

**IFAC**  
**INTERNATIONAL FEDERATION**  
**OF AUTOMATIC CONTROL**

**Information Bulletin n°10**

**June 1961**

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**Honorary Editor of IFAC**

**Distributed by the Secretary of IFAC:**  
**79, Prinz-Georg-Str., Düsseldorf (Germany)**

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### IFAC NEWS

#### Meeting of the Executive Council

This meeting took place in Bergen, Norway, on March 20th, 21st and 22nd, 1961. The Chairmen and Vice-Chairmen of the IFAC Technical Committees also attended the meeting.

#### GENERAL DECISIONS

Several decisions were taken some of which are mentioned below:

- to hold the next General Assembly in 1963, on the occasion of the Second International Congress of IFAC, in Basel, Switzerland, and, therefore, to proceed with the next elections for the Executive Council (due in September 1961) by postal ballot, as provided for by the Constitution of IFAC.
- to hold the next meeting of the Executive Council in Cambridge, United Kingdom, in May 1962. The Chairmen and Vice-Chairmen of the Technical Committees will attend this meeting.
- to investigate and recommend to the Executive Council a general publication policy in the areas of the IFAC Bulletin, a publication under consideration in the form of some magazine or other of international nature, publications requested from the Terminology or Bibliography Committee in the form of abstracts, a multilingual or several bi-lingual dictionaries, reports of the various Technical Committees to be published and Congress Proceedings. A special committee consisting of J. F. Coates, chairman, G. Ruppel, V. Broida and a representative of the USSR National Committee of Automatic Control will be in charge of this investigation.

#### PREPARATION OF THE 2nd CONGRESS OF IFAC

Plans for the Second IFAC Congress have been discussed in details. Invitations to present papers at this Congress to be held in 1963 in Switzerland are to be sent to National Member Organizations. Without rejecting other subjects, emphasis will be laid on the following fields:

- THEORY : Discrete control, stochastic systems, optimal systems and learning systems. Theory of reliability.

- APPLICATIONS : Process dynamics, computer and simulation studies in industrial applications both off-line and on-line, optimizing and adaptive control applications.

COMPONENTS : New and effective devices in measurement, control and actuators. Measurement of the reliability of components.

- MISCELLANEOUS : A few papers in each area of education, terminology and bibliography.

Papers of not more than 30,000 letters and spaces (including the space necessary for drawings) will have to be submitted in three copies, in one of the four IFAC languages (English, French, German or Russian) but preferably in English or Russian, before a date fixed by each National Member Organization. Authors will also have to provide abstracts in English and in Russian (and in the original language if other than these two). The adoption of the papers will depend on the novelty of the paper, the technical level (as compared to other works in the same field), clarity and the field of interest of the paper (in terms of subjects of the Congress).

Meetings of the Executive Council with the Chairmen and Vice-Chairmen of the Advisory Committee and of the various Technical Committees led to extensive reports, discussions and decisions which are listed below.

TECHNICAL COMMITTEE ON COMPONENTS

The Chairman of this Committee, Mr. G. Boromisa, had already reported to the Executive Council in Moscow on the activity and work done by the Committee up to the Moscow Congress. His new report covered all present work as well as further aims. Since his Moscow report, the activity of the Committee has taken two main directions:

- a) to continue work started in the direction accepted by the first Committee Meeting,
- b) to prepare the IMEKO-IFAC Section.

a) Continuation of Committee Work started  
The Minutes of the first Committee meeting which took place in Moscow have been sent to all Committee Members. The activity continues according to the decisions settled at the meeting.

1.) - It is the main aim of the Committee to determine which are those data descriptors a component so that they may be useful in the synthesis as well as in the analysis.

The determination of general characteristics for continuous and discontinuous components are being prepared. Comments of great value arrived besides those announced at the Moscow meeting (by the delegates from Austria, Finland, France, India, Japan) on behalf of the United Kingdom and USSR. Characteristical data concerning one particular component are under preparation on the basis of these comments.

The Committee endeavours to conclude this year the general characteristic data and to work out separately the special characteristics concerning each component.

It is the intention to continue, during this year, the work in several sub-committees. Setting up these sub-committees is planned for summer, possibly at the Committee meeting to be held on the occasion of the IMEKO Conference. The advantage of sub-committees is that work can be more specialized and detailed.

2.) - Another aim of the Committee has been to determine what kinds of national standards, recommendations or accepted practice can be found in this field.

There are two national recommendations for the testing of components:

- United Kingdom Draft Paper: "Evaluation Testing of Transmitters with 3-15 psi Output"
- USA Tentative Recommended Practices: "Dynamic Response Testing of Process Control Instrumentation - Part I, General Recommendations"

Both recommendations have been sent to Membership for study, as well as for forming an opinion.

3.) - A more distant aim is to prepare general international standards recommendations, this being the final purpose of the above mentioned two aims too. For the time being, however, it would be premature to take any concrete steps.

b) Particiation in IMEKO, Section IMEKO-IFAC

1.) - There will be a special section for "Border questions of measurement and control" at the International Measurement Conference (IMEKO) to be held from 26th June to 1st July of this year in Budapest. The Components Committee suggested for the IFAC-Section the following program to the IMEKO-Secretariat, which was accepted:

- (a) Static and dynamic characteristics of transducers and other components, methods and equipment of measuring.
  - (b) Trends in development of transducers, particularly the application of new measuring methods and computers for control purposes.
- The papers sent to this Section have been revised by the IMEKO International Preparatory Committee and members of the IFAC Hungarian Member Organization together with the Technical Committee on Components Chairman.
- So far, 14 papers have been approved,
- 7 dealing with the characteristics of measuring equipments,
  - 5 dealing with the new measuring methods and computers
  - 2 other non-classified problems on border questions.

The 14 papers were received from the following countries: Germany (1), Hungary (2), Japan (2), Poland (1), Roumania (1), USA (3), USSR (4). There are 5 other papers for which no decision has yet been reached; they were received from: Germany (1), Czechoslovakia (2), Sweden (1), United Kingdom (1).

