

# IEEE Region Eight NEWS



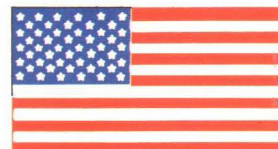
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- 4 FEB. 1987



## LETTER FROM THE EDITOR

Dear Regional Colleagues,

You will perhaps have noticed that our appearance is not what it was, but that is not the only change. For a start I am attempting to make a modest contribution to the solution of a problem which faces the ordinary IEEE member who wishes to express his opinion, pleasure or displeasure concerning any facet of IEEE activity or in connection with any matter affecting our electrical engineering community. Under the direction of Professor Bob Williams Region 8 News has for some 20 years welcomed the views of its readers, but however well one speaks a foreign language – in this context English is a foreign language – it is never easy to write in that language; a serious impediment to the introduction of new ideas and the righting of old wrongs. From today, any member will be able to write to Region 8 News in any of the following languages; a number of kindly members have volunteered to translate into English "letters to the Editor" of not more than 200 words:

Russian	Portuguese	Polish	Italian
Iranian	Hungarian	Hebrew	German
French	English		

If for reasons of your own you wish to remain anonymous please say so, your name and address will not be published, but it must accompany your letter. Are you satisfied with the programme of Conferences organised by the Region? What would you like the central (U.S.) organisation of the IEEE to do for you that it does not do now? And on a more personal note, what changes would you like to see in Region 8 News? More of what, less of something and what are its failings? There is ample evidence that R8N is read by the senior administrative staff of the IEEE and that they welcome criticism and suggestions which may help them to put right that which is wrong or to introduce new services; but it is you my dear readers who know what you wish to have changed and it is you who possess the originality to make that which is already good, into something better: if you don't tell them they can do nothing to remedy your grievances or put your suggestions into effect. For my part I shall make sure that your views are put before those who are in a position to do something about them.

Should there be volunteers willing to translate into English, letters written in a language not already on my list, please write to me.

**Small Advertisements**, "Back Page Miniboxes", are now available to all Sections, all members and all non-members. There are only three rules: their size must be a vertical or horizontal multiple of the two standard "boxes" illustrated on page 12, a cheque in your local currency for the dollar equivalent cost of the box you have chosen must accompany your advertisement copy, and advertisements for staff will not be accepted. The Editor reserves the right to decline an advertisement without giving a reason. This is a simple, inexpensive and effective method for bringing your Conference, the Service you offer, or your Company, to the notice of more than 18,000 English-speaking Electrical Engineers, for a cost which could be as little as \$100 – see page 12.

**Region 8 News Copy Deadlines.** Contrary to popular belief, the copy deadline printed on page 12 is not the date upon which the Editor expects to receive simultaneously all the copy for the following issue, it is the latest date upon which contributions have a reasonable chance of appearing in the next issue. The printers, distributors and the Editor will always attempt to include your contribution, but this publication, like others everywhere, involves a number of different and sometimes complex operations, employing expensive machinery which has to be tightly scheduled so as to keep the cost of publication to a minimum; it is a process which starts long before the published deadline – the May issue of R8N was started on 1st January. My advice is simple: the sooner your copy is received, the more certain is it to appear in the next Region 8 News. A desperate attempt to include all the material received during the last few days before the copy deadline, can only result in delay and increase the possibility of error: post your copy early and type it in double spacing (to leave room for editing) – you will be handsomely rewarded by the Editorial Awards Committee of the next world.

**Please Remember.** R8N is not a publication representing the official view of the IEEE's governing bodies; the opinions expressed are those of its contributors and the Editor. May I wish you all a very pleasant and prosperous New Year.

The Editor.





## From the Regional Director

### Welcome Region 8

I am looking forward to two exciting years of IEEE activity. In spite of strong support from Headquarters staff and Field Services, leading an organisation such as ours is little different from running a business; fortunately for me the retiring Director Basil Osborne has handed over a well organised Region in good financial shape.



*Dr. Hugo W. Ruechardt*

During the past year I have had the opportunity as Director-elect to become acquainted with the responsibilities of my new office; it has been especially rewarding to meet so many skilled and devoted colleagues: Regional Officers, the Section Chairmen and Appointed Members of the Region's Executive Committee. Under such good conditions it should be possible during the next two years to organise some activities beyond "business as usual". The Region will be celebrating its 25th Anniversary in 1988; this gives us reason enough to promote a series of events which will make IEEE activities better known. With this in mind the Regional committee is planning several workshops on specific issues in which technical, political and social problems interact.

Let me create for you a picture. On the eastern and western margins of the Pacific Ocean, "high technology" is being promoted with the utmost vigour but in the antipodean area, which includes Region 8, too many of us seem to have difficulty in coming to terms with innovation and technical progress. Excuses, fears and explanations are many, but we create them ourselves and this in the long term is an unacceptable state of affairs, which must be a matter of concern for the members of the Region.

In our workshop programme the UKRI Section has taken responsibility for "Technology and Safety", the Israel section will try a qualified technical outlook "Beyond the year 2000". Further we are preparing for Africa the subject of "Technical Infrastructure as a Base for Future Development - Communication, Energy and Education". It is intended to have a wider participation of our members in these important topics, mainly by means of the media, including our Newsletter. This seems to be necessary and adequate since our region is just too large to communicate effectively by conferences only. In the forthcoming Newsletters you will find more information about the whole anniversary programme. All supporting proposals from your side would be most welcome, please write either to me directly or to your Section Chairman.

Still we have to see the Institute most of all as a Technical Society for the generation, distribution and exchange of knowledge and skills among engineers everywhere. Such activity is seen most clearly at the large technical conferences. I hope to meet many of you during March at MELECON in Rome, April at the 15th Convention of the IEEE in Israel, May at CompEuro in Hamburg, or

July at INTELEC in Stockholm. Just some of the events in our Region.

