

# IEEE Region 8 newsletter



NEXT ISSUE - AUGUST

COPY DEADLINE - JULY 7

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS  
INCORPORATED

Editor: Mr. W. H. Devenish, ERA Technology Ltd., Cleeve Road, Leatherhead, Surrey, England KT22 7SA.

Tel. Leatherhead (0372) 374151

Telex 264045 ERALHD G

Regional Director: Prof. Dr. Walter E. Proebster  
IBM Deutschland GmbH, Postfach 80 08 80  
7000 Stuttgart 80, Federal Republic of Germany

No. 58 MAY 1982



## EUROCON '82 COPENHAGEN

technical programme shown in detail in the Advance Programme available from the Conference Office (see address below).

The technical part of the Conference consisting of a tutorial course, keynote addresses, plenum sessions and 6 or more or less parallel specific sessions incl. invited speakers runs from 09.00 a.m. till 06.00 p.m. which may seem overwhelming even to the most trained individual. The Local Arrangement Committee foresees that some sort of selection must take place, and in view of this, the Committee has planned a "recreation area" where the delegates can spend their spare time during the day hours. This area will be in the main conference building and will consist of the exhibition stands, poster session stands, lounges for smaller and bigger groups to discuss topics of mutual interest, and service facilities such as bank, post office, travel agency and information desk.

Following the conference opening addresses conference participants and accompanying persons are invited to an informal get-together, where canapés and draught beer will be served. In the evening of the third day of the conference the City of Copenhagen invites delegates and accompanying persons to a reception and buffet at the Copenhagen City Hall, and after that there will be free admittance to the Tivoli just beside the City Hall. And even though Copenhagen in June should need no further promotion, a special programme has been made for accompanying persons, including tours in and around Copenhagen and visits to places where Danish Design is created.

The conference fees are as follows (the first figure applies to those who register before May 1st): Members of IEEE and of National societies which are members of EUREL - D.kr. 1800/2200: non-members D.kr. 2200/2500; Students D.kr. 650/650. Conference Proceedings, 3 days' lunches, a social get-together and a City Hall/Tivoli arrangement are included in the conference fees. Accompanying persons are also invited to these two social arrangements.

Registration forms, advance programmes and further information on all aspects of EUROCON '82 - Technical Programme, Tutorial Programme, Technical Exhibition, Students Programme and Social Programme - are available from Mrs. Aase Sonne at the Conference Office, DIEU, The Technical University of Denmark, Bldg. 208, DK-2800 Lyngby, Denmark - telephone 45-(0)2 88 2300 (telex 37529 DTHDIA DK).



City Hall Copenhagen

In the old days reliability was simply an attribute of good basic engineering. Then the more complex electronic equipment began to show such low equipment reliability that more than joint basic engineering practices were necessary. Thus was born the new field of reliability engineering. The coming of solid state electronics and the ever increasing complexity of both equipments and parts brought about advances in reliability physics to ferret out cures at the micro effects level for failure prevention. This return to physics has brought Reliability Engineering back again to a greater understanding and application of basic engineering disciplines. The increasing use of digital equipment and software necessitated the advance on software reliability work which is really a basic engineering problem of design adequacy. And in order to determine optimum stress screening profiles, one must consider the effects of many stresses, such as temperature, temperature rate of change, random, vibration, etc.

Thus during the 70's traditional reliability engineering and basic engineering were gradually being merged, forming a new direction for the 80's.

This is stated in one of the keynote addresses at the fifth European Conference on Electrotechnics - EUROCON '82 - to be held in Copenhagen, Denmark, June 14-18, 1982. And this is what can be deduced from most of the 160 papers from all over the world to be presented for the expected 800/1000 participants at the Conference.

The theme for EUROCON '82 is "Reliability in Electrical and Electronic Components and Systems", and the Conference is of importance to all concerned with research, development, manufacturing, application and marketing reliable electrical and electronic components and systems, and the Conference is of major interest also to all concerned with the education and training of reliability personnel. This can be seen from the

### CONTENTS

|   | Page |
|---|------|
| EUROCON '82 .....                             | 1    |
| MELECON '83.....                              | 2    |
| Report from the Regional Director .....       | 2    |
| News of the Sections .....                    | 2    |
| H. C. Ørsted - A Man of the Two Cultures..... | 3    |
| Institute News.....                           | 3    |
| Meetings in Region 8 .....                    | 4    |
| Letter to the Editor.....                     | 6    |

# MELECON '83

## 24-26 May 1983, Athens, Greece



*The Parthenon in the Acropolis of Athens*

Preparations for Melecon '83 are in full progress. This second Mediterranean electrotechnical conference is scheduled for May 24-26 1983 in Athens. Sessions will take place in the Athens Hilton, situated in the centre of the city within walking distance of the Acropolis and main places of interest.