2.) - The IMEKO International Preparatory Committee which met in January 1961 expressed its thanks to the IFAC Executive Council and leading organizations as well as to the Chairman of the Technical Committee on Components on having organized the common IMEKO-

IFAC Section dealing with border questions of control and measurement. The International Preparatory Committee is convinced of the necessity of such a common section, the development of Automatic Control emphasizing the importance of measuring methods, instruments and elements. The discussion of border questions between IFAC and IMEKO proved to contribute to progress in this field. The International Preparatory Committee looks forward to this cooperation getting closer and closer.

c) Further Committee Aims

- 1. - The Components Committee has the intention to hold a meeting during the time of the IMEKO Conference. Its program should be:
    - 1. Setting up sub-committees for the division of the whole field.
    - 2. Outlining the tasks of sub-committees.
    - 3. Invitations to preside over these sub-committees.
    - 4. Closing one phase of work carried out so far; suggestions for the determination of general characteristics of components.
  - 2. - Committee Membership is going on to inform members through the Chairman of the activity of each Member Organization.
- Since the Moscow meeting, valuable information has been received from Mr. Sam Path of India and from Mr. P. D. H. A. Y. N. of the United States.
- 3. - New scientific aims should be the problems of discontinuous components and of reliability.

d) Committee Members

For the time being, 18 countries are represented in this Committee by 21 members, the countries being: Austria, Belgium, Canada, Czechoslovakia, Finland, France, Germany, India, Japan, Israel, Italy, Norway, Poland, Roumania, United Kingdom, USA, USSR.

Communication with Membership is effected by means of correspondence. This involves a lot of difficulties and delays which should be taken into consideration as a disadvantageous condition when evaluating Committee work.

TECHNICAL COMMITTEE ON TERMINOLOGY

The Chairman of this Committee, professor Ed. Ger e c k e , reported on the following items:

1. - P u b l i c a t i o n o f d i c t i o n a r i e s  
Professor L e t o v had proposed that the 3 dictionaries distributed at the Moscow meeting should be published. The languages are:

Russian - English, English - Russian,  
Russian - French, French - Russian,  
Russian - German, German - Russian.

Professor L e t o v ' s proposal was recommended to be accepted by the Executive Council and the details to be discussed.

After discussion, the Executive Council decided that the entire matter of the dictionary (or glossary of terms) be referred to the Terminology Committee with the suggestion that the Committee in one year would prepare a manuscript representing the most useful work for translation of terms. Bilingual glossaries without definitions were recommended.

2. - D e f i n i t i o n s

At Moscow, the Committee of Terminology decided to prepare in first line definitions in the domain of *Техология* which deals with *сигналы* processing independently of the technological aspect.

A general classification for a ut o - m a t i c p r o c e s s i n g had been prepared for the Bergen meeting of the IFAC Executive Council. The special problems of automatic processing should be characterized by three figures:

x	y	z
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x - 7 kinds of operation  
y - 4 domains  
z - 10 fields of technique.

It was proposed to apply this classification to the papers of the IFAC Congress 1963 and the IFAC Bibliography.

D e f i n i t i o n s have been given for:

Automatic processing: in *New Techniques*, Zürich, 1961, No. 1, pages 3 - 14, by. Ed. Ger e c k e .

Signal:

in *VDI-Zeitschrift*, vol. 102 (1960), no. 30, October 21st, pages 1399 - 1406, by Ed. Ger e c k e .

Algorithm etc.: in the paper submitted to the IFAC Congress in Moscow by prof. G a v r i l o v .

In the overlapping zone of c o m p u t a t i o n between IFAC and the International Computation Center, the Committee wishes to organize a co-operation. The International Standardization Organization (ISO) has invited for May 15th, 1961, at Geneva to a round-table meeting dealing with the international co-operation in the computing field. IFAC is to be represented at this meeting by prof. Ger e c k e .

The Committee will give in second line definitions of C o m p o n e n t s and later of S y s t e m s .

After discussion, the Executive Council noted with interest the report of prof. Ger e c k e and encouraged him to continue along the lines indicated and to refer the final material to the Executive Council for recommendation.

3. - G r a p h i c a l s y m b o l s

After the first IFAC publication in IFAC Bulletin no. 6, a more extensive draft was published in the periodical "New Techniques", no. 9, 1960. In February 1961, the International Electrotechnical Commission (IEC) and, especially, the Swiss Federation of Electrical Engineers and the Swiss Federation of Automatics (SFA) have reprinted 1200 copies of this draft for IEC and SFA members. IEC will have a meeting on this subject in Inter-laken, Switzerland, on June 22nd, 1961. Switzerland has prepared seven characteristic samples of applications of graphical symbols to different technical fields which will soon be published in "New Techniques". The National Electrical Manufacturers Association (USA) has asked for copies of the draft of graphical symbols.

On the other hand, IFRPS (International Federation of Information Processing Societies) has decided in February at Darmstadt, Germany, to form a committee on standardization and terminology. IFAC should coordinate its work with them. The same procedure was suggested for cooperation with the International Computation Center, which is part of IFRPS. They are working on definitions and symbols.

After discussion, the Executive Council decided that Prof. Geremek is to represent IFAC at the International Electrotechnical Commission meeting at Interlaken, Switzerland, in June this year. The Terminology Committee was also recommended to co-operate with IFTS.

TECHNICAL COMMITTEE ON THEORY

In the absence of Academician Petrov, Chairman of the Committee, a report of the latter was read by Academician Praznikov (USSR).

The Theory Committee has taken much trouble to establish contacts with National Member Organizations. Positive replies were received from 10 National Organizations. The proposals were discussed and it was decided to form the 4 following sub-committees:

1. - on continuous control, chairman: Dr. Benes (Czechoslovakia)
2. - on theory of discrete systems, chairman: professor Pyspinkin (USSR),
3. - on self-adaptive control systems and optimization, chairman: professor Pruxal (USA),
4. - on finite automata, chairman: professor Moisil (Romania).

Sufficient material is available to prepare a preliminary review. Since the USSR National Organization had much work to do in connection with the Moscow Congress, the report could not be started immediately but now the time has come to prepare the review which will be completed and sent out soon.

On proposal of Academician Petrov it was suggested that the Theory Committee should organize two symposia in 1962 on:

1. - Theory of algebraic relay schemes and finite automata,
2. - Self-adaptive systems.

After discussion, the Executive Council decided to agree that the Technical Committee on Theory would sponsor in 1962 one or two symposia. Arrangements as to when and where the latter would take place should be left to the Committee in co-operation with the National Member Organization concerned. The effect of the symposium on the 1963 IFAC Congress should be considered.

TECHNICAL COMMITTEE ON APPLICATIONS

In the absence of Dr. Mozley, Chairman of this Committee, Dr. Strelc, Vice-Chairman, reported on its activities.

The IFAC Technical Committee on Applications was founded last year before the opening of the 1st International Congress of IFAC in Moscow. At this time the IFAC Technical Committee on Applications had 13 members. Since then five further personalities have been proposed for membership: B. Sturm (Germany), Jan Kozuchowski (Poland), Kazimierz Turzynski (Poland), Igo Pankow (Poland), A.J. Young (United Kingdom).

The interest shown in the work of the Committee on Applications is welcome, and it may be expected that the admittance of new members will widen the area of co-operation.