But there are different opportunities to meet each other personally. Last November I had the special pleasure of visiting the University of Ibadan in Nigeria, where the local Section Secretary, Professor Alos, kindly arranged for me to speak to 60 of his young students in connection with their professional future and the IEEE - this was one of the most pleasant hours of my Regional assignments so far; it may even lead to a new student branch.

Finally, I should mention the recent election of Russel D. Drew as IEEE President-elect for 1987. As you may know from the November 86 Newsletter, the result was very close, only 242 votes separating the first two contestants. From the votes cast in Region 8 (Drew 571, Feerst 409, Smith 695) it is clear that our voice played a major role in the election, without that support we might have had as 1988 President someone who, in his personal statement to the Region, expressed no interest in the Institute's trans-national activities, **that is in us.**

We shall have great pleasure in welcoming President Henry Bachmann at MELECON '87 in Rome.

*Dr. Hugo W. Ruechardt, Director, Region 8, Siemens Components Group, Balanstrasse 73, D-8000 Munich 80, Federal Republic of Germany. Tel: (+49) 89 4144 2810*

## Metric time

No doubt most of our readers will have noticed in the national newspapers that a group of British scientists has, after several years of diligent research, devised a system which would enable time to be so measured that it could become a part of the decimal system. The British government plans to introduce the system into the civil service for a two year trial period as from 1 April 1987. From that date there will be 10 seconds to the minute, 10 minutes to the hour and 10 hours to the day and so on according to the following table.

Old Time	New Time
1 Second	1 Milliday
1 Minute	1 Centiday
1 Hour	1 Deciday (or Millimonth)
1 Day	1 Day
1 Week	1 Decaday
1 Month	1 Hectoday
1 Year	1 Kiloday

The British "fortnight" will be abolished

Obviously from a Company point of view, due to the fact that the new hour represents only five twelfths of an old one, employees might be expected to work longer hours, viz three one eighth decadays or millimonths per day. However, as this is inconvenient for administrative and payroll purposes, luncheon breaks will be shortened by two thirds of a new hour, thus making a daily total working time of 4 hours.

It is not expected at this time that any compensatory uplift will be made to salaries, except in the case of leap Kilodays, where an adjustment will be introduced at the end of the hectoday every 1.46 decamonths. Overtime and Meal Vouchers will be issued to non-management hectodayly roll employees for the time worked in excess of five sixths of a deciday, provided that management approval has been obtained in advance. Pension Schemes will not be affected, but superkilodayuation will be adjusted accordingly.

Holidays will not be changed except that if an employee was previously entitled to 22 days (old time) he will now be entitled to 220 decadays or one hectoday plus 20 decadays for every hectoday over and above 20 millidays service since the tenth deciday of the third hectoday of 1986. Her Majesty's official birthday celebrations will in future be limited to five decadays (six South of Edinburgh) but ten demidecadays will be added, where relevant, to the Christmas holiday, which will be moved to the Autumn public holiday to take advantage of the longer shopping decadays.

Should there be any difficulty in implementing this new and simplified system, official Metric Time Officers will be available for consultation at all local government offices on each prepenultimate decaday of the odd hectodays. The consequent readjustment of the Solar and Lunar cycles will be the subject of a government position paper following the summer meeting of the Solstice Modification Committee (SolstEuro '87) at Stonehenge, England.

G.H.B.



# Go straight to the Geneva Summit 1987

TELECOMMUNICATIONS FOR A WORLD OF NATIONS



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Telecommunication  
Exhibition**

**20-27 October 1987  
Geneva**

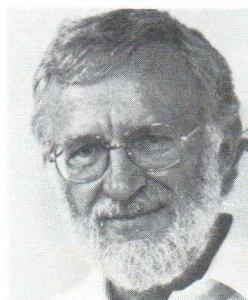
TELECOM 87 Secretariat • International Telecommunication Union • Place des Nations • CH-1211 Geneva 20





## Denmark

**Computer Pioneer** – By Professor P. Martin Larsen



Dr. Peter Naur

Dr. Peter Naur has been recognised by the Governing Board of the IEEE Computer Society as a "Computer Pioneer". He was introduced to computers in 1950 at King's College, Cambridge, where he developed a program for EDSAC, one of the early digital computers. Following a period in which he continued his original studies in astronomy, he joined the staff of Regnecentralen where he specialised in the development of high level languages, in particular Algol 60. Since

1969 Peter Naur has been professor at the Copenhagen University Institute of Datalogy. The Medal was presented to Dr. Naur at the Annual Meeting of the IEEE Denmark Section on December 17th; his lecture on that occasion was entitled "ALGOL 60 and the Man-Machine Interface Problem".

*Section Chairman: Professor P. Martin Larsen, Electrical Power Engineering Department, Technical University of Denmark, Building 325, DK-2800 Lyngby, Denmark. Tel (+45) 2 88 1633 Ex2531.*

## United Kingdom and Republic of Ireland

**Magnetics Chapter** – By Professor E. P. Wohlfarth

This recently formed Chapter of the UKRI Section has as its interim Chairman Prof. E. P. Wohlfarth of Imperial College, and interim Secretary Dr. R. W. Chantrell of Lancashire Polytechnic. The Committee of the Chapter will also include one member from the Institute of Physics Magnetism Group and two electrical engineers.