All major topics in electronics, computing and power engineering will be covered with special emphasis on solar energy and wind power research and applications. All graduates under 28 are welcome to take

part in the Young Engineer Contest, which will be held on the basis of papers accepted for publication. The annual IEEE Region 8 Student Paper Contest will also be included in the conference.

Spring time is the best season for Greece and visits to archaeological sites on the mainland and the islands are planned for the participants and their accompanying persons. Other events and social gatherings will provide the opportunity for scientific interaction as well as acquaintance with ancient, medieval and modern Greek cultural life.

Prospective authors are invited to submit titles and 200-word summaries for consideration for presentation. The Technical Programme Committee will select the final programme. The official language is English. Participation in the programme is conditional on receipt of the photo-ready paper by 30 January 1983. The schedule for the authors is:

- Authors should submit three copies of a 200-word summary along with author's name, address, affiliation, telephone and telex numbers
  - Notification of acceptance
  - Submission of photo-ready paper
- 30 September 1982  
- 30 November 1982  
- 30 January 1983

For all information, registration forms, submission of summaries and papers, please write to:

MELECON '83 Secretariat  
c/o Prof. E. N. Protonotarios  
National Technical University  
42 October 28 Street  
Athens (147) Greece.

## REPORT FROM THE REGIONAL DIRECTOR



*Prof. Dr. Walter E. Proebster  
Director Region 8 1979-80*

Dear Members of Region 8:

I am pleased to be able to tell you that excellent progress is being made on EUROCON '84, to be held on 20-26 September 1984 with the theme of Computers, Communications and Control. Dr. John Brown called the first Conference Steering Committee meeting in February, and Dr. G. H. Byford, Mr. B. W. Osborne, Mr. C. R. Russell, and myself took part as the permanent IEEE representatives on the Committee. On this occasion we visited the site of the Conference in Brighton, England, and I was most impressed with the facilities. We are fortunate in having the support of the Conference Secretariat of the Institution

of Electrical Engineers, which has had long and broad experience in organising conferences of this kind.

I attended a meeting of the Organising Committee for the International Communication Conference - ICC '84 - chaired by Dr. K. Teer of Philips Research, Eindhoven, The Netherlands. This Conference will be held in Amsterdam on 14-17 May 1984. One of my objectives is to assist in harmonising the topics and speakers at this Conference with the topics and speakers for EUROCON '84.

The decision of the Region 8 Committee, at its meeting in May 1981, to appoint a Committee member with responsibility for conference co-ordination, has proved a wise decision. Dr. J. Baal-Schem, who was appointed to this new responsibility, has already been able to improve the co-ordination of conference dates, and to reduce the possibility that conferences with similar themes are held without a proper interval between them. I believe that as his work develops he will continue to reduce the conflict over conference arrangements which arises from time to time between the IEEE and national societies. In addition Dr. Baal-Schem is providing our members for the first time, through the

Newsletter, with information on conferences planned to take place in Region 8. I welcome very much his contribution to our member services.

At the end of this year Mr. M. A. Giddings will hand over his appointment on the Region 8 Committee as appointed representative for continuing education to Professor K. Goser of Fern University (Open University), Iserlohn, Federal Republic of Germany. I am delighted to welcome Professor Goser to our Committee. The continuing education services which the IEEE can usefully provide for members in Region 8 are something of a problem area; they are very different from the services required by members in the U.S., because for many members in Region 8 the major continuing education needs are provided to a large extent by the national societies. In addition, the continuing education needs of members in different Sections in Region 8 vary very greatly. I should like to thank Mr. Giddings for the great deal of work he has done during his term of office; an important part of it has been to determine what continuing education services the IEEE can usefully provide to each Region 8 Section. I am sure that Professor Goser will make further progress by building on this foundation.

I was once again the guest of the Institution of Electrical Engineers at their Annual Dinner in London last February. I get particular pleasure from this invitation because for me it represents the success of our efforts to maintain understanding and a good working relationship with national societies in general and with the Convention of National Societies of Electrical Engineers of Western Europe (EUREL) in particular.

It is some time since I received news of activities in our Iran and Poland Sections. I regret this very much, but I am hoping that the Chairmen of these two Sections, or their representatives, will attend the next meeting of the Region 8 Committee to be held near Copenhagen on 19-20 June, on the conclusion of EUROCON '82.

Sincerely,  
WALTER E. PROEBSTER.  
Boeblingen, Federal Republic of Germany.