Before the opening of the 1st International Congress in Moscow, members of the IFAC Technical Committee on Applications held a meeting at which basic problems concerning the programme of future activities were discussed. Specific objectives towards which activities should be focused in near future were determined as follows:

- 1) To participate to the fullest extent possible in activities pertinent to automatic control applications for the next international Congress of IFAC. This participation should be concerned with:
  - a) guidance and assistance in the formulation of technical programs on applications,
  - b) solicitation of technical papers on applications,
  - c) sponsorship of symposia on specific subjects in the field of automatic control applications.
- 2) To cooperate with other international technical organizations having overlapping or adjacent working programs in the field of applications. It is assumed that international meetings or conferences based upon these common areas of interest could be arranged.
- 3) To prepare annual reports summarizing new works on control applications for the previous year. A brief and comprehensive report will be submitted for publication in different technical journals. As other Technical Committees of IFAC follow similar lines of activities, it is highly desirable to coordinate these efforts. At the first meeting of the Technical Committee in Moscow it was promised that annual surveys of new papers covering the field of applications would be published by the journals Control Engineering in the USA and Avtomatika i Telemekhanika in the USSR. Members from other countries also have shown interest in publishing these annual reports in their technical journals.

It is anticipated that each Applications Committee member will organize a Group of qualified experts in his country to prepare an annual summary of significant achievements of development with each expert reporting on his particular area of interest.

In the field of co-operation with other international organizations having an overlapping program with IFAC, the Belgian organization IBRA (Institut Belge de Régulation et d'Automatisme) organized in November last year - under the auspices of ASIGA (Association Internationale pour le Calcul Analogique) and under the auspices of IFAC Technical Committee on Applications - an international seminar concerning the Application of Analog Computation applied to the study of chemical processes. 21 papers were presented by authors from 9 countries, and 250 participants from 16 countries attended this special seminar. Among the papers presented were two by Mr. Coalaes and Mr. Broida. (See IFAC Bulletin no. 9, page 11 to 18).

TECHNICAL COMMITTEE ON BIBLIOGRAPHY

Completion of a Bibliography  
Mr. Ajnder, Chairman of this Committee, reported on its activity.

According to the decision of the Executive Council, reached at the Moscow Congress of Automatic Control on 1st July, 1960, a systematical Bibliography on Automatic Control has to be published periodically by IFAC.

In view of the realization of this project the Chairman of the Bibliography Committee, Mr. Ajnder, was authorized to take steps in order to ensure the cooperation of UNESCO, jointly with prof. Broida a necessary steps have been undertaken in Paris. On the proposal of the Swiss and Belgian Governments, the General Assembly of UNESCO has voted a resolution to this effect. Since that vote contacts with UNESCO have been continued, and an outline of future cooperation has been worked out.

Before the final decision of the Executive Council, the future work of UNESCO and IFAC has been outlined on following principles:

The work would bear simultaneously: on periodical Bibliography of books and articles published after January 1st, 1961, and on the preparation and publication of complete Bibliography of books and articles already published from 1920 till the end of 1960. The second part of the work would appear in form of volumes covering each period of 10 years, and would be scheduled for termination within 2-3 years.

For this purpose:  
IFAC:

would elaborate a classification system for books and articles on automatic control,  
would select in each member country technical periodicals considered to serve as bibliography sources,  
would select through member organizations articles and books which would be classified in advance according to the elaborated classification system.

UNESCO:

would assume the technical coordination of the selected material;  
would complete by own means the material which could be missing owing to neglect or an insufficient cooperation of one or another member organization of IFAC,  
would select and prepare for print material selected in countries which are not members of IFAC,  
would put the prepared material in an adequate form, and would publish the bibliography under its own responsibility.

In order to speed up the beginning of this work, a postal vote among members of IFAC Executive Council was asked for by the Chairman of the Bibliography Committee, the result of which was positive, with one exception. A circular letter was drafted, and dispatched by the Secretary of IFAC to all member organizations, notifying them of the situation, and asking to nominate one person responsible for the collection of the bibliographical material. The nominee was requested to send his agreement to the Secretary before the 1st March, and, if possible, to prepare the bibliographical material published during the first quarter of 1961, not later than April 30, in two copies - one to prof. Broida, Paris, the other to the Chairman, Mr. Ajnder, Brussels.

Up to this date favourable replies have been received from 13 member organizations or countries non-members of IFAC:

1. Poland, delegate prof. Dr. Pelczewski
2. Japan, delegate Dr. A. Nomoto
3. Sweden, delegate Mrs. Kajsa Helström
4. India, delegate Mr. Seshadri
5. Finland, delegate Mr. A. Aaltonen
6. Czechoslovakia, delegate Ing. A. Klimek
7. USA, delegate prof. Th. J. Higgins
8. German Democratic Republic, delegate Dipl. Ing. E. Martin
9. Austria, delegate Dr. K. Lichtenblau
10. Canada, delegate Dr. P.H. Stirling
11. Italy, delegates prof. A. Lepeschy and prof. A. Rutteri
12. Hungary, delegate Dr. I. Nagy
13. Belgium, delegate Dr. R. Binzen



Other countries have promised to send in for the 30th of April the bibliographical material or have asked for more detailed information, such as the classification system which will be used, or simply promised to start the work. Prof. Higgins (USA) has promised to collect only the book titles, owing to the fact that the very abundant production of periodical articles, papers and similar material does not allow persons, occupied with other activities, to cope efficiently with this work.

The Chairman of the Committee took this opportunity to express his utmost thanks to the Honorary Secretary Dr. Rupprecht for the most efficient cooperation, which has allowed these results.

**N e x t d e v e l o p m e n t s**  
 Next comes the elaboration of a classification system. Prof. Brodiga has already done some considerable work in this line, but it is felt that his classification is still somewhat too general. The Chairman of the Committee has also received from Prof. Ur n k a a classification prepared by Mr. K l i m e k , and adapted specially for Automatic Control which seems very good, although somewhat too detailed. The blending of these two systems might give very good results without much modification, and it is proposed to attempt this work within the near future, together with Prof. B r o d i g a .

The financial difficulties happen to be the most serious for the time being. Some cooperation is also necessary for the publication of the Terminology Committee work. Before making any suggestions, it was believed that the advice of the Executive Council should be asked for.

Provided the required funds are secured, the work could advance as follows. The first quarter 1961 Bibliography could be handled by the available UNESCO staff as well as by the publisher working with UNESCO, so that the material would be printed and distributed in October 1961. From this date onward, financial considerations permitting, a bibliographical book could be prepared and published every 3 months. In the meantime work would begin for the publication of the Bibliographical material anterior to 1961: from 1950 to 1960 backwards, until the 1920 - 1930 volume.

In this connection the Chairman of the Committee stressed the need to obtain full cooperation from member organizations which have not yet replied to the circular letter, and proposed with the approval of the Executive Council to send out periodical reminders. Should these reminders be of no effect, the work could be carried on by the UNESCO staff. The reason why it is imperative to advance with the work is chiefly that the bulk of material is rapidly growing, and if the required organi-

sational frame work is not created matters will go out of hand, and with the time the start will become more and more difficult.

