

IFAC
INTERNATIONAL FEDERATION
OF AUTOMATIC CONTROL

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Honorary Editor of IFAC

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IFAC NEWS

The preparations for quite a number of IFAC Symposia planned for 1964/65 are taking shape and detailed information is given on the 3rd International Measurement Conference IMEKO (page 6)

on the IFAC/IFIP Joint Conference on Application of Digital Computers for Process Control (page 8) and on the ETAN Symposium on Sensitivity Analysis of Non-linear Systems (page 26).

Two further Symposia planned for Summer 1965 are at present being dealt with quite thoroughly, namely one on Automatic Control in the Peaceful Uses of Space to be held in Norway, and the other one on Systems Engineering for Control Systems Design to be held in Japan.

NEWS FROM NATIONAL MEMBERS

Belgium

IBRA (Institut Belge de Régulation et d'Automatisme) has decided to cancel the Symposium on Automatic Control and Programming of Mechanical Production planned to be held in Brussels from 25th to 29th May, 1964. It is felt that there are too many meetings on similar subjects taking place at about the same period which makes it difficult to solicit a sufficient number of papers and participants.

Finland

We have published in Bulletin no. 14, January 1963 (page 13), a short report on the activities of the Finnish Society of Automatic Control in 1961. According to new information of this National Member Organization of IFAC, the membership increased up to 67 in 1962 against 57 in 1961. Amongst these, 7 members of the Society are firms and 60 are individuals.

Two meetings were held during 1963. The first one which took place simultaneously with the Annual Meeting - comprised papers on boiler dynamics and boiler control and was followed by a visit to a large power plant. The second meeting held at Jyväskylä was devoted to educational problems and was followed by a visit to a machine-building plant.

Mr. Allan Melart was in the chair in 1962 and resumed his chairmanship in 1963 too, whilst Dipl.-Ing. Aarre Aaltonen remained in office as Honorary Secretary of the Society.

Netherlands

Information has been received from the Koninklijk Instituut van Ingenieurs, the Dutch Member Organization of IFAC, that they double their annual subscription by raising it to the next higher category as from 1964.

Switzerland

The 7th General Assembly of ASSPA (Association Suisse pour l'Automatique - Swiss Association of Automatic Control), National Member of IFAC for Switzerland, was held at Basle on August 29th 1963, on the occasion of the IFAC Congress. It was attended by 36 members of this Society.

In his report on the activities of ASSPA during the past year, the Chairman, Professor Ed. Gerecke, mentioned the Symposium on the determination of the numerical parameters concerning hydroelectric power stations organized in Lausanne by Dr. M. Cuénod on April 6th 1963 and attended by 50 experts (see Bulletin No. 15, page 22). He also mentioned the seminar on means for increasing the productivity of small and average firms held in Geneva from April 16th to 19th, 1963 (see Bulletin No. 15, page 23).

The Review NT (Neue Technik - Nouvelles Techniques - New Techniques) will have two publications: one (6 issues) devoted to nuclear engineering and another (6 issues) devoted to automatic control and containing the Information Bulletin of ASSPA.

The Chairman, Professor Ed. Gerecke and the Treasurer, Mr. E. Ruosch, announced their intention to resign in autumn 1964 in order to be able to devote themselves more increasingly to scientific activities.

The membership of ASSPA amounts now to 1250 individuals and to 126 collectivities represented by 630 delegates, i.e. to a total of 1880 members.

In May 1964, ASSPA will organize in Geneva a symposium on "Automatic data processing and electronic network operation". In autumn 1964, a second meeting is provided for in Zurich.

At the end of the General Assembly, Professor R. Dessouilavy expressed, on behalf of ASSPA, his most sincere thanks to Professor Ed. Gerecke for his large personal contribution to the success of the IFAC Congress held in 1963 in Basle.

United Kingdom

UNITED KINGDOM AUTOMATIC CONTROL SOCIETY
(U.K.A.C.)

The revised membership roster is as follows:

- Association of Certified and Corporate Accountants,
- British Computer Society,
- British Institute of Management,
- British Institution of Radio Engineers,
- British Productivity Council,
- Chartered Institute of Secretaries,
- Institute of Chartered Accountants in England and Wales,
- Institute of Chartered Accountants in Scotland,
- Institute of Costs and Works Accountants,
- Institute of Fuel,
- Institute of Marine Engineers,
- Institute of Materials Handling,
- Institute of Metals,
- Institute of Personnel Management,
- Institute of Petroleum,
- Institute of Physics and the Physical Society,
- Institute of Welding,
- Institution of Chemical Engineers,
- Institution of Civil Engineers,
- Institution of Electrical Engineers,
- Institution of Engineering Inspection,
- Institution of Gas Engineers,
- Institution of Mechanical Engineers,
- Institution of Mining Engineers,
- Institution of Municipal Engineers,
- Institution of Plant Engineers,
- Institution of Production Engineers,
- Institution of Structural Engineers,
- Iron and Steel Institute,
- Operational Research Society,
- Royal Aeronautical Society,
- Society of Instrument Technology,
- Trades Union Congress.

Observer: Department of Scientific and Industrial Research.

WORLDWIDE AUTOMATIC CONTROL

International

INTERNATIONAL COMPUTATION CENTRE
 The International Computation Centre, which is an intergovernmental organization, has the intention to establish an International Seminar for Teachers in Automatic Data Processing.

The main objectives of this Seminar are to educate people in order that they may be able to organize such seminars in their countries on their return, and to teach there.

The detailed programme is now under preparation, but the following subjects could be mentioned as the principal ones:

- a) Basic concept in Information Processing
- b) ADP equipment and systems
- c) Programming techniques
- d) Systems Analysis
- e) General Management principles
- f) Educational methods.

The Seminar is planned for a duration of 6 months, of which 4 months will be devoted to theoretical studies and 2 months for practical work in computation laboratories, and/or in various governmental and private organizations in some European countries.