The inaugural meeting will take place at the Institute of Physics, 47 Belgrave Square, London SW1X 8QX on Monday 30th March 1987 at about 10.45 am, the same time as the AGM and Annual Current Research Meeting of the Institute of Physics Magnetism Group. A special feature of this new Chapter is its close association with the Institute of Physics, with whom we shall have joint meetings; in addition the Chapter will also be involved in the IEEE Special Lecture to be given by Professor P. Sylvester – details are for the moment uncertain, but the title may be "Computer Aided Design in Magnetics", the date 14th or 28th May and the venue the IEE Savoy Place. The Chapter is hoping to co-sponsor the EMMA 87 meeting.

*Chapter Chairman: Professor E. P. Wohlfarth, Department of Mathematics, Huxley Building, Queen's Gate, London SW7 2BZ. Tel: (+44) 1 589 5111*

### From the Secretary UKRI

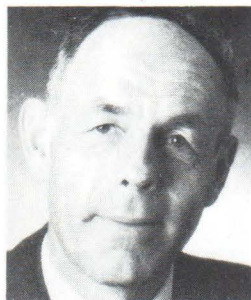
The Section AGM will be held at King's College, Strand, London, at 6 pm (tea at 5.30) on Wednesday 4 March 1987 – Room GO2. Following the AGM a lecture will be given by the well-known television science personality Professor Heinz Wolf; Professor Wolf will discuss the problems, and their solution, which face engineers in communicating effectively with their colleagues, in holding the interest of a technical audience, and in improving public understanding of science and technology.

The Institution of Electrical Engineers UK will be holding a special colloquium in November on Sebastian de Ferranti's development of a 10kV AC system from Deptford to the Grosvenor Gallery in Bond Street, London; this will mark the 100th anniversary of that project. The IEE, Savoy Place, London WC2R 0BL will be pleased to hear from anyone in Region 8 who has had any connection with the Deptford project, or who would be prepared to make a formal technical contribution on the effects of de Ferranti's decision to adopt 10kV AC as a transmission medium.

*Section Chairman: Professor Charles Turner, Electronic and Electrical Engineering Department, King's College, Strand, London WC2R 2LS. Tel: (+44) 1 836 5454 Ex2438*

## Germany

**Awards** – By Francis J. Campell, Chairman Awards Committee



Professor Dr. Gerhard M. Sessler

The Thomas W. Dakin Trophy for Technical Achievement has been awarded to Professor Dr. Gerhard M. Sessler for his contributions to the field of dielectrics and electrical insulating materials. Dr. Sessler is the fifth recipient of this award and the first outside North America; he studied physics at the universities of Freiburg, Munich and Goettingen, after which he was appointed to the Acoustics Research Department of the Bell Laboratories, U.S.A.

His principal areas of research include: the electrical properties of polymers, electroacoustic transducers, electret and piezopolymer transducers, and silicon sensors. A recipient of the Callinan Award of the Electrochemical Society and the Senior Award of the IEEE Group on Audio and Electroacoustics, he is a Fellow of both the IEEE and the Acoustical Society of America.

**The Computer Society** – By Robert L. Baber

Members of the IEEE Computer Society living in the vicinity of Frankfurt-Main have founded a Computer Chapter. The initiating group has held two preliminary meetings in the first half of 1986, at which technical papers were presented on "Software development: from Patchwork to an Engineering Science" – Robert L. Barber, and "Graphical Hardware and Software Standards from a Practical Viewpoint" – Hubert Kauker.

On 7th October 1986 at the Chapter's inaugural meeting our guest was Dr. M. J. Schachter-Radig, who spoke on Methods and Applications of Artificial Intelligence". At each of the subsequent meetings the attendance has increased. The following Chapter officers were elected: Chairman, Robert L. Baber; Vice-chairman, Constantin Zibacinski; Secretary, Prof. Dr. Mario Dal Cin; Treasurer, Matthias Koehler.

The next meeting is scheduled for May or June. The Computer Chapter mails full particulars of each forthcoming meeting to the IEEE Computer Society members living within a reasonable travelling distance of Frankfurt.

*Chapter Secretary: Prof. Dr. Mario Dal Cin, Fachbereich Informatik, Johann Wolfgang Goethe-Universität, Dante Strasse 9, 6000 Frankfurt/Main. Tel. (+49) 69-798-8196*

**Very Large Scale Integration** – By Dr. Ing. F. Coers

A conference on this subject will be held on 16-18 March 1987, in Baden-Baden. Further information from the Secretariat, German Section IEEE, Stresemannallee 15, D-6000 Frankfurt 70, F.R.G.

*Germany Section Chairman: Professor Rudolf Saal, Technical University, Arcistrasse 21, 8000 Munich 2, Federal Republic of Germany. Tel: (+49) 89 2105 8501.*

## Israel

### Fifteenth IEEE Convention

The Fifteenth Convention of Electrical and Electronics Engineers in Israel will be held in Tel Aviv on 7-9 April 1987. This is a biannual conference which treats all aspects of electrical, electronic and computer engineering; it is associated with a technical exhibition of both indigenous and external products. The number of participants is usually in excess of one thousand, with papers from both academia and industry.

The Conference Chairman is Professor Ezra Zeheb, Technical Programme Committee Chairman is Professor G. I. Inbar and the Exhibition Committee Chairman Dr. J. Kella. Preparations for the convention are at an advanced stage – information may be obtained from the IEEE office of the Israel Section, ORTRA, PO Box 50432. Tel: Tel Aviv 61500.

A new Chapter has been added to the twelve chapters already in existence. It is a joint venture by the Industrial Electronics and Industry Applications Societies; the first Chairman is Mr. Moshe Harpaz.

*Section Chairman: Professor Ezra Zeheb, Electrical Engineering Dept., Technion-Israel Institute of Technology, Haifa, Israel. Tel: (+972) 4 293273*



# VITAL STATISTICS

The following information was extracted from the "Annual Report of the Secretary" published in February 1986; it would be reasonable to assume that the figures should be increased by 5% for 1987. They show the number of Society members in each of the Region's geographical divisions and may be of use to those planning meetings or publicity.