**P r a c t i c a l c o n s i d e r a t i o n s**

1. **S u m m a r i e s**  
 The Italian member organization has stressed the need of giving short summaries in the Bibliography. The Chairman of the Committee entirely shared this point of view, but for the time being recommended it to be restricted only to summaries made by the authors. Otherwise this would lead to an amount of work, with which it would be impossible to cope. After the first bibliographical publications, authors would be encouraged to supply their summaries, and finally this could become a general practice.

2. **P r o v i s i o n a l c l a s s i f i c a t i o n**  
 The Chairman of the Committee proposed to subdivide provisionally all the material under the same headings as the IFAC technical committees are subdivided. The purpose of this is to attract the cooperation of other technical committees, so as to make the bibliographical material as complete as possible. He had submitted this wish to the Chairman of the Advisory Committee, and hoped to obtain full cooperation in this respect.

**R e s o l u t i o n s**

After discussion, the Executive Council decided on the policy to be followed in respect of the future relationship with UNESCO, the co-operation of which was highly appreciated. The National Member Organizations were asked to arrange that classified lists of the published material would be sent to UNESCO or, if impossible, that one copy of the most important articles and books would be sent. The members of the Bibliography Committee were asked to look for national financial resources to assist future work of the Bibliography Committee. If financial resources would lack momentarily, work could be started with books only.

The Executive Council advised the Chairman of the Bibliography Committee and the IFAC Secretary to approach publishers of scientific abstracts in order to suggest the creation of "Automatic Control Abstracts" starting from the beginning of 1962.

TECHNICAL COMMITTEE ON EDUCATION

In the absence of Prof. Martinov, Chairman of this Committee, Prof. Eckmann reported on its activities. This Committee has 17 members. At Moscow a plan has been presented in which it was proposed to have 5 levels of investigation:

- 1) The research engineers or research mathematicians (the doctor level),
- 2) The level of the working engineers in industry and in research,
- 3) The level of the application engineers in industry,
- 4) The level of the operating engineers in industry,
- 5) The level of the maintenance men in industry.

In each of these levels there were questions concerning 4 subjects. These 4 subjects were applied mathematics, applied electronics, automatic control and computation. These 5 levels and 4 subjects represented 20 areas. It was proposed to investigate the various education materials and techniques used in the different countries in 3 working groups as follows:

The first group would study the organizing of instructions in the various countries and finish an up-to-date summary of the situation. This survey is now being made by the countries.

The second group would study methods as there are different kinds of instruction at the various levels proposed.

The third group would consider questions of general character, common areas of teaching and the problem of specializing in various fields and would also attempt to promote the cultural relations and the exchange of teachers.

Prof. M a r i n o mentioned 3 problems concerning the working groups of the Education Committee:

- 1) The determination of the levels mentioned, whether they are the correct ones or not,
- 2) The problem of inquiring into the teaching methods in different countries. This is a difficult problem because the techniques and methods differ widely from country to country.
- 3) International exchange.

Since prof. M a r i n o was absent, prof. E c k m a n asked for an expression of opinions of the Executive Council concerning the 20 different areas. In his opinion this was too much to undertake and he suggested that the Education Committee restricts the activities to the level of university education (i.e. to the levels 1 and 2 mentioned above).

After discussion, the Executive Council approved the report on the activities of the Committee as well as the program presented by prof. E c k m a n .

## WORLDWIDE AUTOMATIC CONTROL

### International Events

#### INTERNATIONAL FEDERATION OF INFORMATION PROCESSING SOCIETIES (IFIPS)

As already mentioned in IFAC Bulletin no. 7 (pages 6 and 7) an International Federation of Information Processing Societies (IFIPS) was created at the beginning of 1960. The Executive Committee of IFIPS is managed at the present time by the following officers:

President:

Isaac L. A u e r b a c h , representing the National Joint Computer Committee (USA) Auerbach Electronics Corporation, 1634 Arch Street, Philadelphia 3, Pa. (USA).

Vice-President:

Prof. Dr. A. W a l t h e r , representing "Deutsche Arbeitsgemeinschaft für Rechenanlagen" (DARA) (Germany), Technische Hochschule, Darmstadt (Germany).

Secretary and Treasurer:

Dr. A. S p e i s e r , representing the Swiss Federation of Automatic Control (Switzerland), Zürichstrasse 108, Adliswil/Zürich (Switzerland).

As we have mentioned in IFAC Bulletin no. 3 (page 15) a first International Conference on Digital Data Processing was held in Paris from June 15 to 20, 1959, under the sponsorship of UNESCO. This provided an opportunity for a preparatory meeting for the creation of IFIPS on June 18th, 1959 (see Bulletin no. 6, pages 13 and 14).

As we have briefly announced in IFAC Bulletin no. 9 (page 11) IFIPS will hold its Second Congress in München, Germany, in September 1962.

We are now in a position to announce moreover that the Organizing Committee of this Congress is under the presidency of the Vice-President of IFIPS, prof. A. W a l t h e r , whilst the Programme Committee is under the Presidency of Dr. Niels Ivar B e c h , of the Danish Academy of Technical Science.

All further particulars can be obtained from the Secretary, Dr. A. S p e i s e r at the address mentioned above.

IMEKO 1961

As already mentioned in IFAC Bulletin no. 9 (pages 8 and 9), the International Measurement Conference to be held in Budapest, Hungary, on June 26 - July 1, 1961, will have a section no. 214 devoted to border questions related to measurement and automatic control. This section is sponsored by the Technical Committee on Components of IFAC.

We give hereafter the programme of the opening Plenary Session and of this joint section no. 214.

Opening Plenary Session

The Conference will open on June 26, 1961. Representatives of some of the ten significant international organizations officially represented at IMEKO, 1961, will transmit greetings, among others, Dr. J. Ferriën of the International Bureau for Weights and Measures, Dr. M. Jacob of the International Committee for Legal Metrology and prof. A.M. Letov, President of IFAC.