The computation laboratory of the Centre will be at the disposal of the students for demonstration purposes and practical training; the existing library will be enlarged to meet the needs of the Seminar.

It is assumed that the Seminar will start at the end of 1964. It will be held in the premises of the ICC in Rome. The teaching language will be English. The ICC intends to establish a permanent contact with the graduates of the Seminar in order to support them in their task.

Candidates to the Seminar will be considered if they have a University degree or High School matriculation with a good experience in Public or Business Administration.

The participation fee is still not fixed but it is estimated at approximately \$400-500 for citizens of the Member States of the Centre and \$800-1,000 for the others. This includes text books and classroom materials.

The per-diem expenses in Rome are estimated at approximately \$250 per month. Arrangements will be made to obtain suitable accommodation for the students.

ICC intends to grant some fellowships to candidates from the Member States; additional fellowships are expected for all countries from other international organizations.

Interested candidates should send their applications to the Headquarter of the ICC, Viale della Civiltà del Lavoro 23, Rome. Additional information will be supplied upon request.

INTERNATIONAL FEDERATION FOR INFORMATION PROCESSING (IFIP)

The Council of the International Federation for Information Processing (IFIP) met in Gdansk, Norway, on 4th - 9th September, 1963, with the President, I.L. Auerbach (USA) in the chair.

New Member Societies Admitted
 Three new national societies were admitted to membership of the Federation, viz:

- Austria: Austrian Committee of Automatization,
- Brazil: Brazilian Association of Electronic Computers (ABRACE),
- Israel: Information Processing Association of Israel.

This brings the total membership of IFIP to 23.

New Council Members and Electives
 to the Executive Committee
 In addition to the Council Members who will represent the three newly admitted societies, three new Council Members were announced:

- I.J. Cohn to replace J.M. Bennett (Australia);
- S. Gill to replace M.V. Walkes (United Kingdom),
- M. Goto to replace H. Yamashita (Japan).

A.P. Speiser (Switzerland), who had held the office of Secretary-Treasurer since the founding of the Federation in 1960, was unanimously re-elected for a further three years term.

Multi-Lingual Glossary

The Chairman of Technical Committee 1 on Terminology and Symbols, G.C. Tootill (UK), reported that the first draft of the English version of a multi-lingual glossary would be ready for publication early in 1964. The Joint IFIP-ICC Terminology Committee has been working on the project for 2 1/2 years, with the co-operation of eight national data processing

societies and five national standards organizations. They have nearly completed the first stage in the preparation of a multilingual vocabulary and dictionary of automatic data processing terms, and it is hoped that versions in other languages will appear soon after the English version.

New Technical Committee on Educational

A new technical committee, TC3 on Education, which had been authorised at a previous meeting of the Council, was set up with R.A. Bueckingham (UK) as Chairman. This committee has the task of drawing up suitable curricula and training programmes in the science of information processing; of generating material to acquaint the public with the computer and with its impact on society; of co-operating with other international bodies, and of acting as a clearing house for educational material relating to the science of information processing. Members of the committee were appointed, and a preliminary survey was made of the work to be done.

Co-operation with other International Organizations

A committee consisting of A. van Wijngaarden (Netherlands), Chairman, A.A. Dorodnitsyn (USSR), J.V. Garwick (Norway) and H. Zemanek (Austria) was set up to gather information about existing international bodies and their programmes and to collect data on newly developing national and international organizations. It is hoped that the work of this committee will result in fuller and more effective co-operation between IFIP and similar organisations. One project under consideration is a joint meeting with the International Federation of Automatic Control (IFAC), on "Application of digital computers for process control", to be held from 21st to 24th September, 1964, in Stockholm.

IMEKO 1964

We have announced in Bulletin no. 13 (page 32) the preparation, jointly with the traditional Swedish Instruments and Measurements Conference (I & M), of the IMEKO Conference 1964 in Stockholm. We are now in a position to give the following more detailed information on this event, postponed since from April to September 1964.

In view of the growing interest shown in many countries towards IMEKO I and II held in Budapest in 1958 and 1961, the Permanent International Preparatory Committee (PIPC) of the International Measurement Conference (IMEKO) has resolved to accept the invitation of its Swedish Member Organization to organize the third Conference, IMEKO 1964, simultaneously and jointly with the sixth, already traditional "Instruments and Measurements" Conference (I & M) in Stockholm, September 1964.

Aim of the Conference

The aim of the Conference is to provide exchange of scientific experience, theoretical as well as practical, regarding technical and scientific problems in the field of measurement and instrumentation and to establish a personal contact among participants.

Time and Place

Time of the Conference: 14 - 19 September, 1964.
Place: The Congress halls at "Folkets Hus", Stockholm.

Scientific Programme

Approximately 120 papers have been submitted by scientific and technical societies participating in the organization of the Conference from Bulgaria, China, Czechoslovakia, Germany, Hungary, Italy, Japan, Poland, Roumania, Sweden, United Kingdom, USSR and USA, as well as by scientists in Austria, France, India, Israel, The Netherlands, UAR and Yugoslavia.

The number of papers has been limited so as to secure free time for personal discussions, visits to institutes and plants, excursions, etc.

The following sections have been provided for:

- 2.1. Sections dealing with questions of general character
 - 2.10 Fundamental problems of metrology
 - 2.11 Theory and practice of instrument design
 - 2.12 Technology and organization in instrument manufacture
 - 2.13 General electronics as applied to measurements and instruments
 - 2.14 Border questions of measurement and automation (jointly with IFAC)
- 2.2. Specialized sections
 - 2.11 Instruments and methods for measuring geometrical and mechanical quantities, including geodetic measurements
 - 2.23 Instruments and methods for measuring thermal quantities
 - 2.24 Instruments and methods for physico-chemical measurements
 - 2.25 Instruments and methods for measuring electrical and magnetic quantities
 - 2.26 Instruments and methods for measurements in radio engineering
 - 2.27 Instruments and methods for measuring radioactive radiation.