REGION 8 SECTION	Total Society Members	Total Affiliates	ASSP 1	BT 2	AP 3	CAS 4	NPS 5	VT 6	R 7	CE 8	IM 9	AES 10	IT 12	IE 13	EM 14	ED 15	COMP 16
Austria	303	25	19	2	7	26	4	6	6	3	10	4	9	6	6	8	67
Benelux	2329	99	151	11	58*	180	44	18	36	42	65	50	79	46	50	109	535
Denmark	666	25	47	8	28	45	7	7	14	15	24	13	23	17	12	18	123
East Africa	153	3	3	2	5	11	0	1	1	16	4	1	2	7	9	1	25
Egypt	526	6	30	3	23	37	5	1	3	9	8	11	12	19	11	11	96*
Finland*	624	31	50	5	26	34	8	5	8	11	9	8	12	11	27	14	149
France	1854	67	118*	16	49	101	39	15	53	21	54	62	64	42	27	77	287*
Germany (West)	2573	325	152	24	77	191	19	29	48	37	63	64	85	42	45	129	572
Greece	619	13	33	6	10	32	4	3	10	6	12	12	14	34	14	6	147
Iran	470	4	20	5	18	38	2	4	2	22	12	17	10	27	3	13	81
Israel	1218	96	98	4	41*	57	13	5	30	15	21	53*	61	28	27	38*	262*
Middle & South Italy	1126	34	67	11	53*	62	12	11	24	19	35	40	47	31	23	36	175
Nigeria	174	2	4	5	6	5	0	0	3	10	4	2	3	8	14	2	21
North Italy	1421	65	70	11	36	88	18	18	30	26	42	18	39	49	22	44	325
Norway	585	31	37	2	15	27	2	4	21	4	24	12	18	11	12	16	129
Poland	92	4	2	0	1	1	0	0	1	0	5	2	1	5	3	6	14
Portugal	281	13	22	4	8	15	4	1	1	2	7	3	6	9	8	5	73
Saudi Arabia	960	17	18	13	21	33	10	10	12	18	31	17	14	19	72	9	176
South Africa	425	14	27	1	22	26	2	4	3	8	19	15	11	17	18	8	65
Spain	1942	28	109*	22	66*	98	17	16	36	32	68	44*	50	81	48	38	357*
Sweden	1468	48	86	5	50*	84	19	35*	37	15	57	43	58	18	24	48	265
Switzerland	1883	80	91*	13	32*	118*	13	20	29	35	59	27	57	50	43	83*	437*
UK & Rep. Ireland	3247	261	199	38	104	207*	25	37	47	36	57	70	60	58	64	137	770*
Yugoslavia	546	13	28	5	11	29	6	5	17	8	23	6	19	24	11	17	94
Members outside Sections	1369	28	64	18	49	55	8	7	13	24	47	17	27	42	70	26	284
TOTALS	26854	1332	1545	234	816	1600	281	262	485	434	760	611	781	701	663	899	5529

REGION 8 SECTION	MTT 17	EMB 18	COM 19	SU 20	CHMT 21	OE 22	CS 23	Ed 25	PC 26	EMC 27	SMC 28	GRS 29	SIT 30	PE 31	IE 32	MAG 33	IA 34	LEO 36
Austria	11	8	25	8	3	0	12	3	7	3	5	1*	2	14	5	6	2	5
Benelux	56*	73	198	31	33	15	109	31	22	19	69	17*	18	55	13	34	38	24
Denmark	27	21	46	8	15	13	25	5	9	10	16	8*	3	17	6	4	11	21
East Africa	3	1	13	0	2	1	6	1	2	0	0	0	0	22	1	3	10	0
Egypt	29	8	48	2	2	5	41	9	3	3	7	3	3	48	13	4	13	6
Finland	36	15	42	9	14	9	31	5	7	5	18	9	8	10	7	6	10	6
France	74	33	138*	39	49	15	83	20	12	35	48	25*	15	85*	27	51	39	41
Germany (West)	130*	50	222	31	27	19	92	21	22	24	56	35*	22	87	20	46	36	56
Greece	17	13	61	2	1	4	51	6	2	1	16	9*	4	44*	2	6	30	7
Iran	22	17	30	5	6	4	30	3	4	6	7	4	2	26	5	8	12	5
Israel	46*	25	135*	13	18	3	50	11	18	12*	30	10	9	16*	8	19	20	22
Middle & South Italy	58*	26	92	19	15	14	52	17	10	18	34	15*	9	28	8	15	31	19
Nigeria	0	2	16	1	2	1	5	5	2	0	1	0	1	11	2	0	11	0
North Italy	40	35	114	15	32	10	71	9	9	19	30	10*	9	67	21	23	51	20
Norway	16	12	57	14	10	19	29	4	2	5	16	14*	4	22	9	5	6	7
Poland	3	1	6	1	1	0	10	1	0	2	1	0	1	11	2	1	7	3
Portugal	12	12	24	1	1	0	15	7	4	1	3	3*	2	11	1	1	12	3
Saudi Arabia	19	22	100	8	4	10	26	21	22	7	5	4	11	158	12	4	53	1
South Africa	21	9	37	3	0	3	22	11	3	1	6	2	8	25	1	1	23	3
Spain	73*	60	130*	19	20	10	97	72	24	23	77	16*	25	72	20	25	78	19
Sweden	63*	41	111*	15	26	12	60	18	20	30	37	20*	11	69	19	15	27	30
Switzerland	50*	34	195*	31	54	9	58	18	20	43	24	13*	36*	92	16	18	27	38
UK & Rep. Ireland	147	40	313	33	37	36	139*	27*	41*	17	50	31*	35	183	26	39	86	58
Yugoslavia	18	10	48	4	14	2	27	13	3	10	18	2	5	29	4	9	23	4
Members outside Sections	47	35	116	9	13	15	64	24	16	7	21	13	11	153	9	13	43	9
TOTALS	1018	603	2317	321	399	229	1205	362	284	301	595	264	257	1379	257	356	699	407