## NEWS OF THE SECTIONS

In this issue, the sequence of annual articles from the Sections is continued with the following contributions from Finland, Norway and Yugoslavia. In addition, a report is included from the newly formed Portugal Section.

### Finland Section (Chairman: Dr. Olli Simula)

The change of Section Chairman at the end of the report period (June 1981-January 1982) gave occasion to reflect on the last three years and to consider possible new demands for the future.

The above matters were discussed at the annual meeting on January 6 under the title "Quo vadis IEEE Finland Section?" The discussion, to which present and past Section officers were invited, was led by our past Chairman Johan Tallqvist. A large number of members participated.

Generally speaking, the present activities were considered satisfactory. The outstanding technical journals of IEEE were still considered the primary motivation for membership. The activities should be internationally oriented, and not compete with the programmes of the national EE societies. In this respect lectures by foreign specialists are required, a wish that can be forwarded to the IEEE Continuing Education staff.

The relatively small size of the Section is a benefit in connection with excursions. This popular activity should be continued in the future and possibly extended to excursions abroad. Otherwise, the traditional co-operation with national EE societies was considered beneficial for both parties. The possibility of closer co-operation based on written agreements, as in several other European Sections, was discussed. The lively discussion gave some guidelines for the new Executive Com-

mittee, which was elected at the same meeting. The 1982 officers are: Chairman Olli Simula; Vice-Chairman Yrjö Neuvo; Secretary Erkki Reuhkala; Treasurer Iiro Hartimo. The Jr Past Chairman John Tallqvist also remains in the management of the Section to improve the continuity. The new Chairman and Secretary are working with digital signal processing and pattern recognition, respectively, at Helsinki University of Technology. Dr. Simula is also Past Counsellor of the Student Branch at Helsinki University of Technology.

#### Norway Section (Chairman: Dr. B. Forssell)

The Norway Section was founded in 1963 with the purpose of promoting the exchange of information in the electrotechnical and electronics fields. Since then, membership numbers have been continuously increasing, but still the Norway Section has to be considered a small one. However, membership is now growing fast (this also includes senior members and fellows) and will reach 200 in the near future. Student membership is also increasing rapidly, and the first student counsellor at the Norwegian Institute of Technology in Trondheim was appointed in December 1980.

The main reason for a Norwegian engineer or a student being a member of IEEE is the high-quality information to be found in the IEEE periodicals. Almost all kinds of electrical and electronics industry can be found in Norway, but many companies are small, at least on an international scale, and not all of them have well-supplied technical libraries. Thus, IEEE membership can be very fruitful for many engineers. This is also shown by the very high number of society memberships held by many individual members.

Because the Section members are spread all over the vast country (it takes almost 4 hours by jet from Kirkenes in the north-east to Oslo) it is difficult and costly to organise frequent common meetings within the Section. Therefore, the Section has joined its efforts with the national societies and co-sponsors one large technical meeting every year, called the Norwegian Conference on Electronics and Acoustics. Section members usually give considerable contributions to this conference, by presenting papers and participating actively in other ways. In addition, the Section also co-sponsors other national and international conferences in Norway. Conference coordinator is Mr. John Skovholt, Kongsberg Våpenfabrikk.

The present level of membership and society dues is not considered to be a hindrance to increased membership numbers in Norway. Students are generally very satisfied with the membership dues. The employment situation is very good; in fact, there is a considerable lack of electronics engineers.

Section officers are: Dr. B. Forssell, Chairman and Student Counsellor, Ass. prof. N. Haaheim, Vice-Chairman, Prof. G. Stette, Secretary/Treasurer. New elections will take place in 1982.

#### Portugal Section (just formed)

The Regional Activities Board has approved, on December 4 1981, the establishment of the Portugal Section with territory to encompass the national boundaries of Portugal, including the Mainland, Madeira, Azores and Macau.

**Organising Committee:** The Region 8 Director has appointed a Committee formed by Professors Medeiros Silva, Fonseca de Moura and Carlos Alegria of Instituto Superior Técnico, Lisbon, to take charge of the affairs of the Section until elections take place.

**Membership Development:** The number of members in Portugal is still low but is expected to increase significantly in the near future, both at the student and member levels, as a result of the present membership development campaign.

**Meetings:** Technical seminars, followed by sessions for discussion of the future activities of the new Section will be held soon in Lisbon and Oporto.

#### Yugoslavia Section (Chairman: Prof. Jože Furlan)

It is the tenth year since the Yugoslavia IEEE Section was formally founded. The Section began with fifteen members and up to now their number has been increased almost ten times.