Topics of general character will be discussed in the Plenary Sessions and in Sections No. 2.10-2.14, whereas new methods for measuring specific physical or chemical quantities are to be handled in the Specialized Sections 2.21-2.27.

New developments in the border fields of measurement and automation will again be discussed in Section 2.14, organized jointly with the Technical Committee on Components of the International Federation of Automatic Control (IFAC).

Interpretation

Simultaneous translation will be provided into at least two of the official languages: English, French, German, Russian.

Registration

The registration fee is 175 Swedish crowns for participants and 60 Swedish crowns for accompanying guests. Sets of 20 full texts may be ordered at the time of final registration at the price of 25 Swedish crowns each and will be mailed to registrants before the Conference.

Correspondence regarding registration, accommodation etc. should be directed to: RESO, Congress Service, Stockholm 1, Sweden, Telex 1805, (Cable address: FOLKRESO). Inquiries regarding the scientific programme should be addressed to: IMEKO Secretariat, P.O. B. 3, Budapest 5, Hungary.

I F A C / I F I P C O N F E R E N C E 1964

An international conference on "Application of digital computers for process control" will be held in Stockholm, Sweden, September 21-24, 1964. The conference is jointly sponsored by the International Federation of Automatic Control (IFAC) and the International Federation for Information Processing (IFIP). A joint IFAC/IFIP programme committee has invited about 20 users of Control Systems to present papers in the various application fields listed below. The papers will be commented upon orally at the conference and enough time for discussions will be provided.

The papers are to describe the initial aims, the implementations, and the results of the installation, including actual performance and economic factors. Papers will be distributed to the conference participants in advance of the conference as preprints.

The technical programme of the conference consists of six half-day sessions and, if possible, a visit to an actual installation. The various sessions will cover the following areas:

1. Chemical and Petroleum Industry
2. Iron and Steel Industry
3. Discussions of contributions to sessions 1 and 2
4. Public utility: Electric Power and Gas
5. Other applications: Paper Machine, Cement Kiln Control Railway Operation, and Traffic Control in mines
6. Discussions of contributions to sessions 4 and 5

The number of participants will be limited to 300.

Further information, hotel accommodation, and application forms for participation can be ordered from: IFAC/IFIP Conference 1964, Swedish Conference Office, Box 320, Stockholm 1, Sweden.

F O U R T H I N T E R N A T I O N A L C O N G R E S S O N C Y B E R N E T I C S

The International Association for Cybernetics is organizing the Fourth International Congress on Cybernetics in Namur, Belgium, from October 19 to October 23, 1964.

Subjects dealt with at the Congress will be divided into the following groups:

1. Principles and methods of Cybernetics
2. Semantic machines
3. Automatism: technical aspects
4. Automatism: economic and social aspects
5. Cybernetics and life.

The languages used at the Congress will be French and English. The Proceedings of the Congress will be published.

All those wishing to take part in the Congress are invited to apply to the Secretariat of the International Association for Cybernetics, Palais des Expositions, Place A. Rijckmans, Namur (Belgium). The fees for attending the Congress have been fixed as follows:

- Members of the International Association for Cybernetics 400 BF.
- Non-Members 800 BF.

No fees will be charged to the authors of papers.

Authors of papers are requested to send the title and a summary of the paper to the Secretariat as soon as possible (and not later than 1st July, 1964). The definitive text must be handed in at the opening of the Congress.

A series of excursions will be organized for the congressists and for the persons accompanying them.

AUTOMATION IN THE IRON AND STEEL INDUSTRY

A conference on automation in the iron and steel industry will be held in Amsterdam and Düsseldorf during 1965. The conference will be organized by the Centre National de Recherches Metallurgiques (Belgium) and the Verein Deutscher Eisenhüttenleute (Germany), in co-operation with the Associazione Italiana di Metallurgia, the Institut de Recherches de la Sidérurgie (France), and the Iron and Steel Institute (U.K.). The first part of the conference will be held from Monday the 29th to Wednesday the 31st of March 1965 in Amsterdam, and the second from Thursday the 1st to Saturday the 3rd of April in Düsseldorf. In Amsterdam the programme will deal with the automation of sinter blast furnaces, basic oxygen steel plants (LD, LD.-Ac, Kaldo) and in Düsseldorf with the automation of rolling mills and their auxiliaries. The official languages will be English, French and German, and a system of simultaneous interpretation will be provided.

The provisional programme and forms of registration will be sent out during June 1964, and registrations will be accepted for the whole meeting or for either part. Registrations and requests for information should be sent to one of the following addresses:

- Centre National de Recherches Metallurgiques (CNRM)
Abbaye du Val-Benoit, Liège, Belgium
- Verein Deutscher Eisenhüttenleute (VDEh),
Breite Str. 27, Düsseldorf, Germany.

Austria

14 - 18 Sept. 1964: 6th Austrian Mathematical Congress, Graz. Contact: Kongressleitung, Mathematisches Institut, Technische Hochschule, Kopernikusgasse 24, Graz, Austria.

Belgium

21 - 25 Oct. 1964: 4th International Congress on Cybernetics. Contact: The Secretariat, International Association for Cybernetics, 13 rue Basse-Marcelle, Namur, Belgium.

Germany

30 Aug. - 5 Sept. 1964: 11th International Congress of Applied Mechanics, Munich. Contact: Organisations-Sekretariat des Mechanikkongressen, Institut für Mechanik, Arcisstrasse 21, München 2, Germany.

Israel

24 - 25 Aug. 1964: International Colloquium on Algebraic Theory, Jerusalem. Contact: Prof. Yehoshua Bar-Hillel, Hebrew University, Jerusalem, Israel.