Scientific lectures of the first day will include the following:

- J. Ferriën (France): Questions d'actualité dans la coordination mondiale des mesures (in French)
- M. Jacob (Belgium): L'exactitude dans les mesures (in French)
- V.O. Arutunov (USSR): The main trends in the development of the science and technique of measurement (in Russian)
- R. Kolos (Hungary): Problems and solutions in the higher education of measurement and instrument technology (in German)
- E.G. Shramkov (USSR): On Group 20 (Instruments) of the international electrotechnical dictionary (in Russian)
- S.S. Carlisle (United Kingdom): Measurement the basis of automation (in English)
- Section 214: Border-questions related to measurement and automation
  - V.R. Bolton (USA): Integrated measuring systems (in English)
  - Z. Trnka (Czechoslovakia): New methods of harmonic analysis and synthesis (in German)
  - B. Qvarnström (Sweden): Relative merits of methods to measure process dynamics (in English)

- A. A. Goston (Hungary): Investigation of stability of automatic potentiometers (in English)
- F. Kemény (Hungary): Automatic electronic potentiometers without slidewire (in German)
- A. Ya. Lerner - M.V. Rybashaov - I.M. Panachenko (USSR): On the response-time of automatic potentiometers and the dynamic correction of primary transducers (in Russian)
- A.M. Melik-Shaknazarov - T.M. Aliev (USSR): Automation of compensating measuring arrangements for alternating current (in Russian)
- S.G. Rabinovitch - B.A. Seliber - V.I. Tchervyaka (USSR): Photocompensating amplifiers and their application in electrical instruments (in Russian)
- S. Ohteru (Japan): A new type hysteresis-function generator (in English)
- Y. Oshima (Japan): A servo-analyser utilizing special rectangular waves (in English)
- A.D. Hasley (USA): The measuring techniques associated with the standard recently developed by the working group on wideband frequency transformers of the American Institute of Electrical Engineers (in English)
- A.A.O. Abdullaev (USSR): A remote-control system for pumps in deep oil wells (in Russian)
- A. Sowinski (Poland): Tri-stable counting circuits for instrumentation (in German)
- G. Pencesu (Roumania): The application of analogue-digital converters to the control of power stations (in German)
- F.H. Lange (GDR): The use of correlation detectors in measurement and control (in German)

THIRD INTERNATIONAL CONGRESS ON CYBERNETICS

The International Association for Cybernetics is organizing the Third International Congress on Cybernetics in Namur, Belgium, from September 11 to September 15, 1961.

- President: Prof. Georges R. Boulanger (Belgium), Polytechnic Faculty of Mons and Brussels University
- Members: René Cloose (Belgium), Barrister at Namur; Louis Couffignat (France), Inspector-General of Education, Paris;

John Diebold (USA), President of John Diebold and Associates, Inc., New York;  
Prof. W. Ross Ashby (United Kingdom), University of Illinois, Urbana (USA)

Permanent Delegate: Josse Lemaire (Belgium); Director of the Economic, Social, and Cultural Office of the Province of Namur.

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

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

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 July 1, 1961).

All those wishing to take part in the Congress are invited to request registration forms from the Secretariat of the International Association for Cybernetics, 13, rue Basse Marcelle, Namur, Belgium.

The fees for attending the Congress have been fixed as follows:

- Members of the International Association for Cybernetics 200 frs
- Non-members 400 frs

No fees will be charged to the authors of papers.

INTERNATIONAL SEMINAR ON AUTOMATIC CONTROL IN THE IRON AND STEEL INDUSTRY

In February 1962, IBRA (Institut Belge de Régulation et d'Automatisme) will organize in Brussels an International Seminar on automatic control in the iron and steel industry. It is foreseen that this seminar will last 4 days. This Seminar will be sponsored by the IFAC Technical Committee on Applications which will give active support to its preparation.

The languages used for this Seminar will be the 4 official IFAC languages i.e. French, English, German and Russian. There will be, however, no simultaneous translation and the authors of papers are therefore kindly requested to use preferably French or English.

Contributors to the Seminar will have to submit the exact subject of their papers before August 31, 1961, and submit two-page single-spaced typewritten abstracts before November 30, 1961.

No author will be in a position to deliver his paper in course of the Seminar unless he has previously handed over to the Secretariat of IBRA its full text. Each author will receive in due course instructions concerning the text and illustrations.

The Proceedings of the Seminar will be published within six months of the Seminar.

P R O G R A M M E o f t h e S e m i n a r

The aim of the Seminar is to convene experts from different countries in the fields of the iron industry and of automatic control. It is expected from the former that they would display their knowledge of processes and from the latter that they would disclose the latest methods of automatic control insuring a continuous increase in efficiency and in quality.

The field of the iron and steel industry is considered in the largest way possible, comprising:

- ore conglomeration,
- blast furnaces,
- steel works,
- hot rolling mills, reversible and continuous,
- cold rolling mills, reversible and continuous.

In this well-defined industrial field, the following automatic control techniques, capable of insuring improvements, will be considered:

- sensors and measuring elements allowing the knowledge of the process and comprising devices ensuring the automatic analysis of products,
- closed-loop controllers and repetitive automatic systems,
- analog and digital computers,
- information processing.

Only such papers will be accepted which would link iron and steel industry to automatic control in order to state either what iron industry processes require from automatic control or what improvements automatic control can ensure to iron industry.

The registration fee of the Seminar is of 1.000 Belgian francs.

Any further particulars may be obtained from Institut Belge de Régulation et d'Automatisme, 98, chaussée de Charleroi, Brussels 6 (Belgium).

**Austria**

ACTIVITY OF ÖAA 1960

The ÖAA (Österreichischer Arbeitsausschuss für Automatisierung - Austrian Committee for Automation) has had 27 meetings in 1960, 20 of which took place in Vienna. The most important of these meetings were the 10 monthly lectures which took place in Vienna. Most of the authors of the papers read were Austrian, but 2 German, 1 Swiss and 1 American authors were invited. Three of the papers were followed later on by excursions in order to illustrate practically the installations and devices described.

A presentation of foreign technical films took place in December 1960. Courses on hydraulic, pneumatics, electronic computers and automatic control were attended by a large audience. The membership of ÖAA has grown up to 1.500.

Lectures were delivered under the auspices of ÖAA:

- On February 16, 1961, by prof. Dr. Ing. R. Lappe (Germany) on "Modern electric components for Automatic Control",
- On March 9, 1961, by Dr. R. Gester and Ing. K. Wasmann on "Disturbance-free ultrasonic tests as checking means in automatic production".

**Finland**

ACTIVITY OF FSAC

The FSAC (Finnish Society of Automatic Control) has organized in 1960 three meetings devoted to surveys in various industrial fields as well as to lectures and discussions on up-to-date problems of measuring and control techniques. The latter covered namely digital measuring techniques and data processing and members of the FSAC had the opportunity of studying a computer installed in the first Finnish computer center.

A General Assembly was held on January 30, 1961. The Constitution of FSAC has been amended so as to allow Control engineers working in purely commercial firms to also share the activities of the Society. In 1960 the membership of FSAC amounted to 37.

During several years Mr. Lunto acted as Chairman of FSAC. He has recently resigned - whilst continuing to cooperate as a member of the Board - and the latter is managed, for 1961, by

- Mr. A. Meltart (Chairman),
- Dipl. Ing. K. Numminen (Vice-Chairman),
- Dipl. Ing. A. Aalto (Secretary).