The greatest value of the IEEE for the Yugoslavia IEEE members are the excellent technical publications that are being published within IEEE, and the advantage of having one's own copy rather than reading it in a library. Special and conference publications, too, are of great importance. They are often separately ordered by the members of the Yugoslavia Section, as they are not usually available in libraries.

Considering the average Yugoslav income, the membership dues for our members seem very high and for this reason it is with great efforts that from year to year we keep on replacing the lost IEEE members with new ones.

The members of the Yugoslavia Section pay their IEEE membership and the IEEE publications in the Yugoslav currency. The dinar funds thus collected in a special IEEE bank account mainly cover expenses for conferences that IEEE organizes in Yugoslavia. It is to be noted that in the last eight years the Yugoslavia Section has organized in Yugoslavia three Regional Committee meetings.

The majority of the members of the Yugoslavia IEEE Section work at Universities in Belgrade, Zagreb, Ljubljana and Maribor. The rest of the members are from research and development institutions and from production organizations. A students' IEEE Branch is organized at the University of Ljubljana.

The Section members are satisfied with the IEEE administration. The rare complaints that exist concern mostly delays in the delivery of publications and, quite often, missing copies of reviews. The time interval between the formal registration of members (along with their payment) and their registration in the IEEE central office should be reduced, thus enabling more rapid provision of IEEE publications.

## H. C. ØRSTED – A MAN OF THE TWO CULTURES

Mr. Stig Skelboe, Chairman of the IEEE Denmark Section, has suggested that this new book might interest readers of the IEEE Region 8 Newsletter.

The book is presently being distributed to English-speaking friends and associates of the Danish company Bang & Olufsen A/S. However, Bang & Olufsen has promised to make a limited number of copies available, free of charge, to IEEE members. Any such request should be addressed:

Department of Communication  
Bang & Olufsen A/S  
DK-7600 STRUER  
Denmark.

Some remarks on the book made by Mr. O. I. Franksen:

Ørsted's own activities as a scientist made him realize that to create "pioneers" the educational system must be geared towards making the students **active**. Thus, he emphasized the teaching in experimental laboratories and the importance of joint research projects with industry. Indeed, as he saw it, industry was the ultimate challenge and the inexhaustible source of inspiration. Because it is in industry that theory is confronted with reality.

Ørsted's discovery of electromagnetism is usually identified with July 21 1820, being the date of publication of his Latin pamphlet. However,

in the literature it is often deplored that it is not known when, in the preceding winter, the initial experiments were performed. Yet, this lack of knowledge can be improved upon. Because in his article in the Edinburgh Encyclopaedia Ørsted expressly stated that the first experiment took place **three months earlier**. That is, in **April 1820**.

There is a certain irony in the fact that Ørsted's terminology "**thermo-electricity**" for Seebeck's discovery should be internationally adopted, whereas his term "**argilium**" for his own discovery of aluminium should be rejected. Still, this is not an uncommon fate in the history of science.

To my mind the fascinating aspect of the history of science is that it is a history about the discovery of ideas. Today, we are often misled to believe that a scientist is a specialist whose aim is the conquest of nature. But the great ideas on which the modern specialists thrive, were conceived by generalists whose aim was understanding and perspective. Today, any man who departs from the scientific field in which he was reared, who widens his scope, is subject to adverse criticism from the professionals encamped on his few or many frontiers. But in the past this was an honourable charge to face. In this sense Ørsted was a true generalist. Simultaneously, however, it must be deplored that so many of his promising research projects were never carried through because of all his other duties. Still, it is a tribute to his greatness that even here, so far away from his original field of training and profession, he made a lasting imprint on the Danish Society.

## INSTITUTE NEWS

### New IEEE Units

Due to a temporary breakdown in communications between Headquarters in New York and the Editor, it is only now that the following information has become available for inclusion in the newsletter.

The Computer Chapter of the Israel Section was established on May 25 1981.

The Saudi Arabian Section was established on June 5 1981. The territorial limits of this Section are defined as the national boundaries of Saudi Arabia.

### Public Relations Guide

The Public Relations Department has prepared a Public Relations Guide for the use of volunteers who perform a public relations function for their IEEE entity.

If any members belong to this group and haven't received their Guide, please contact the Public Relations Office and request one.