Italy

8th MEETING AND EXHIBITION AUTOMATION AND INSTRUMENTATION Milan, November 1964. Representatives from 30 countries will participate in the Meeting and Exhibition on Automation and Instrumentation to take place at the Milan Fair Grounds during November 1964. The event is being organized by FAST (The Federation of Scientific and Technical Associations of Milan). The organizing committee is headed by prof. Antonio Foddisco.

The theme of the meeting will embrace the whole field of automation and instrument development in this area.

The papers will be divided into four sections, as follows:

- instrumentation
- application of plant control instruments
- new techniques for automatic physical and chemical analysis
- computers for process optimization.

Speakers at the meeting will include:

- Dr. Ing. G. A. Daga of Montecatini
- Dr. Ing. G. Sacerdoti of Olivetti
- Dr. Ing. G. Dal Monte of Siemens
- Dr. Ing. E. Torielli of Agip Nuolare
- Dr. Ing. F. Uccelli of Societa Prodest
- Dr. Ing. A. Grasselli of Milan Institute of Technology
- Prof. Dr. G. Bertolini of Ispra Nuclear Center
- Prof. Dr. G. Quazza.

All particulars from: Federazione delle Associazioni Scientifiche e Technice, (FASIT), Milan.

Japan

7 - 11 Sept. 1964: International Conference on Microelectronics and Information Theory, Tokyo, Contact: The Chairman of the Papers Committee, Dr. Kiyoshi Morita, c/o The Institute of Electrical Communication Engineers of Japan, 2-8 Fujimicho, Chiyodaku, Tokyo, Japan.

1965: IFAC Symposium on Systems Engineering for Control Systems held in Tokyo, Japan, 1965.

The Symposium will put the emphasis on:

- identification of system characteristics
- algorithms of complicated control schemes
- realization of large systems.

Technical trips after the Symposium will be arranged.

For additional information write to: IFAC Tokyo Symposium Committee, Keisoku Kaikan, 20 Shiba, Kotohiraicho, Minatoku, Tokyo, Japan. Telegrams: IFACSYMPOSIUM TOKYO.

United Kingdom

MEETING ON STABILITY OF SYSTEMS
London, 21st/22nd May, 1964

The Automatic Control Group Committee of the Institution of Electrical Engineers is planning to present a meeting on Stability of Systems in May of this year, in which it will be their aim to stir the interest of applied mathematicians and mathematically minded engineers in unsolved problems of stability, particularly in non-linear systems.

The meeting itself will be preceded by a "tutorial" session in the use of Lapunov techniques and will comprise presentations of "case studies" in four particular problems of control, electric power systems, airborne systems, chemical systems, and plasma systems. A survey paper is in course of preparation and is circulated to delegates in advance of the meeting.

PROVISONAL PROGRAMME:
Introductory remarks by Prof. G.D.S. MacLellan (Chairman, Automatic Control Group).

Session 1: Tutorial led by Mr. P.C. Parks (Southampton University).

Session 2: "Electric Power Systems" by K.W. James (C.E.R.L.).

Session 3: "Airborne Systems" by Mr. P.C. Parks (Southampton University).

Session 4: "Chemical Systems" and "Plasma Systems" by Dr. G. Rowland and Mr. B. McNamara (U.K.A.E.A.).

For attending the meeting contact: The Institution of Electrical Engineers, Savoy Place, London W.C. 2

CONVENTION ON ADVANCES ON AUTOMATIC CONTROL

Nottingham, April 1965

The Institution of Electrical Engineers, the Institution of Chemical Engineers, The Institution of Production Engineers, the Royal Aeronautical Society, the British Institute of Radio Engineers and the Society of Instrument Technology have accepted an invitation from the Institution of Mechanical Engineers to arrange jointly a 5 1/2-day convention which is to be organized under the aegis of the United Kingdom Automation Council in the University of Nottingham.

The Organizing Committee has determined a provisional programme for the Convention and now invites offers of papers.

The object is to provide a forum for the presentation and discussion of the results of progress in research and development in automatic control and related subjects, including applications of computers in automatic control and the effects of advances in components on control techniques. It is intended to avoid divorcing sessions concerned with theory from those dealing with applications.

For attendance contact: The Institution of Mechanical Engineers, Birdcage Walk, Westminster, London S.W. 1.

OTHER MEETINGS

25 - 30 May, 1964: Instrumentation Electronics and Automatic Exhibition, London. Contact: The Secretariat of the Exhibition, c/o Industrial Exhibition Ltd., 9 Argyll Street, London W. 1.

25 May - 5 June, 1964: International Conference on Methods and Techniques of Operational Research, Birmingham. Contact: F. Edmonson, Deputy Director, Institute for Engineering Production, 16 Norfolk Road, Birmingham 15, U.K.

14 - 18 Sept., 1964: International Conference and Social Sciences, Cambridge. Contact: Mrs. M. Kinnaird, Operational Research Society, 64 Cannon Street, London E.C. 4

14 - 18 Sept., 1964: International Annual Logic Computation Meeting, Brighton. Contact: B.C.S./As.I.C.A. Honorary Secretariat, Ferranti Ltd., Kern House, 36 Kingsway, London W.C. 1

Prof. Mark Aizerman, Dr. Techn. Sci., of the Institute of Automation and Telemechanics, Moscow, is expected to visit London and it is hoped to arrange for him to deliver two or more lectures under the aegis of the United Kingdom Automation Council.

The provisional arrangements are:
28th May, at 5.30 p.m. at the Institution of Mechanical Engineers, Lecture on "Pneumatic Automation: Its Possibilities and its Future".

2nd June, at 5.30 p.m. at the Institution of Electrical Engineers, Lecture on "Non-Linear Stability: the present state of the art" (including a discussion of the "Aizerman Problem").

Members of any of the member societies of the UKAC may attend; those proposing to do so are recommended to communicate with the Honorary Secretary, UKAC, c/o The Institution of Electrical Engineers, Savoy Place, London W.C. 2, shortly beforehand, to ascertain whether these proposed arrangements have been confirmed.

