member - the Golden Core; it consists of approximately 500 persons who have served the Society in significant ways throughout its 50 years.

Our congratulations to **Prof. Dr. W.E.Proebster** who has just been elected to the Golden core.

Professor Karoly Simonyi

To celebrate the 80th birthday of the distinguished Hungarian scholar and educator, Professor Karoly Simonyi, IEEE Region 8 and IEE London Centre (which is twinned with Budapest) jointly issued a proclamation honoring his great achievements in electromagnetics, with the following text.

The Committees of the IEE London Centre and IEEE Region 8 (Europe, Middle East and Africa) congratulate Professor Simonyi on his 80th birthday, for his outstanding career as an educator and author, especially in the fundamentals of electromagnetic field theory, and for his contributions to the interpretation of the cultural and historical development of physics.

The certificate was presented to Professor Simonyi during the week of October 14th by the Region 8 director Professor Peer Martin Larsen

By Professor A.Y. Bilal

In February last, a meeting was held to elect the new executive committee of the Egypt Section. The committee officers decided that a meeting should be held once a month. The committee intends to initiate new activities and to promote the promising ones from previous years. There are now six chapters in the Egyptian Section: **Computer, Antennas and Propagation, Control, Power, MTT/ED, Communications** (This is the most recent chapter; it was inaugurated in September of this year)

There is a sub-section in Alexandria.

The executive committee studied the current position and decided to apply for a new subsection at Mansoura University.

Attention to Membership development, especially student membership, has been identified as a priority. Starting this year an *Information Day* will be held annually; this will help recently graduated students to continue their membership of the Egypt Section, to profit from its seminars and to enjoy a close partnership with the Egyptian industry. This year, the Section was honoured by the Upsilon Pi Epsilon Society for Computing Sciences and the IEEE Computer Society. Mr. H. Fahmy (Cairo University) was the recipient of the 1995 UPE/CS award for his B.Sc project "Design and Implementation of (AHD-2494, a 24 bit RISC) Processor on a VLSI Chip". We plan to continue supporting the student members in their projects.

The number of monthly seminars has been increased to include at least one in every Chapter. The seminar themes tackle many different subjects, varying from basic science to research projects and industrial applications. It also includes the invitation of foreign professors to discuss their latest research work

The Executive committee plans to create a continuous relationship with the Engineering Society and the departments of Electrical Engineering in Egypt, through the section's quarterly Newsletter. All engineers, engineering societies, associations and organisations are invited to participate in this newsletter by submitting articles and contributing relevant news.

The Section started its own information system. A new service to help the Executive committee: All IEEE members and all engineers are requested to contact IEEE members or others working in the same field or sharing the same interests. The Section is looking forward to upgrading this information system with IEEE CD-ROM Library and IEEE Standards.

The Section continues to co-sponsor and organise international conferences and Symposia in Egypt - for example: CATE 1996, March 18-20 1996 in Cairo. Contact: Prof. Nadia Hegazy, ERI National Research Centre, Doki, Giza, Egypt. Quantum Devices and Circuits: 4-8 June 1996 in Alexandria. Contact: Prof. A.E. Salamas, Dept of Electronics & Telecommunications, Faculty of Engineering, Cairo. Tel: +202 572 8564, Fax: +202 572 3486.

● **MEPCON '96**, 4-6 January 1997 in Alexandria. Contact: Prof I. Megahed, Electrical Engineering Dept., Alexandria University, Faculty of Engineering, El-Shataby, Alexandria Egypt. Tel: +203 59 600 48 or 597 24 564. Fax: +203 5971853.

● **URSI '97**, 23-25 March 1997 in Cairo. Contact: Prof. Moustafa Nour El-Dien Fahmy, Dept of Electronics and Telecommunications. Faculty of Engineering, Cairo University, Giza, Egypt. Tel: +202 572 8564. Fax: +202 572 3486.

Chairman: Professor A.Y. Bilal, Director NTE, 5 El-Mokhaicm St
POB 7070 Nasr City, 11768 Cairo, Egypt. E-mail: Bilas@nti.sci.eg