## Key to abbreviations

ASSP	Acoustics, Speech, and Signal Processing	COM	Communications
BT	Broadcasting Technology	SU	Sound and Ultrasonics
AP	Antennas and Propagation	CHMT	Components, Hybrids, and Manufacturing Technology
CAS	Circuits and Systems	OE	Ocean Engineering
NPS	Nuclear and Plasma Sciences	CS	Control Systems
VT	Vehicular Technology	Ed	Electron Devices
R	Reliability	PC	Professional Communications
CE	Consumer Electronics	EMC	Electromagnetic Compatibility
IM	Instrumentation and Measurement	SMC	Systems, Man, and Cybernetics
AES	Aerospace and Electronic Systems	GRS	Geoscience and Remote Sensing
IT	Information Theory	SIT	Social Implications of Technology
IE	Industrial Electronics	PE	Power Engineering
EM	Engineering Management	IE	Industrial Electronics
ED	Education	MAG	Magnetics
COMP	Computers	IA	Industry Applications
MTT	Microwave Theory and Techniques	LEO	Lasers and Electro-optics
EMB	Engineering in Medicine and Biology		

\* Chapter or Joint Chapter established



# Energy Systems and Telecommunications

Information from:  
Secretariat,  
c/o RIENA 00193,  
via Crescenzo 9,  
Rome, Italy



*RIENA*  
34th Congress on Electronics

*IEEE*  
Melecon '87 Mediterranean  
Electrotechnics

24-26 March 1987  
Rome  
Palazzo dei Congressi

International  
Energy  
and  
Space Exposition  
(RIENA)

## Energy Systems & Networks

Power Generation

Solar Cells

Alternative Energies



## Network Design & Planning

Fibre Optics

Satellite Communications

Multiservice Systems

Signal Processing

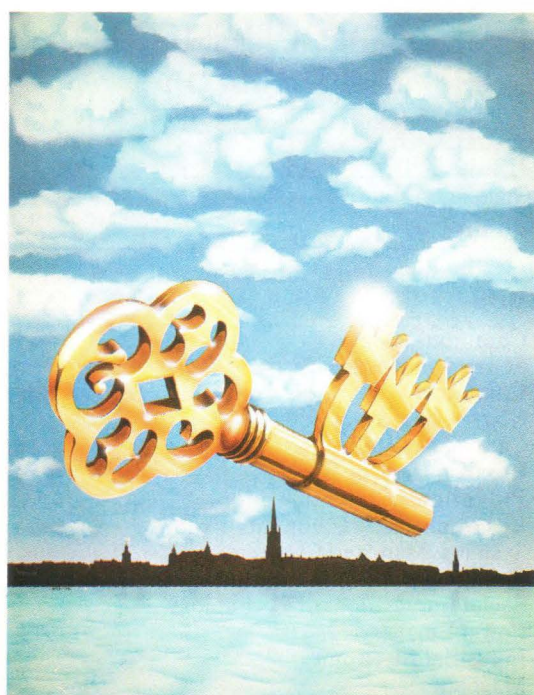
ANTIQUITIES

MUSIC

SCIENCE

ART

SUNSHINE



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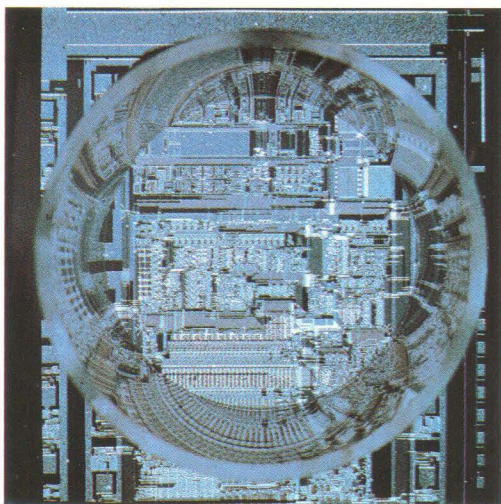
# EUROCON '88

## STOCKHOLM

## TELECOMMUNICATIONS

## JUNE 1988





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# VLSI and COMPUTERS

## Tutorials

COMPUTER ARCHITECTURE    COMPUTER AIDED DESIGN  
PERSONAL COMPUTERS    SUPER COMPUTERS

Array Processors    –    Packaging  
Fault Tolerance    –    Image Processing  
Circuit and Interconnection Simulation  
Technology Transfer    –    Microelectronics  
Multiprocessors    –    European Cooperation

## SPECIAL COURSE: Designing Systems with VLSI

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11-15th  
May  
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(Form on Page 8)



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## Technical Visits:

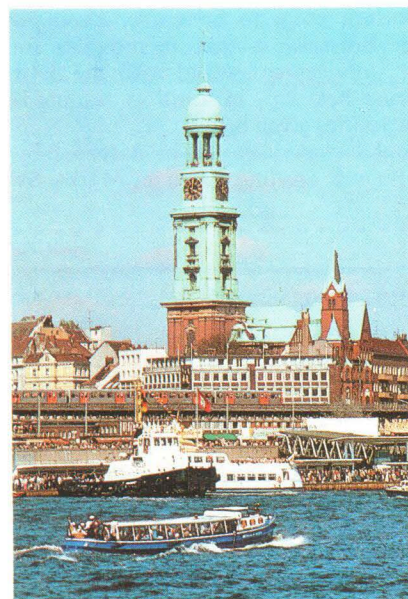
AIRBUS ASSEMBLY

NATIONAL STANDARDS INSTITUTE

VLSI APPLICATIONS, PILOT PROJECTS

ENVIRONMENTAL AND POLLUTION RESEARCH

SIMULATION OF IN-FLIGHT EQUIPMENT





## There is hope yet

The accumulating years sometimes do much to create a fear that one's mental faculties age too, but as recent research has shown, that is not necessarily true; it is now possible to demonstrate that among people who are in good general health, intelligence does not decline in old age. A recent study in brain chemistry at the United States National Institute of Ageing shows that the healthy aged brain is as active and efficient as the healthy young brain. Dr. Shale of the Gerontology Research Institute has demonstrated that at all ages, a majority of people retain their intellectual powers. Dr. Horn, of the University of Denver, says that crystallised intelligence continues to increase steadily throughout life. The oldest group tested on world knowledge by Drs. Roy and Janet Lachman, University of Houston, was more efficient in recalling facts which they had acquired in their formal education and day-to-day experience, than were groups in their twenties. The belief that if you live long enough you will become senile is just wrong; people in their seventies have greater verbal skills than those in their twenties.

Concerning creativity, Dr. Simonton of the University of California, maintains that creative people tend to start earlier and end later; he supports that hypothesis that creative people in their seventies will be more prolific than they were in their twenties. One might suggest that the only difference between the average IEEE member and Bertrand Russell or Albert Einstein is that those two geriatrics, in their different ways, **wanted** to continue thinking.

It seems that the key factors in maintaining mental ability are:

Staying socially involved.  
Being mentally active.  
Having a flexible personality.  
Striving for good health.

Perhaps the greatest advantage of retirement is not that one may don a Mexican hat and doze away the hours under the shade of a tree, but that money is no longer a prime reason for working. The physical and mental pressures which are so much a part of that constant queue of things which must be completed by yesterday, the inhibitions inseparable from "career opportunities" and other social restrictions, can all give way to the pleasures of satisfying an inquisitive mind. Take up any interests you wish, without the need to find an excuse for doing so; however "useless" it may be, enjoy it just because you like it – the young and old will find you that much more interesting.

Based on "Aging and You", from the Life Member Fund Newsletter, Walter R. Nial.

## You might wish to know

Approval has been given for a Student Branch to be established in the Portugal Section.

The Regional Activities Board has approved the dissolution of the following Student Branches:

- (i) Ecole Supérieure Ing. d'électrotechnique;
- (ii) Institute Supérieure d'électronique de Nord;
- (iii) Institute Supérieure Electronique de Paris.

Approval has been given for the 1987 IEEE Section Rebate Schedule as modified by the IEEE Executive Committee during its 31 May 1986 meeting. Support for Section, Subsection and Chapter meetings increased from \$35 to \$50 for all meetings over five. Also support for new Section newsletters is included.

AP-03/MTT-17 chapter has been formed in the South Africa Section.

Our Regional Secretary, Bob Winton, whose service to the Region started so long ago that it can only be described as a part of history, has another even older interest which might be described as a part of prehistory. For more than 50 years he has served on the Executive Committee of the British Amateur Fencing Association (sword-play). He started at school by winning the British Junior Epee Championship and continued his interest in the sport as a British Team Selector and organiser of the Olympic Fencing at Wembley. For his lifelong devotion to the wellbeing of the sport the Queen has awarded Bob the MBE (Member of the Order of the British Empire) – Congratulations (it gives me a wonderful idea for settling differences of opinion at Region 8 Committee meetings. Ed).

The Board of Directors approved funding up to \$155K from IEEE reserves for a One-Year Feasibility Study on the proposed IEEE Academy for Continuing Education, subject to oversight by the IEEE Executive Committee, with the opportunity for the IEEE Foundation to participate in the funding.

Digital Signal Processing: The 1987 International Conference will be held in Florence, Italy, from 7–10 September. The organiser is ENIC. Sponsors: IEEE – Middle and South Italy Section, EURASIP, Imperial College, IROE-CNR, University of Florence, ICESP, AEI, ANIPLA. Further information from Professor V. Cappellini, Dipartimento di Ingegneria Elettronica, via di S. Marta, 3, 50139 Firenze, Italy.

## Brussels Office

By Robert C. Winton, Region 8 Secretary

An important point to remember about the Computer Society Office in Brussels, is that it provides for Computer Society members, services connected with the activities of that Society only. Please bear this in mind in reading the explanation of its present activities given below.

Payment for services will be accepted by Cheques in Belgian Francs, Pounds Sterling, German Marks, Swiss Francs, and U.S.

Dollars, or by American Express, Eurocard, Master Card, or Visa Credit Cards

The Office will respond to enquiries from Computer Society members anywhere in Region 8, but because of limited resources it makes general mailings to Computer Society members only, in Europe, in Israel, and in Turkey.

Communications to the Office should be addressed to Mrs. Neil Nachtergal, Manager Computer Society Office, Avenue de la Tanche 2, B-1160 Brussels, Belgium. Tel: (+32) 2660 1143, Telex: 25387 AVV AL.



## CompEuro '87 Information

Please send me information and a Registration Form for CompEuro '87.

NAME (Capital letters please).....

ADDRESS (Capital letters please).....

This form should be returned to: Professor Dr. Walter E. Proebster, IBM Deutschland GmbH, Dept. 3280, 7030-15, Schoenaicher Strasse 220, D-7030 Boeblingen, Federal Republic of Germany.