USA

SIXTH JOINT AUTOMATIC CONTROL CONFERENCE

The Sixth Joint Automatic Control Conference (JAAC) will be held at Rensselaer Polytechnic Institute in Troy, New York on June 22-25, 1965. Papers are invited on control theory, applications, components and control reliability. Authors should submit manuscripts by November 15, 1964. The organizers would also appreciate letters of intent to submit a paper, giving the probable title, if it is expected that the manuscript will not be submitted until near the deadline.

The JAAC is sponsored by five societies. These are:

- American Society of Mechanical Engineers, 1965 JAAC host
- Institute of Electrical and Electronic Engineers
- Instrument Society of America
- American Institute of Aeronautics and Astronautics
- American Institute of Chemical Engineers.

Authors should submit manuscripts directly to the society of their choice with the exception of ASME papers. These should go directly to: Professor J.L. Shearer, Mechanical Engineering Department, The Pennsylvania State University, University Park, Pennsylvania.

All papers to any society should be clearly marked "For 1965 JAAC".

Letters of intent to submit a paper should be sent to the 1965 Programme Chairman: Professor James W. Moore, Department of Mechanical Engineering, University of Virginia, Charlottesville, Virginia.

OTHER COMING EVENTS

The following alterations and new announcements are to be added to the information already listed in Bulletin no. 15 (pages 41 and 42) and No. 16 (pages 46 and 47):

May 4-7, 1964	2nd National ISA Biomedical Sciences Instrumentation Symposium	Student Union, University of New Mexico, Albuquerque, New Mexico (originally announced in June)
		Finally announced for New Orleans, Louisiana)

May 5-6, 1964 5th National Symposium on Human Factors in Electronics, Contact: Dr. Mel Freitag, Program Chairman, Ryan Aeronautical Co., Electronics Div., 5650 Kearney Mesa Road, San Diego 12, Calif. San Diego, Calif.,

May 5-7, 1964 1964 Electronic Components Conference. Contact: Dr. John J. Bohrer, Technical Programme Chairman, International Resistance Co., 401 North Broad St., Philadelphia 8, Pa. Washington, D.C.

May 11-13, 1964 National Aerospace Electronics Conference. Contact: IRE Dayton Office, 1414 East 3rd Street, Dayton, Ohio Dayton, Ohio

May 18-20, 1964 (originally announced for May without any date) 7th National ISA Power Instrumentation Symposium Denver Hilton Hotel, Denver, Colorado

May 18-23, 1964 (originally announced for June without any date) 5th National ISA Pulp and Paper Instrumentation Symposium Bayshore Inn, Vancouver, Canada

June 2-4, 1964 (originally announced for May 25-28) 13th National Telemetering Conference Biltmore Hotel, Los Angeles, Calif.

June 21-25, 1964 4th National ISA-APCA Air Pollution Instrumentation Symposium. Contact: Dr. D.F. Adams, Washington State University, Pullman, Washington Shamrock-Hilton Hotel, Houston, Texas

June 23-26, 1964 13th Annual International Data Processing Conference. Contact: Data Processing Management Ass., 524 Busse Highway, Park Ridge, Illinois New Orleans, Louisiana

June 23-25, 1964 6th National Symposium on Electronic Compatibility. Contact: J.A. Eckert, Technical Programme Chairman, Dept. 3441/32 Northrop-Norrair, 3901 West Broadway, Hawthorne, Calif. Los Angeles, Calif.

June 24-26, 1964 Fifth Joint Automatic Control Conference Stanford University, Stanford, Calif.

Aug. 25-28, 1964 American Computer Machinery National Conference. Contact: General Conference Chairman, H. Bromberg, Radio Corporation of America, Bldg. 204-2, Cherry Hill, New Jersey Philadelphia, Pa.

Sept. 9-11, 1964 12th Engineering Management Conference. Contact: Norman Lieblich, Dynatrol Inc., 95 Liberty Street, New York 6, N.Y. Pick-Carter-Hotel, Cleveland, Ohio

Oct. 4-9, 1964 National Symposium on Space Electronics. Contact: Charles H. Doersam Jr., Grumman Aircraft Engineering Corporation, Elec. Bldg. No. 5, Bethpage, N.Y. Las Vegas

Oct. 12-15, 1964 19th International Instrument Automation Conference and Exhibition. Contact: ISA Meetings Assistant, Penn Sheraton Hotel, 530 William Penn Place, Pittsburgh 19, Pa. New York, N.Y.

Oct. 19-21, 1964 National Electronics Conference. Contact: National Electronics Conference, 228 North La Salle St., Chicago, Illinois. Chicago, Ill.

Nov. 16-18, 1964 (originally announced for November without date) 17th Annual Conference on Engineering in Medicine and Biology Sheraton Hotel, Cleveland, Ohio

1 9 6 5 6th National ISA Chemical and Petroleum Instrumentation Symposium jointly with 11th National ISA Analysis Instrumentation Symposium Houston, Texas (originally announced for Oakland, Calif.)

1 9 6 5 14th National Telemetering Conference. Contact: R.D. Barto, Chief Telemetry Systems Branch, Mail Code: SELWS-ET, White Sands Missile Range, New Mexico El Paso, Texas

Oct. 4-7, 1965 (originally announced for Oct. 18-22) 20th Annual ISA Instrument Automation Conference and Exhibit Sports Arena, Los Angeles, Calif.

ACTIVITY IN AUTOMATIC CONTROL
TERMINOLOGY, U.S.A. 1963

The annual report of the Terminology Committee, American Automatic Control Council, which is published on the following pages, covers the publications and plans of 13 professional societies and technical associations writing standards of interest to the control systems engineer. The chairman extends his thanks to all these groups for information about their work, and also to the compiling committee, W.I. Caldwell, A.G. Kegel, P. Harriott, and J.L. Little. However, as the Laque Group advisory to the U.S. Dept. of Commerce has pointed out, confusion is compounded by so much complexity. It is hoped that the long-awaited ASA C85.1 and the mechanism set up for its continuing revision will serve to damp the oscillations rather than the enthusiasm.