## New Management Post

The following information became available in February 1982. Eric Herz, IEEE General Manager and Executive Director, announced that Elwood K (Woody) Gannett has been appointed Deputy General Manager of the Institute. Mr. Gannett will continue to serve as Staff Director for Publishing Services temporarily until a successor is named. His IEEE career began in 1946 as Assistant to the Executive Secretary of the Institute of Radio Engineers, a predecessor society of the IEEE. After 34 years of exceptional service to the institute, Emily Sirjane, Staff Director of Corporate Services, retired on December 31 1981. To carry on the functions of the department, Betty Stillman has been appointed Manager of Corporate Services with responsibility for the Corporate Services staff. She will report to Mr. Gannett. Mr. Herz has also announced the appointment of Donald E. Suppers as Staff Director for Field Services. He fills the position formerly held by Patricia Lech, now the wife of Region 6 Director Frederick Suffield. Mr. Suppers most recently served as dean of academic affairs and professor of mathematics at Mercer County Community College in New Jersey.

## IEEE Fellows Elected

The following list names the Fellows who were elected on 1 January 1982 and gives the citation for each:

### Benelux

Patrick M. Dewilde For contributions to network theory, especially the synthesis of scattering matrices.

Paul G. A. Jespers For leadership in microelectronics research, development and education.

Simon Middelhoek For contributions to the theory of magnetic thin films and to magnetic and semiconductor technologies and for leadership in engineering education.

### France

Claude H. Gary For contributions to the understanding of corona and field effects in high-voltage power transmission.

Ferdy P. M. Mayer For contributions to the theory of ferromagnetics and to the development of materials for the suppression of electromagnetic interference.

Michel E. Poloujadoff For contributions to the theory of electrical machinery, especially single-phase and linear induction motors, and for leadership in advancing engineering education.

### Germany (West)

Manfred Boerner

For contributions to and technical leadership in optical communication technology and for developments of mechanical frequency filters.

Peter Noll

For contributions to adaptive quantization and coding of speech signals.

### Norway

Olav S. Johansen

For leadership and contributions to international research and standardization of high-voltage equipment and systems.

### Israel

Dov Frohman-Bentchkowsky For the development and understanding of programmable non-volatile MOS memories.

Abraham Lempel For contributions to the theory of data complexity, the practice of data compression, and the algebraic analysis and synthesis of digital sequences.

### North Italy

Elio Occhini

For contributions to cable technology for EHV and UHV electric energy transmission.

### Sweden

H. Bertil Thorén

For advancing the understanding of the design and operation of equipment for ultra-high-voltage power transmission systems.

### United Kingdom and Republic of Ireland

Alistair G. J. MacFarlane For contributions to control engineering and to the development of frequency domain techniques for linear multi-variable feedback systems.

Edwin D. R. Shearman For contributions to backscatter radio propagation studies.

Erich P. Wohlfarth For contributions to the theories of fine-particle ferromagnetism and the properties of electrons in metals.

### Award of Bendix Grants

One of the eight Student Branches given congratulations for their winning proposals was the Branch at Eindhoven University of Technology.

## MEETINGS IN REGION 8

### Summer School on Satellite Communication Antenna Technology

This five-day school is to be held from August 23 to August 27 1982 at Eindhoven University of Technology, Department of Electrical Engineering, Eindhoven, Netherlands, in co-operation with IEEE Benelux and the University of Illinois, USA.

It is for communication systems analysts and designers, technical managers and others engaged in the design of satellite communication systems, spacecraft antennas and earth-stations. Underlying concepts governing design and system architecture are presented with a detailed development of specific techniques including multiple beams, frequency reuse, polarization control, beam shaping, dual shaped reflectors, adaptive and phased arrays, deployable reflectors and earth-stations.

Applications of these current state-of-the-art techniques to the upcoming generation of satellites, such as L-SAT, are illustrated.

Additional information from: Dr. Eduard J. Maanders, Department of Electrical Engineering, University of Technology, Eindhoven, Netherlands. Phone (040) 473427 or 473447.

### 8th Symposium on Microprocessing and Microprogramming

EUROMICRO 82 will be held September 5-9 1982. It is the eighth annual symposium organized by EUROMICRO, the European Association for Microprocessing and Microprogramming. EUROMICRO has held its previous conferences in Nice, Venice, Amsterdam, Munich, Göteborg, London and Paris. In 1982, Haifa, Israel, has been chosen as the venue. The purpose of the EUROMICRO conference is to bring together practitioners and theoreticians from industry, government and academia who are interested in all problems relating to the underlying concepts and the use of microprocessing and microprogramming.

Authors are invited to submit original papers on recent and novel developments in all aspects of microprocessing and microprogramming. Topics will include, but will not be limited to, the following:

- System architecture
- Hard-/software tools
- Interfacing and communication
- Network structures
- Firmware and microprogramming
- Education
- Social and economic aspects

The structure of the symposium will consist of three types of sessions:

Scientific sessions, which will accommodate invited and submitted papers, reporting on significant developments in the symposium areas.