**France**

MESUCORA 1961

We have already mentioned in IFAC Bulletin no. 8 (page 66) the International Exhibition which has taken place from May 9 to 17, 1961, in Paris under the name

MESUCORA

At the same time, an International Conference has been held from May 9 to 15, under the presidency of prof. Léauté, Member of the Institut de France.

The general theme of this conference has been: "Recent progress through association of miscellaneous techniques: mechanical, electric, electronic, also nuclear, in the measurement, checking, automatic control and automatization".

We give hereafter the programme of sessions I (Opening session) and sessions VIII, IX and X more especially devoted to Automatic Control:

- I. Opening Session  
Chairman: Prof. A. Léauté (France)
- 1. - "New electric methods for measuring mechanical magnitudes" by Dr. Engel (Germany),
- 2. - "The increasingly rapid advance in technological knowledge" by L.A. Woodhead (United Kingdom),
- 3. - "Future views on automatic control" by prof. Ed. Gercke (Switzerland)
- 4. - "Measurement as a basis for checking estimation" by M. Buisson (France)
- VIII. Control Systems and their Elements  
Chairman: Prof. G. Poivilliers (France)

1. - "A new printed-circuit winding motor and its applications to servomechanisms" by J. Henry - Baudot (France)
2. - "The use of controlled silicon rectifiers (solid state thyratrons) as power elements in control systems" by J. Le Correuilier (France)
3. - "New results in electric relay techniques" by G. Angoulinvaut (France)
4. - "New aspects of use of pressurized fluids in control systems" by R.D.J. Mollie (Belgium).

**IX Industrial Automatic Control**

Chairman: Dr. Sturm (Germany)

1. - "Speed control of asynchronous motors by means of saturable inductances" by G. Quazza (Italy)
2. - "Automatic control of cement and conglomerate furnaces" by D. Hummel (Germany),
3. - "Development of static relays in the control of nuclear reactors" by J. Furet (France),
4. - "Basic problems of automatic control in production installations and machines" by C.M. Doliezalek (Germany).

**X Automatic Control**

Chairman: R. Lescop (France)

1. - "The automatic micro-stations" by A. Sallasse (France),
2. - "Application of mobile memories to materials handling and sorting problems" by L. Puchery (France),
3. - "Checking and automatic control of production means, machine-tools and operating machines in general" by H. Oppitz (Germany),
4. - "What is an Automatic Control engineer?" by H. Duhamel (France)
5. - "Relationship between the progress of measurement and that of industrial Automatic Control" by P. Chévalvet (France).

**Germany**

ACHEMA

TheACHEMA Exhibition and Congress will be held in Frankfurt/Main, Germany, from June 9 to 17, 1961. Several papers devoted to chemical industry will be read on the following topics:

- operating techniques, techniques,
- measuring and control
- technology,
- laboratory techniques,
- nuclear techniques.

TWO SYMPOSIA ON RECEPTION AND PROCESSING OF INFORMATION BY ORGANISMS AND ON LEARNING AUTOMATA

The NTG (Nachrichtentechnische Gesellschaft - Association for Information Techniques) of the VDE (Verband Deutscher Elektrotechniker - German Association of Electrical Engineers) had organized in Karlsruhe on April 11 to 14, 1961, two symposia on the following topics:

"Information reception and processing through organisms", "Learning automata".

The papers will be published by Verlag F. Hirzel, Stuttgart, and as a special edition of the magazine "Elektronische Rechenmaschinen" by Verlag R. Oldenbourg, München.

The following papers were read at these two symposia:

- A) SYMPOSIUM ON INFORMATION RECEPTION AND PROCESSING
- 1.) - Surveys -
  - "Exchange relationship between psychology, physiology and information techniques" by R. Feldtkeller,
  - "Information processing functions of nerve cells" by K. Küpfmüller
  - "Coding, signal paths and decoding in sense physiology" by W. Kieidel.
- 2.) - Perception and recognition -
  - "The reaction flow of human beings" by J. Schoultzen
  - "Inertia phenomena in audition" by H. Scholl
  - "Demonstration and discussion of Land's colour theory" by H. Scheffer
  - "On the perception of spoken sounds" by B. Cramer
  - "On the perception of writing" by F. Wenzel
- 3.) - Processing in the nervous system
  - "Demonstration tests on formation and propagation of nervous impulses" by W. Ernsthausen
  - "Transmission of acoustic information through nerve activity according to the salvo principle" by J. Schwaartzkopf

- 4.) - Behaviour investigation
  - "Time measurement with plants and animals having day-periodical fluctuations" by E. Büdning
  - "Automatic Control theory as a methodical tool for behaviour analysis" by H. Mittelestaedt
  - "Control motions of the eye" by G. Vossius
  - "An electro-physiological investigation of learning in the earthworm" by A. Andreev
- B) SYMPOSIUM ON LEARNING AUTOMATA
  - 1.) - Theory
    - "Logical description of learning processes" by H. Zemanek
    - "Discrete learning in automata" by A.M. Utuley
    - "The part of probability in learning processes" by H. Herms
    - "Information and learning" by D.M. Mackay
  - 2.) - Conditional reflexes
    - "Principles of information processing in self-learning systems" by S.N. Bralnes, A.W. Napal-kov, W.B. Swetshinski
    - "Complete model representation of conditional reflexes" by H. Krutz
    - "Circuits with the learning matrix" by K. Steimbuch
    - "Technical realization of the learning matrix" by H.J. Hönerloh, H. Kraft
    - "Applications of the learning matrix" by W. Görke, H. Kazmierczak, S. Wagner
- This section was completed by the film "A learning automaton" of the Technische Hochschule of Karlsruhe.
- 3.) - Learning programmes
  - "GPA, a programme that simulates human problem solving" by A. Newell, H.A. Simon
  - "Learning Programmes at the Mailflterl" by V. Kudleika, P. Lucas
  - "Learning experiments on the IBM-704" by H. Remus
  - "Recent experiments in machine learning" by A.L. Samuel

- 4.) - Applications, models
  - "Learning programmes for technical problems" by H. Härtl
  - "Learning automata in metallurgical works" by V. Kusl
  - "A labyrinth model" by R. Eiler
  - "Perception" by F. Rosenblatt
  - "The learning matrix as a model for information psychology and semantics" by H. Frank

**Haly**

CONGRESS ON AUTOMATION

A Congress on Automation under the sponsorship of the "Associazione Nazionale Italiana per l'Automazione" (A.N.I.P.L.A.) is being scheduled among the events which will take place in Turin in 1961 to celebrate the first century of Italian unity under the auspices of the "ITALIA '61" Committee, at the Turin Polytechnic from September 24th to 26th, 1961.