H.L. Mason
AACC Terminology Chairman

ASA

American Standards Association, 10 East 40th Street,
New York, N.Y. 10016

Terminology for Automatic Control

The culmination of 9 years work by representatives of 22 technical groups has resulted in ASA C85.1-1963 "Terminology for Automatic Control", published by ASME. The American Automatic Control Council, which represents USA in IPAC, is a Corresponding Member of the Sectional Committee. Over 500 terms are listed in the new standard, relating to systems such as automatic process control, feedback control, and the regulation of power station networks. The definitions have a strong tutorial content based on theory and practice drawn from time-based description, frequency response characteristics, and root-locus analysis. Sixteen illustrations include general block diagrams, functional system diagrams, and graphs defining types of control action. Chairman D.H. Smith plans next to turn attention to systems which are strongly non-linear, or adaptive, or based on state variables.

Information Processing Systems

ASA Council has approved the establishment of an Information Processing Systems Standards Board, headed by S.N. Alexander and with a membership of 14 technical associations. A U.S. Committee for American-British-Canadian Engineering Standards was also approved.

Electrical Terms

Chairman J.D. Tebo has circulated the fourth draft of ASA C42.05 on fundamental and derived electrical terms and their definitions, and expects that recent revisions will shortly lead to final approval.

The responsibility for coordinating definitions of electrical terms has been transferred by the ASA Electrical Standards Board from C42 to the individual sectional committees which originate such definitions. C42 will compile a dictionary of these, adding terms and definitions already established, and those not actively covered by existing committees.

Automatic Digital Voltmeters
Subcommittee ASA C39.6 under G. Stantonbury has developed a proposal for a year's trial of standard requirements for Automatic Digital Voltmeters and Ratio Meters, Part I, D-C Types. New definitions include accuracy ratings, test conditions, operating mechanisms, and forms of interference. Part II, A-C Types, is under development.

Documentation

In the field of documentation, Sectional Committee Z39, headed by R.E. Kinergy, completed work on and published the American Standard for Periodical Title Abbreviations, Z39.1-1962, which is currently in the process of being printed. A number of other projects, including a significant amount of work on the Draft Standard for Transliteration of Morse Code, Russian Character Sets, and completed all but the final phases of the Draft Standard for Abstracts.

Graphic and Flow Charts and Symbols

American Standard Graphic Symbols for Electrical and Electronics Diagrams, Y32.2-1962, will shortly have a Supplement 1 which is currently in the process of being printed.

Flow Chart Symbols for Information Processing, prepared by R.W. Green, has been circulated for committee vote.

Letter Symbols for Petroleum Reservoir Engineering and Electrical Logging, ASA Y1015 is being expanded by AIIME in cooperation with ASME.

Character Sets and Data Formats
Chairman L.L. Griffin of X3.2, Character Sets and Data Formats, now has responsibility for Input-Output Media as well as Codes, for USA, and also for ISO TC 97, and IEC TC 53. His group has been expanded to include representation for process control and for EIA 27.6 on machine tools. Addenda to ASCII are also under consideration.

Programming Languages

Subcommittee X3.4 on Programming Languages, under F.L. Ault, is working with CODASYL on the theoretical development needed for COBOL, and on two levels of FORTRAN suitable for U.S.A. standardization. Recent cooperation with ACM looks to the des-

cription of an Input/Output System for AIGOL, to be submitted to ISO. EIA'S Automatically Programmed Tool is also under study.

General Data Processing Terms Terms for the professional community are under study by X3.5, Terminology and Glossary, chaired by Martin Weik. Major domestic and international vocabularies (AGM, IFIP, IRE, perhaps SMINFO) are being merged, and X3.5.2 is coordinating USA effort with IFIP/ICC, who are defining concepts to which English, French, German, and Italian specialists will affix names.

ASME American Society of Mechanical Engineers, 345 East 47th Street, New York 17, N.Y.
Diaphragm Actuated Control Valve Terminology

ASME Standard 112-1961, applies to the physical and operating characteristics of rising plug types suitable for automatic control systems. Prepared by a group headed by G.H. Robinson, it lists 200 terms (150 being designated as "Standard"), includes 13 structural drawings and 4 graphs. Designation for the structural and operating elements of butterfly valves, piston actuators, and split body valves are currently under study.

ASTM American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa.

Committee E-21 on Space Simulation has activated Subcommittee II, Nomenclature, chaired by W.H. Allen, to study terminology in the field of qualification tests for space equipment. Liaison has been arranged with ASA 284, the American Vacuum Society, and the Institute of Environmental Sciences, and also with NATO.

AVS American Vacuum Society, Box 1282, Boston 4, Mass.

The AVS Glossary for Vacuum Technology submitted to ASA and ISO as the basis for both American and international definitions in this field.

ISA Instrument Society of America, 530 Wm. Penn Place, Pittsburgh, Pa.

Specification Forms RP 20.1, which provide a checklist for error-free purchase of various types of instruments and control valves, are being revised and extended by G.G. Gallagher's committee.

The series on Dynamic Response Testing of Process Control Instrumentation has been extended by RP 26.4, Closed Loop Actuator for Field Signals, parameters, and test configurations recommended by F.H. Winterkamp's group.

M.E. Binley's subcommittee has released the tentative RP 37.1 "Nomenclature and Specification Tests Transducers with Electric Output". It suggests three modifiers for the noun "transducer" - one specifying the measurand, a second restricting the measurand, and a third describing the transduction principle - and supplies simplified definitions useful in this context. Coordination with ASA C85.1 is planned.