Short notes sessions, allowing for very up-to-date, yet brief presentation of significant results and applications.

Industrial sessions, co-ordinated with industrial exhibitions and presenting the most recent industrial developments and production activities.

Further information from:

**Organizing Chairman**  
M. Yoeli  
Computer Science Department  
Technion,  
Israel Institute of Technology  
Technion City,  
Haifa 32000, Israel.  
Tel: (972)(4)225111  
Telex: 4-6650

**Programme Chairman**  
C. J. van Spronsen  
Delft University of Technology  
Department of Electrical  
Engineering  
P.O. Box 5031  
2600 GA Delft, The Netherlands.  
Tel: (31)(15)786227.  
Telex: 38070

### 4th International Conference on Ion Implantation

The 4th International Conference on Ion Implantation: "Equipment and Techniques" will be held on September 13-17 1982, at the convention centre in Berchtesgaden, Germany. This conference immediately follows the conference "Ion Beam Modification of Materials" (IBMM) in Grenoble, France, and includes a school on practical aspects of ion implantation.

The main conference begins on September 14 1982 and ends on September 17 1982; the school begins on September 13 1982 and ends on September 15 1982.

The conference will emphasize the scientific and engineering problems in the design and use of ion-implantation equipment, as well as the application of ion implantation in semiconductor technology and tribology.

Three types of sessions will be held:

- (a) invited talks,
- (b) contributed papers, and
- (c) poster sessions.

# BOOKS FOR PROFESSIONALS:

## Computer Program Testing

Proceedings of the Summer School on Computer Program Testing held at SOGESTA, Urbino, Italy, June 29 - July 3, 1981

edited by **B. CHANDRASEKARAN, and S. RADICCHI**

1981. viii + 326 pages. Price: US \$46.50/Dfl. 100.00  
ISBN 0-444-86292-7

The articles in this book, taken as a whole, provide a comprehensive tutorial discussion of the state-of-the-art as well as research directions in the area of testing computer programs. They cover the spectrum from basic theoretical notions through practical issues in testing programs and large software systems, to integrated environments and tools for performing a variety of tests. The authors of these articles are all active researchers and practitioners in the field.

## Software Engineering Environments

Proceedings of the Symposium held in Lahnstein, Federal Republic of Germany, 16-20 June, 1980

edited by **HORST HÜNKE**

1981. 428 pages. Price: US \$55.75/Dfl. 120.00  
ISBN 0-444-86133-5

This work contains an authoritative selection of papers on integrated software development systems and methods for such systems. The papers cover many different aspects of the software engineering process, stressing the following areas: requirements engineering; formal design methods, including the use of Petri nets for the design of concurrent systems; graphical support and structured design; structural modelling; stepwise refinement and verification; specification and implementation based on common concepts and allowing verification; measurement of the development process; ergonomic considerations for SE<sup>2</sup>; management oriented standardization of the development process; tool building; integration of concepts and tools, based on common concepts. The following systems are covered: AIDES, APSE, ARGUS, ARCTURUS, CADES, CDL2-Laboratory, COSY, DELTA/BETA, DREAM, Gandalf, HDM, PDS, SDEM/SDDS, SDS, SPS/SWB, and UNIX/PWB.

## Performance of Data Communication Systems and Their Applications

edited by **G. PUJOLLE**

1981. xii + 432 pages. Price: US \$55.75/Dfl. 120.00  
ISBN 0-444-86283-8

Until a few years ago the application of computer performance on data communication systems was still in its infancy while computer networking expertise experienced its adolescence. The shift from the individual machine to data communication systems as a focus of interest of the performance evaluation community entails a significant growth in the maturity of its results and of the relevance of its insights to the electronic data processing area.

This book presents important contributions by leading authorities on performance of data communication systems and their applications. Original technical papers, as well as pertinent surveys, all written by approximately 40 specialists, are featured in the work.

The subjects covered by the contributions include: Modelling, Performance Evaluation and Measurement Techniques for Novel or Classical Data Communication Systems; Computer Networks, Network Interconnection, Satellite Communication, Local Networks. Application areas include: Distributed Processing, Security in Communication and New Telecommunication Services.

## Man-Machine Communication in CAD/CAM

edited by **TOSHIO SATA and ERNEST WARMAN**

1981. 216 pages. Price: US \$34.75/Dfl. 75.00  
ISBN 0-444-86224-2

This work is a starting point for explorers into the relatively unknown expanses of man-machine interaction. It is compiled of papers, written by international experts, on the fundamental aspects of man-machine communication in CAD/CAM which were selected by the IFIP WG 5.2 (Computer Aided Design) and WG 5.3 (Discrete Manufacturing).