The final and detailed programme of the Congress will be released shortly according to the following five sections:

- Theory of Automatic Control,
- Techniques and Measuring Instruments in Automatic Control,
- Processing and transfer of information in Automatic Control,
- Application of Automatic Control in continuous Manufacturing Processes,
- Application of Automatic Control in repetitive Manufacturing Processes.

Agencies, Boards, Associations, Firms and Individuals concerned with scientific, technical, automatic control problems will be invited to participate in the Congress. All delegates are entitled to submit written papers on the subjects of the Congress. These papers should be sent as soon as possible to the General Secretary's Office of the Congress on Automation, 1, Piazza Belgioioso, Milan, Italy, typewritten in triplicate.

The Registration Form will be attached to the Congress Program in course of preparation by the General Secretary.

CONGRESS AND FAIR OF AUTOMATION AND INSTRUMENTATION

The "VI<sup>o</sup> Convegno-Mostra dell'Automazione e Instrumentazione" will be held in Milan on November 7 to 12, 1961, under the sponsorship of the National Research Council - CNR - . The main topics to be dealt with include:

- Theory of automation
- Automation and instrumentation in
  - metallurgy
  - electrotechnics
  - nuclear physics
  - mechanics
  - chemistry
  - thermal processes.

Papers falling within the scope of these topics should be submitted in 2 copies before August 15, 1961, to the Federazione delle Società Scientifiche e Tecniche, Via del Politecnico 10, Milano, Italy. The papers will be distributed in advance to the attendants of the Congress.

Information on the Fair should be requested from Dr. Antonio Barbiéri, Via Marconi 15, Milan, Italy.

**Switzerland**

9th SYMPOSIUM OF ASSPA

The 9th Symposium of the Association Suisse pour l'Automatique (Swiss Association for Automatic Control) has been held in Neuchâtel on May 25 and 26, 1961, devoted to:

"Automatic Control and its applications to mechanical and clock-making industries".

The following papers were read:

- 1) AUTOMATICO CONTROL AND ITS APPLICATIONS IN DUTSURY
  - "Automatic Control and its economical aspect for Switzerland" by Mr. A. Motu (Switzerland),
  - "How to optimize a manufacturing programme by using ordinators" by Mr. Rochery (France),
  - "Transistorized control of D.C. motors" by Mr. Schraivogel (Switzerland),
  - "Applications of automatic checking methods to mass-production" by Mr. Buisson (France),

- "Some aspects of Automatic Control development in Czechoslovakia" by Mr. Benes (Czechoslovakia)
  - "The use of logical switching elements for the Control of automatic machines" by Mr. Irani (Switzerland).
- 2) AUTOMATICO CONTROL AND ITS APPLICATIONS IN DUTSURY
- "The clock-making industry and its present tasks" by Mr. Bauer (Switzerland),
  - "Statistical checking and Automatic Control" by Mr. Bertschinger (Switzerland),
  - "Logic elements in Automatic Control" by Mr. Berger (Switzerland),
  - "Control of the frequency of a quartz oscillator by the atomic frequency standard" by Mr. Karchoff (Switzerland),
  - "Examples of hydraulic control of machine-tools" by Mr. Mathy (Switzerland),
  - "Standardization first necessary step to Automatic Control" by Mr. Diehl (Switzerland),
  - "Examples of automatized production and assembling" by Mr. Bessati (Switzerland),

10th SYMPOSIUM OF ASSPA

This Symposium will be held in Zürich in the second half of September 1961 on the following topics:

- Application of Automatic Control in transforming industries
- Automatic electronic measurement,
- Automatic Control of hydraulic accumulators.

ACTIVITIES OF THE GENEVA SECTION OF ASSPA

Courses on automatic control and on random process mathematics have had a very large success. A programme of courses for the three following years is elaborated on the following topics:

- For 1961 - 1962: Logic circuits and repetitive automatic control
- Logic circuit theory,
  - Logic circuit technology,
  - Applications of logic circuits to digital computers,
  - Industrial applications of repetitive automatic control.



For 1962 - 1963: **Optimizing of Automatic Control**

- Principles of optimizing and of optimizing control,
- Methods of optimizing analysis,
- Means available for optimizing,
- Industrial applications of optimizing and of optimizing control.

For 1963 - 1964: **Non-linear Control Systems**

- Stability analysis of non-linear systems,
- Sampling control,
- Non-linear components technology,
- Industrial applications of non-linear control systems.

The Geneva Section of ASSPA also visualizes the organization of **Control Systems** on the following topics:

- introduction to the function theory,
- introduction to the distribution theory and impulse computation,
- introduction to tensor computation.

### PUBLICATIONS

#### France

PROCEEDINGS OF THE 1ST CONGRESS OF THE "ASSOCIATION FRANÇAISE DE CALCUL" (FRENCH ASSOCIATION OF COMPUTATION)

The Proceedings of this Congress held in Grenoble on September 14 - 16, 1960, will be published in course of the year 1961 by Gauthier-Villars, Paris. They will contain some 70 papers read on the following general topics:

- Numerical analysis (3 sessions)
- Automatic programming and external logic (2 sessions)
- Structure of computers
- Applications of computers in management
- Automatic translation and documentation
- Industrial applications
- Theory of errors
- Programming
- General problems

#### Germany

##### NEW BOOKS

HANDBUCH DER REGELUNGSTECHNIK (Handbook of Automatic Control) edited in cooperation with many experts by G. Bleisler, Oerter, W. V. Mangoldt, H. Hennig and R. Oetker. 1522 pages, 1400 figures, 248 German marks. Published by Springer-Verlag, West-Berlin, 1961.

The main chapters, written by a team of 55 authors, include the following items:

- Typical control processes for different quantities;
- Planning, equipment and starting of operation;
- Control of single objects;
- Control in different fields of application, such as: energy production and distribution, mining, iron industry, chemical, oil and food industries, metallurgy, machine tools, transportation, theory.

The book does not include control in nuclear technology and in jet propulsion.

SYSTEMTHEORIE FÜR REGELLOSE VORGÄNGE (Systems theory for stochastic processes) by H. S c h l i t t e , 344 pages, 167 figures, 49,50 German marks. Published by Springer-Verlag, West-Berlin, 1960.

This book contains the following main chapters:

- Mathematical description of stochastic processes with one independent stochastic variable,
- Processes with two stochastic variables,
- Mathematical description of linear systems,
- Description of time-dependent stochastic processes,
- Relationship between statistical characteristics of input and output with linear transfer systems,
- Influence on stationary stochastic processes of linear filters, autocorrelation functions of band- with-limited noise systems,
- Two methods for solving non-linear problems,
- Synthesis of optimal transfer systems.