# Energy Technology and its Development in Krakow and Wurzburg

By Henry Manczyk, Manager of HVAC and Energy, City of Rochester, USA

As a member of the official City delegation which just recently visited our sister cities of Krakow, Poland and Wurzburg, West Germany, I have had an opportunity to explore the progress and advancements of both cities in the energy utilisation and efficiency. I was able to observe technology employed in public and private buildings; factories, and residences in both countries.

In Poland, Krakow and Wroclaw, the technical people I met were well-trained and knowledgeable in their disciplines. A variety of problems, financial, technical, economic policies, etc., limit their ability to apply that knowledge. The physical plant, as a result is inefficient and technologically outdated.

Sixty per cent of the City of Krakow and its residences are heated with individual coal-fired (old style) furnaces. They are very inefficient and require a half-hour daily of maintenance and cleaning, some of the rest of the buildings are heated with electrical furnaces; most are supplied with high temperature hot water via a low volume/high temperature distribution system from a central generating station. All systems are conventional and controls are very primitive and inadequate.

Krakow plans to build several small central hot water distribution systems throughout the city to replace the individual coal furnaces. They expect a significant reduction in pollution levels as well as needed modernisation, to result from this.

There is no means of metering energy consumption of buildings connected to the central hot water system. Monthly charges are based on the area of the space occupied by the user. Rates are based on monthly production costs divided by power station output divided by the area of the total customer base. This means of billing provides no incentive for customers to conserve energy.

Most of the industrial plans use coal to supply process heat and warmth. Flue gases are minimally or not at all cleaned and furnace and process residue is dumped into rivers and streams. The 593 mile long Vistula (Wisla) River is extremely polluted and cannot be used as a drinking water source.

The high cost and requirements for scarce foreign exchange make it very difficult to obtain pollution abatement and energy conservation devices. Furthermore, this technology is not being developed within the country, despite the capability of their engineers, because of the nation's financial constraints.

The people I met were very sophisticated and well educated in their own disciplines. But these problems prevent them from replacing inefficient, outdated systems, which are unacceptable by their own as well as American standards, with those they desire. This difficulty was common among individuals I met with in all technical disciplines, both in the city of Krakow and the rest of Poland.

I observed, for example, that the Jagiellonian University Museum lacked temperature and humidity controls to protect their collections. The director, Professor Waltos, expressed his desire to obtain proper equipment to protect ages old instruments, art works, maps, sculptures, etc., and his frustration that funds were not available. He asked for any assistance or advice that I could provide him for obtaining appropriate equipment.

The city of Wurzburg was the second and final stop on our planned tour. Recent technology is widely employed, yielding

excellent results in productivity, product quality, and environmental quality. I was able to get acquainted with energy systems in commercial and public buildings which are widely used across West Germany.

The city of Wurzburg is supplied with electric power from the following sites: 1. The coal and gas-fired central heating plant, Heizkraft Werk, with 80,000 KWH output, located in the downtown section of Wurzburg; 2. the solid and liquid waste processing plant, "Refuse Fired Power and Heating Station", produces 10,000 KWH; 3. And 13,000 KWH from other sources out of town. Most of the downtown commercial and residential buildings use steam from the central system for their heating and domestic hot water through heat exchangers. The central, gas-fired plant supplies 89% of the steam to the system; the waste processing plant supplies 11%.

The waste which is delivered to the waste processing plant is picked up from approximately 360,000 occupants of Wurzburg and the surrounding area. The system has a capability to absorb 144,000 tons of waste per year; its actual performance being 120,000 tons per year. The plant employs a total of 30 people and it costs approximately 65 Deutschmarks to burn one ton of waste.

I was able to visit the waste processing plant. It was commissioned in July, 1984, and is rated as the most advanced in technology not only in West Germany, but in Europe. It cost approximately \$37.2 million, is managed by an independent authority, Zweckverband MullHeiz Kraft Werk Raum Wurzburg (MHKW), and is operated under the supervision of the chief engineer, Mr. Gerhard Kerber.

The plant was developed because, as in the United States, of the difficulty in obtaining disposal sites and the expense of hauling refuse. It serves primarily as a refuse volume reduction facility which recovers a portion of its costs and value of the refuse itself through electricity and steam production. Its significance is its success at pollution control, high-efficiency power generation, and application of up to date technology. It has also been able to capture 83% of its designed refuse processing capacity.

The system consists of two process lines for continuous incineration of refuse and sewage sludge. Each of the two boilers produces steam to generate 5 MW or 5,000 KWH. With both boilers on, a total of 10,000 KWH can be achieved. Steam leaving the turbines (back pressure steam exhaust) where electricity is generated is then piped 1.86 miles to supply the central heating plant. It supplies steam to the central heat exchangers of the buildings for heating the water used for heating and domestic purposes.

Refuse collection vehicles are weighed on a modern platform scale as they enter the plant. They dump into a storage pit (three day storage capacity). Refuse is loaded into the boiler hoppers by a clamshell crane. Partially de-watered sewage sludge is delivered from the sewage disposal plant and stored in a 300 m<sup>3</sup> silo. It is dried to reduce its water content from 60% to 20%. It is then piped to the refuse storage pit for burning; 86.4 tons of sludge per day can be handled.

Ram feeding equipment loads measured amounts of refuse or dried sewage sludge from the hoppers into the two boilers. Each boiler has two parallel process lines, each of which has a grate surface of 405 square feet. The burning wastes move down the sloping grates to the lower end, where the residue is removed into a



discharger. The "clinker" is quenched and is delivered by conveyor belt to a storage bunker from which it is loaded into trucks for disposal. The plant can process 600 tons of waste per day.

Combustion gases at 700°C enter a four-pass steam generator. They leave the generator at 230°–280°C and are cooled in a conditioning tower; particulates are removed from the gases for subsequent disposal. Steam from the boiler is used to drive a 10,000 KWH alternator and then directed into the district heating system. Steam from the plant can supply up to 11% of the central steam heating systems capacity. The refuse power and heating station in Wurzburg, in its latest technology, performs above its expectations.