The contributions cover theoretical and practical problems in man-machine communication in the fields of design and manufacturing automation. New philosophies and techniques are proposed for the roles of both the human intelligence and the computer. The methods of their communication, interaction and cooperation is considered from a wide variety of scientific approaches.

Scientific researchers and industrial engineers who pursue the clarification and rationalization of the man-machine system of design and manufacturing are sure to be interested in this book. In addition, the inclusion of discussions, which are compiled from the panel sessions, are very instructive for a deeper understanding of the problems in the field.

## Algorithmic Languages

edited by **J. W. DE BAKKER and J. C. VAN VLIET**

1981. 448 pages. US \$45.00/Dfl. 110.00  
ISBN 0-444-86285-4

This international symposium, organized by the Mathematical Centre of Amsterdam under the auspices of IFIP TC-2, was held as a tribute to *Professor A. van Wijngaarden* on the occasion of his retirement from the Centre. *Professor van Wijngaarden* has played a significant role in the history of the International Federation for Information Processing (IFIP) and, more specifically, in that of Technical Committee 2 of IFIP. He is well known for his contributions in the area of programming language design (ALGOL 60, ALGOL 68, two-level grammars).

This important work contains tributary papers on the scientific and organizational role of *Professor van Wijngaarden* as well as research papers on a variety of practical and theoretical aspects of programming language design, transformational programming and semantic issues.

## CAD in Medium Sized and Small Industries

edited by **JEAN MERMET**

1981. x + 664 pages. Price: US \$81.25/Dfl. 175.00  
ISBN 0-444-86145-9

The work features 50 selected papers from MICAD 80, the first international conference held on the subject. The table of contents illustrates the variety of problems that were covered. CAD is a global problem, and the submitted papers show that global character.

Small firms will find actual case study descriptions by other companies of the same size. Non-specialists in CAD-CAM techniques will receive a good introduction to the field, and professionals already involved in the field will be presented with a *complete coverage* of all the technical and social problems associated with CAD.



In the USA/Canada:  
Elsevier Science Publishing Co., Inc.  
52 Vanderbilt Avenue, New York, NY 10017

In all other countries:  
North-Holland Publishing Company  
P.O. Box 211, 1000 AE Amsterdam

HN 0390

### List of Topics –

State of the art in ion-implantation components (sources, beam optics, target chambers, etc.)  
 New machine developments (solar-cell implanters, super-high-current machines, cooling systems, sources, ion-beam writing for direct doping, etc.)  
 Semiconductor applications (silicon and III-V compounds, gettering, etching behaviour, SiO<sub>2</sub> and Si<sub>3</sub>N<sub>4</sub> formation etc.)  
 Ion-beam lithography (sources, beam columns, resists, etc.)  
 Equipment and applications in tribology (wear, hardness, fatigue, etc.)  
 Methods and equipment for annealing.

### Manufacturers' Presentations

Space will be provided for presentations and demonstrations by manufacturers of ion-implantation equipment. Special papers on new equipment developments will be presented in a special session. Information on the manufacturers' presentations can be obtained upon request.

### Further information:

Dr. Heiner Ryszel  
 Int. Conference on ion Implantation  
 Institut für Festkörpertechnologie  
 Paul-Gerhardt-Allee 42  
 8000 München 60 Germany.  
 Telephone: 0049-89-7093117. Telex: 5213522 ift d.

### 1982 Journées d'Électronique – Optoelectronics

The "Journées d'électronique de EPFL" is an annual international conference held at the Swiss Federal Institute of Technology (Ecole Polytechnique Fédérale) in Lausanne and co-sponsored by the IEEE Switzerland Section. Official languages are French and English, with simultaneous translation provided. The aim of this symposium is to review the current status, discuss the future trends and present innovative ideas or results on a subject of timely interest in the electronic field. The next conference, to be held from October 5 to 7, 1982, will be devoted to the theme: Optoelectronics in telecommunications and measurement systems.

The relevant optoelectronic fundamentals will be reviewed in a first tutorial day. The next two days will be devoted to special sessions on **Optoelectronics in measurement systems** and **Optoelectronics in telecommunications**.

Authors of tutorial or specialized papers on these subjects were invited to submit a proposal, based on a full text or a detailed summary, respectively, before 15 March 1982, to: Selection Committee, Journées d'électronique, EPFL, 16, chemin de Bellerive, CH-1007 Lausanne, Switzerland. Further information can be obtained from the above-mentioned address.