NEW PERIODICAL

A new periodical "KYBERNETIK", a journal dealing with the transmission and processing of information as well as with control processes in both organisms and automata, is being started by Springer-Verlag, West-Berlin.

The list of editors includes the following names: H. B. Barlow (Cambridge/England), M. Halle (Cambridge/Mass.), B. Hassenstein (Freiburg i. Br.), W. D. Keidel (Erlangen), I. Kohler (Innsbruck), K. Kipfmüller (Darmstadt), H. Mittelstaedt (See-wiesen/Obb.), W. Reichardt (Tübingen), W. A. Rosenblith (Cambridge/Mass.), J. F. Schouten (Bindhoven), M. Schützenberger (Poitiers), K. Steinbuch (Karlsruhe), N. Wiener (Cambridge/Mass.).

The new journal intends to cultivate experimental and theoretical findings in the following fields: Information theory; theory of automata; theory of control systems; mathematical foundations of communication theory; sensory processes and micro- and macrophysiology of the central-nervous-system in relation to information handling; information handling by organisms (incl. man) and taskoriented groups; mathematical models for communication and control processes in organisms.

The first number has appeared in January 1961 (price German Marks 12,80). The numbers will appear occasionally, each number to be paid separately.

**Netherlands**

NEW DICTIONARY

A DICTIONARY OF AUTOMATION, COMPUTERS, CONTROL AND MEASURING in six languages (English, American, Dutch, French, German, Italian, Spanish) has been compiled and arranged on an English alphabetical base by W. E. C l a s s o n and published by Elsevier Publishing Company, Amsterdam. The words are numbered and in the main part given in alphabetical order to the English words with a definition in English and with the five translations. In five additional parts the translated words are given in alphabetical order of the five languages with the number of the corresponding English word. Thus the Dictionary may be used for finding the translation from each to each of the six languages. This dictionary preferably includes terms related to computation. The price is about \$ 20. The book distribution is handled for USA and the British Commonwealth by D. van Nostrand Company, Princeton, New York, Toronto and London, for the French area by Dunod, Paris, for Germany, Austria and Switzerland by R. Oldenbourg, Munich, and for all remaining areas by Elsevier Publishing Company, Amsterdam.

**United Kingdom**

NEW BOOKS

V. V. S o l o d o v n i k o v : "AUTOMATIC CONTROL AND COMPUTER ENGINEERING", Volume 1, 1512 pages, £ 5 ( \$ 15 ), scheduled for April 1961  
Volume 2, 2392 pages, £ 5 ( \$ 15 ), scheduled for September 1961 to be published by Pergamon Press, Oxford.

These volumes will contain papers presented at a recent USSR Conference on Automatic Control and Computer Engineering organized by the Scientific Technical Society of the instrument-making industry.

V o l u m e 1 examines the problems of developing and applying the resources of up-to-date computer engineering in the automatic control of manufacturing processes.

V o l u m e 2 deals with the theory and practice of automatic control and with the problems of the dynamics of control systems containing computers.

Some of the problems covered by these volumes are:

- "The principles of constructing control computers based on universal high-speed digital machines" by V.A. Zimin
- "The application of the Z-transform to the analysis of control systems with computers" by L.N. Kuzin
- "Magnetic high-speed pulse relay elements" by N.V. Korolkov
- "The logical circuits of computers with semiconductor components" by V.A. Zimin
- "Feeding and extracting information in high-speed digital computers" by N.V. Zubikov
- "The development of systems for controlling machines" by V.I. Dikusihin
- "Automata control of the dimensions of rolled metal" by A.B. Chelyustkin
- "Specialized continuous-action computers for the statistical handling of random processes" by Yu. V. Novikov
- "The analysis and synthesis of linear automatic control systems with simulators" by A.M. Batkov
- "Working out a random quantity on high-speed computers" by G.K. Rakov

## USA

### PAPERS OF THE WORK SESSION ON LYAPUNOV'S DIRECT METHOD

This session was held at the Massachusetts Institute of Technology on September 6, 1960. Amongst the reprints of these papers, the two following should be noted, especially for bibliographical purposes:

- "Stability analysis of nuclear reactors by Lyapunov's second method" by Th.J. Higgins (reprint no. 433, with 37 references)
- "A résumé of the basic literature on non-linear system theory, with particular reference to Lyapunov's direct methods" by Th.J. Higgins (reprint no. 434).

These reprints can be obtained from the Director, Engineering Experiment Station, Mechanical Engineering Building, University of Wisconsin, Madison, Wisconsin, USA, who has 100 reprints of each paper available for free distribution, reprinted from the Proceedings, Work Session on Lyapunov's Direct Method published by University of Michigan Press, Ann Arbor, Michigan.

### NEW BOOKS

DICTIONARY OF AUTOMATIC CONTROL. By R.J. Bibero. Reinhold Publishing Corp., New York and Chapman & Hall Ltd., London. 1960. Price \$ 6.00.

(Extract taken from the author's Preface:)

My intention has been to produce a series of explanations and discussions of important topics in the field of automatic control, not merely another glossary or a compilation of ultra-precise definitions. The field of automatic control has been subdivided into five areas: Control Theory and Basic Concepts; Computers and Data Processing; Industrial Machine and Process Control; Aircraft/Missile Control and Telemetry; Control components and Design Factors. The body of the work is, of course, alphabetical. A Classified Index follows the main text.

NUMERICAL CONTROL TODAY. This paperback volume contains reprints of articles from the magazine "The Tool and Manufacturing Engineer" and papers presented at meetings of the American Society of Tool and Manufacturing Engineers. It will be mailed without charge to manufacturing executives and engineers who request it from John W. Greve, editor, The Tool and Manufacturing Engineer, 10700 Puritan, Detroit 38, Michigan.

## USSR

### NEW BOOKS

A.Ya. Lerner: "PRINCIPLES OF STRUCTURE OF QUICK-ACTING FOLLOW-UP SYSTEMS AND CONTROLLERS", 150 p., 67 fig., 36 Kopecks. Publ. by the State Energetics Publications, Moscow 1961.

This book contains the following main chapters:

- Problems of structure of quick-acting follow-up systems and controllers,
- Optimal control processes,
- Principles of structure of the controlling part of quick-acting systems,
- Dynamic properties of follow-up systems with a parabolic transformation of the derivative input signal
- Dynamic properties of follow-up systems with a parabolic transformation of the deflection (proportional) input signal,
- Dynamic properties of optimal follow-up systems with inertial amplifiers,
- Applications of optimal control devices.

USA

NOTE ON INFORMATION BULLETIN No. 11  
Information to appear in the Information Bulletin No. 11  
should reach the Editor:

Professor Ing. Dr. Victor Brodica  
Honorary Editor of IFAC  
13, rue de la France-Mutualiste  
Boulogne-sur-Seine (Seine), France  
not later than August 31st, 1961.