Special care has been taken to meet or exceed all environmental quality standards, including noise abatement. Despite some minor complaints from the city residents when plastic substances are burned, the quality of the treated exhaust gas show results better than required by the West German standards. No complaints about burning sewage odours have been received.

I also had a chance to become familiar with some heating systems and their temperature controls in residential and commercial buildings. I found them to be very sophisticated. Each building has its own controls. The most popular temperature controllers are the non-electric control valves which are installed on each hot water radiator. The control valve employs a principle of internal expansion or contraction of a wax substance on temperature rise and fall.

In the areas I visited in Poland, the commitment and application was lacking, largely because of a lack of resources. What I saw in Germany, showed a long-standing commitment and investment in cost-effective application of energy technology.

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*From "The Rochester Engineer", by kind permission of the Editor.*

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## Africon '87 Workshop

### The Future for the Technical and Educational Infrastructure of Africa

By Dr. Hugo Ruechardt, Director, Region 8

I am appealing to all readers of the Region 8 News to assist me in finding those who would benefit most from attending this International Workshop. It will be particularly concerned with power, telecommunications and technical education, and will be conducted in English. Attendance will be by invitation only and will be based on the suggestions which I receive – participants need not be IEEE members.

The object of Africon '87 Workshop, which will be held from 30 November to 2 December 1987 in Abidjan, Ivory Coast, is to encourage the exchange of experience and ideas and to recommend solutions to problems; to this end experts will share their views with experienced engineers and educationalists from African countries. Technical discussion will be based on the results from previous international meetings on the subjects under examination. We expect an audience of at least 50, half of them from African countries.

If the workshop is to be worthwhile I must have assistance in finding participants who are involved in technical and educational activities in Africa and elsewhere; they should have experience of the existing situation in Africa and of its current problems. The Workshop forms part of the Region 8 25th Anniversary activities and is being organised by Region 8 in cooperation with IEEE Societies.

As soon as possible please let me have the name of anyone you think might be suitable, I would appreciate their address and any additional information you can give me concerning their position and background; my address is Siemens Components Group, Balanstrasse 73, D-8000 Munich 80, Federal Republic of Germany. If you require any additional information to assist you in making suggestions, please get in touch with me.

## Decision and Control

By Basil W. Osborne, Immediate Past Director

The 25th Conference on Decision and Control (CDC 86) was held at the Hotel Athenaeum Intercontinental in Athens on 10–12 December 1986. This was the first CDC to be held outside the USA and marked the silver anniversary of the CDC Conference Series.

Under the conference Chairman Professor Anthony Ephremides, Co-chairman Professor Spyros Tzafestas and Programme Chairman Professor H. Vincent Poor, the conference attracted a large number of registrations and the location was popular. There were 74 technical sessions in addition to a pre-conference tutorial workshop, on the implementation of Self-tuning Controllers. In the first plenary session Dr. Jose Cruz reviewed the 25 year history of the CDC; other special sessions included one from the People's Republic of China and another from the ESPRIT programme of the EEC.

During the conference, the CS Society International Committee met under its chairman Professor Mike Grimble, who is once again the CS Chapter Chairman of the UKRI Section. At the Conference Banquet on 11 December, the Region 8 Director, Basil W. Osborne, presented the 1986 Control Systems Science and Engineering Award to Professor Charles A. Desoer.

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## Micromice '87

A World Final of the Micromouse Contest is to be held at the Institution of Electrical Engineers in London. The venue is the IEE, Savoy Place, London WC2, and the date 7 July 1987 at 5.30 p.m. "Mice" from many countries will be competing for a number of prizes, including the much coveted brass chequer trophies.

Micromice are small "robot" vehicles able to run in a maze of alleyways only 16.25 cm wide. They have the task of exploring, navigating and solving the 256 squares of the maze to find the fastest route to the centre, within a 15 minute time limit. They may make as many runs as possible in the time, but it is the fastest time which counts – loaded slightly by the exploring time. They must not receive help from outside; neither are they permitted to leave markers in the maze nor spread in any direction more than 26.5 cm at the level of the 7.5 cm high walls.

Further details of the Contest, including rules and entry forms, may be obtained from Andrew F. Wilson, Institution of Electrical Engineers, Savoy Place, London, WC2 0BL, England. Telephone (+44) 240 1871 Ext 260, Telex 261176, Fax (+44) 1 240 7735, Telecom grid 74:SKKO38.

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## Late News

### INFOS '87

The 5th International Topical Conference dealing with Insulating Films on Semiconductors, "INFOS '87", will be held in Leuven, Belgium, from 13–15 April 1987; it is being organised by the Inter-university Microelectronics Centre (IMEC). This series of conferences has gained an excellent reputation as a high-level scientific meeting and an attendance of 150–200 scientists is expected. The topics of the Conference are: Preparation, Characterisation and Application of both organic and inorganic thin film insulators on semiconductors. Silicon-on-insulator structures will also be covered.

Papers will be accepted until 1 April. Enquiries and applications for participation should be sent to the Conference Chairman, Dr. R. De Keersmaecker, IMEC, Kapeldreef 75, B-3030 Leuven, Belgium.

## UKRI Circuits and Systems Chapter

A one-day Workshop "ISDN and Integrated voice data Communications", will be held on 24th September 1987 at the City University, London, England.

Further information from: Professor A. C. Davies, Centre for Information Engineering, City University, LONDON, EC1V 0HB.







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Further Information: Dr. G. Albert  
TH Darmstadt, Institut für  
Halleitertechnik,  
Schlossgartenstrasse 8, D-6100  
Darmstadt, F.D.R.

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