Other recommendations for specification and test of aerospace instruments, nearly completed by RP 37 under N.N. Norton's active leadership, are those on piezoelectric and strain gage acceleration transducers, potentiometric and strain gage pressure transducers, and resistive temperature sensors. Graphic and letter symbols for aerospace measurements will be studied by W. Haney's survey committee RP 45.

Standards and Practices for Instruments and Data Communication is a 380-page biannual reference work containing every recommended practice issued by ISA in complete detail, as well as over 300 abstracts of American, Canadian, and British standards for instrumentation and automatic control which have been developed by 20 other American technical societies and the governments of Canada, Great Britain, and the United States.

EIA Electronic Industries Association, 11 West 42nd Street, New York, N.Y. 10036

RS-232-A - Interface Between Data Processing Terminal Equipment and Data Communication Equipment is a revision of RS-232. This defines a mean of exchanging control signals and binary serialized data signals between data processing terminal equipment and data communication equipment. The standard also is applicable for data transmission, with no implication that the speeds in the two directions of transmission are necessarily the same.

Subcommittee TR-272 on Macchine Tool Numerical Systems, concerned with interchangeability of perforated tape, has issued two recommended standards for variable block formats: RS-273 on Positioning and String Cutout, and RS-274 on Contouring. It has also issued RS-281 Contouring/Positioning. It has also issued RS-281 Macchine Tool Control, which provides detailed specifications and includes a 20-page appendix on graphical symbols.

Working Group P-1.6 has issued RS-275, Thermistors. Includes 12 definitions and test methods, which includes 12 definitions of terms, as well as detailed test procedures and measurement specifications.

JEDC Committee JT-12 on Gas Tubes has issued RS-272, Definition and Measurement of Volatage and Reference Tubes, a one-page concise procedure.

The Engineering Dept. has issued a bulletin with definitions of 23 terms recommended for Microsystem Electronics.

EJC Engineers Joint Council, 345 E. 47th Street, New York 17, N.Y.

On a grant from the National Science Foundation, a group of editors and technical experts have assembled a Thesaurus of Engineering Terminology integrated with the existing coordinate indexes of the Defense Documentation Center and the AIChE. Editing, cross-referencing, and computer preparation are now under way, and publication is expected by May 1964.

EPC Elsevier Publishing Company, 52 Vanderbilt Avenue, New York 17, N.Y.

A multilingual "Dictionary of Automatic Control" giving 2598 equivalent terms in English/American, French, German, and Russian, was published for the IFAC Congress in August 1963. Its content is based largely on glossaries supplied by courtesy of many of the organizations noted in the AACO report in Control Engineering, May 1963.

IEEE Institute of Electrical and Electronics Engineers, Box A., Lenox Hill Station, New York 21, N.Y.

IEEE Standard No. 59 on Semiconductor Rectifier Components, dated December 1962, replaces the earlier IEEE Standard 59A. It contains more than 100 definitions.

IEEE Standard No. 182, Definitions of Terms for Radio Transmitters, formerly IRE 15.81 which defines about 35 terms, has been approved by ASA as American Standard C16.36.

Definitions of Terms for Analog Computers is now available as IEEE Standard No. 165, as is Graphic Symbols for Analog Computers, IEEE Standard No. 166. Both derive from 1962 work by C.D. Morrill's Committee IRE 8.8.

In December 1963 Definitions of Terms for Digital Computers was published as IEEE Standard No. 162.

Definitions of Terms for Parametric Devices was issued in November 1963 as IEEE Standard No. 254.

Committee 26.0, with excitation by G.S. Axelby, has set about selecting and defining 30 or 40 terms relating to Variableables.

A System Controls Subcommittee chaired by T.J. Hamill is gathering comments on IEEE Trial Standard No. 94 issued in late 1962, and covering terminology for automatic power station controls. Its sections are entitled:

- Terms Used in Power System Operation
- Prime-Mover and Governor Characteristics
- Types and Characteristics of Automatic Control Action
- Elements and Components of Automatic Control Systems
- Telemetering Signal Characteristics
- Control Equipment Characteristics
- Economic Loading Terms
- Index of Non-Standard Terms
- Alphabetical List of Terms.

NEMA

National Electrical Manufacturers Association,
155 East 44th Street, New York 17, N.Y.

Publication AS 1-1962, *Industrial Automation Systems* was revised in 1963 by the inclusion of new definitions under General Feedback Control Part 102, *Grammatical Symbols for Logic Diagrams*.

NFPA

National Fluid Power Association, P.O. Box 49,
Thiensville, Wisconsin, 53092

The Third Edition of the *Global Series of Terms for Fluid Power* has been completed and offered to ASA Sectional Committee B 93. Additional material will be added in 1964 to constitute the Fourth Edition.

PPMA

Precision Potentiometer Manufacturers Association,
3525 Peterson Road, Chicago 45, Ill.

Industrial Standard for Wirewound Precision Potentiometers, *Inspec-tion and Test Procedures*, has just been prepared. Work is under way to develop terms and definitions for non-wirewound precision potentiometers.

SAMA

Scientific Apparatus Makers Association,
20 North Wacker Dr., Chicago, Ill. 60606

Standard Load Cell Terminals and *Standard Definitions Lists 54* preferred terms for elements and for performance of electrical, hydraulic, pneumatic, and mechanical devices used for accurate measurement of weight and force. A test procedures standard is now in final stages of preparation.

The measurement sections of RC 20a "Measurements and Control Terminology" have been substantially completed by W.D. Wood's group. Its 75 terms and definitions emphasize the relation between performance and environmental variables. The control sections are now being developed, with selected terms from ASA C 85.1 and others added.

Yugoslavia

INTERNATIONAL SYMPOSIUM ON SENSITIVITY ANALYSIS

We are now in a position to complete the information already given in Bulletin no. 16 (pages 48 and 49) on this symposium.