Dear Sir,

I refer to Mr. R. C. Winton's report on MELECON 81 in the August 1981 issue of the Region 8 Newsletter, and to the letter of Messrs. Papa-georgiou, Afrati, Stasinopoulos and Sykas in the November 1981 issue. My learned Greek colleagues' statement is correct and the word "electron" does stem from the Greek language. Having been present at the opening session of MELECON 81 and being fluent in both English and Hebrew, I think I can clear up the misunderstanding. President Navon **did not** say in his opening address that the word "electron" was derived from Hebrew. What he did say was that there was a word for **electricity** = HASHMAL in the original Hebrew version

## CURRENT TRENDS IN COMPUTER ARCHITECTURE

### An Intensive Five Day Seminar

Ecole Polytechnique Fédérale de Lausanne

**SEPTEMBER 13-17, 1982 - LAUSANNE SWITZERLAND**

Instructor : **Dr. RON ASHANY**  
 Research staff member, IBM Watson  
 Research Center Yorktown Heights, USA

This one-week seminar to be taught in English will present the current trends in computer architecture as they relate to recent technology advances. The following topics will be presented :

**Evolution from small von Neumann machines to supercomputers**  
**Parallel and pipelined computers**  
**Associative and array processors**  
**Data flow machines and systolic systems**  
**Comparative study of existing and new architectures**

The concepts presented in the seminar will be illustrated by a number of case studies of many existing computer systems.  
 Registration fee is SFr. 900.--  
 For additional information write to :

Secretariat Current trends in computer architecture  
 c/o Prof. H. NUSSBAUMER  
 Ecole Polytechnique Fédérale de Lausanne  
 Département d'Electricité  
 16, chemin de Bellerive  
 CH-1007 Lausanne Switzerland

### Correction to Addendum to Conference and Exhibition Calendar (Supplement to Region 8 Newsletter No. 57)

In the last line of the last entry of this Supplement the address gives the wrong post code and this has been causing difficulties. Will you please note that the correct address and post code is given in the enclosed Calendar of Conferences and reads:

Contact: Institute for Kommunikationstechnik,  
 ETH Zentrum-KT, CH-8092 Zurich, Switzerland.

## LETTER TO THE EDITOR

of the Old Testament and this word is in use also at the present. The Hebrew word HASHMAL appears **twice** in the Old Testament (Ezekiel 1, 4 and 8, 2). In the English version I consulted (The British and Foreign Bible Society, Cambridge University Press, 1927) I found that the word HASHMAL is translated AMBER – which, of course, relates to **electron**, the Greek word for **amber**.

I should greatly appreciate it if you would kindly inform your readers accordingly.

March 12 1982 Sincerely yours,  
Michael Snir,  
Treasurer, IEEE Israel Section, P.O. Box 3473, Tel Aviv 61033, Israel.

### ADVERTISING RATES

Display – \$1,580 per full page, \$860 per half page, \$460 per quarter page. Page size A4 (296mm x 210mm). These rates are for 'camera ready' copy – a charge at cost will be made for any setting required.

### INSERT RATES

For full Regional distribution to over 12,000 members in 73 countries in Europe, Middle East and Africa, size A5 or folded to A5 (148mm x 210mm), weight 10gms \$1,580, 20gms \$1,850, 30gms \$2,110. Lower rates for distribution to one country only or to a group of countries. Additional charge if collation or folding required. Recommended method of delivery is by direct air mail parcel post (check local postal regulations for maximum weight per parcel) or by air freight addressed to County Secretarial Services with prior notification of airway bill number, flight number and date. Surface transport is liable to considerable delay at port of entry. Before shipment of inserts check that the deadline date will be met including allowance for customs clearance and delivery to Guildford.

All the above rates are net and include no allowance for discount.

**ENQUIRIES TO** County Secretarial Services,  
 P.O. Box 7, Guildford, Surrey, England, GU2 5HH  
 Telephone National Guildford 77777 (STD Code 0483)  
International +44 483 77777  
 Telex 264045 ERALHD G  
 Registered telegraphic address COSEC GUILDFORD  
 Deliveries 8 The Flower Walk, Guildford, Surrey GU2 5HH

|           | PUBLISHED QUARTERLY                             | FEB    | MAY      | AUG     | NOV    |
|-----------|---|--------|----------|---------|--------|
| DEADLINES | News to Editor                                  | Jan 7  | April 7  | July 7  | Oct 7  |
|           | Advertisements to County Secretarial Services   | Jan 15 | April 15 | July 15 | Oct 15 |
|           | Delivery inserts to County Secretarial Services | Jan 22 | April 22 | July 22 | Oct 22 |
|           |   |        |          |         |        |