Time and Place

The Symposium, which is being organized jointly by the Yugoslav Committee for Electronics and Automation and the IFAC Committee on Theory, will take place in Dubrovnik, a seaside resort on the Southern Adriatic coast. The Symposium will open on Monday, 31st August and will last until Saturday, 5th September, 1964.

Programme of the Symposium
The Symposium will be organized as a series of round table discussions on the following four topics:

- A. General Problems of Sensitivity Analysis
The problems to be discussed include: definition of sensitivity; existence of sensitivity functions for systems with constant and time varying parameters; sensitivity with respect to small parameters; sensitivity to large parameter variations; sensitivity and feedback; inverse sensitivity; relation between sensitivity analysis and the theory of invariance.
- B. Sensitivity and Stability
Discussions should cover such problems as the relation between sensitivity and stability in the sense of Liapunov; relation between stability of sensitivity equations and the stability of original system equations; limit cycles in sensitivity equations; sensitivity analysis and structural stability.
- C. Methods of Computing Sensitivity Functions
This section will be devoted to machine methods of computing sensitivity functions for linear and non-linear differential equations with constant and time varying parameters and finite number of discontinuities. It will be of interest to discuss specifically the sensitivity in linear control systems with constant parameters, sensitivity in control systems containing typical non-linearities, sensitivity in sampled data systems etc.
- D. Applications of Sensitivity Analysis
Practical applications of sensitivity analysis to be discussed in this session may include the use of sensitivity functions in process identification and design

of optimal and adaptive systems; design of insensitive systems; parameter compensation; iterative solution of boundary value problems; development of insensitive computing methods; investigation of errors in analog and digital computation.

Each topic will be introduced by an invited expert after which other views and contributions will follow.

Time-table of the Symposium
The time-table is scheduled as follows:

- Monday, 31st August
 - 8 - 11 a.m. Registration
 - 11 - 12 a.m. Opening Session
 - 5 - 8 p.m. General Problems of Sensitivity Analysis

- Tuesday, 1st September
 - 9 - 12 a.m. General Problems of Sensitivity Analysis
 - 4 - 7 p.m. Sensitivity and Stability
 - 7.30 p.m. Cocktail Party

- Wednesday, 2nd September
 - 9 - 12 a.m. Methods of Computing Sensitivity Functions
 - 5 - 8 p.m. Methods of Computing Sensitivity Functions

Thursday, 3rd September
Excursions

- Friday, 4th September
 - 9 - 12 a.m. Applications of Sensitivity Analysis
 - 5 - 7 p.m. Applications of Sensitivity Analysis
 - 9 p.m. Banquet

- Saturday, 5th September
 - 9 - 12 a.m. Closing Session

All correspondence concerning the Symposium should be addressed to:

Yugoslav Committee for Electronics and Automation
P.O.B. 356
Belgrade, Yugoslavia.

PUBLICATIONS

France

The Proceedings of the Symposium on the use of cybernetics in railways held in Paris from November 4th to 13th, 1963 will be published under the following forms:

- as a volume which can be purchased, at a price of 70 francs plus postage, from the Union Internationale des Chemins de Fer, 14, rue Jean Rey, Paris 15; these Proceedings can be obtained in English, in French and in German.
- as a series of papers published by the magazine "Cybernetique et Electronique dans les Chemins de Fer", Association Internationale du Congrès des Chemins de Fer, 19 rue du Beau-Site, Brussels, Belgium.

United Kingdom

ELECTRONICS AND POWER

The "Journal of the Institution of Electrical Engineers" will have a new title - "Electronics and Power". The previous title will be retained as a sub-title.

The Council of the Institution want to emphasize the range of the Institution's activities, and in "Electronics and Power" they have chosen a name that reflects the breadth of electrical technology. The new title may help to counter the idea, still held by some, that the Institution of Electrical Engineers is mainly concerned with power engineering, whereas in fact for many years the number of papers published and meetings held on electronics subjects has far exceeded that in the field of power engineering.

The first copy of "Electronics and Power" has appeared in January 1964. It will be published monthly and its cost to non-members will be 10s.0d. a copy, or \$5 a year. Orders to: The Institution of Electrical Engineers, Savoy Place, London W.C.2.

USA

TERMINOLOGY FOR AUTOMATIC CONTROL
P.O.L. ASA-C85.1-1963. New York, American Society of Mechanical Engineers, 1963, 45 p., \$3.00. This new American Standard of terminology for automatic control can be purchased from: Order Department, American Society of Mechanical Engineers, 345 East 47th Street, New York 17, N.Y.

ЭКОНОМИКА

Вопросы экономики в СССР в настоящее время являются предметом пристального внимания общественности. В связи с этим в журнале "Экономика" публикуется ряд статей, посвященных различным аспектам экономического развития нашей страны. В частности, в журнале опубликованы статьи, посвященные вопросам развития народного хозяйства, вопросам повышения эффективности производства, вопросам совершенствования управления экономикой и т.д. Эти статьи представляют собой ценный материал для широкой общественности, интересующейся проблемами развития нашей страны.

Учредитель: Совет Министров СССР

NOTE ON INFORMATION BULLETIN NO. 18

Information to appear in the Information Bulletin no. 18 should reach the Editor:

Professor Dr. Ing. V. Broida
 Honorary Editor of I.F.A.O.;
 13, rue de la France-Mutualiste
 Boulogne-sur-Seine (Seine), France,
 not later than 15th July, 1964.

Вопросы экономики в СССР в настоящее время являются предметом пристального внимания общественности. В связи с этим в журнале "Экономика" публикуется ряд статей, посвященных различным аспектам экономического развития нашей страны. В частности, в журнале опубликованы статьи, посвященные вопросам развития народного хозяйства, вопросам повышения эффективности производства, вопросам совершенствования управления экономикой и т.д. Эти статьи представляют собой ценный материал для широкой общественности, интересующейся проблемами развития нашей страны.