IFAC

INTERNATIONAL FEDERATION OF AUTOMATIC CONTROL

Information Bulletin n° 2

September 1958

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

Message from the President

The study of automatic control impresses one with the importance of having a reference or plan which serves to establish a basis for action. A three-day meeting of the Executive Council of IFAC in Zurich in March provided the opportunity for such planning and for establishing specific means to implement the general ideas set forth during the First General Assembly of IFAC at Paris in September 1957. An Advisory Group of scientists and engineers from different countries joined with the Executive Council on two of these days to help establish a sound basis for the very important technical committee activity which is so vital to IFAC's growth and success.

This message will describe some of the broad plans set forth at the Zurich meetings. In addition it will encourage action on the part of individuals interested in all phases of automatic control to work with their member organizations in each of the countries that are represented in IFAC to carry out these plans.

The general technical committee activities that will be undertaken by IFAC lie in three different areas - Automatic Control Theory, Control Hardware and Components, and Automatic Control Applications. These parallel the general areas of automatic control to be discussed at the First International Congress on Automatic Control to be held in Moscow in June 1960. In each of these areas it is planned to establish a number of committees each with fairly specific technical interests. The nature of the committees' interests, the people serving on these committees and countries participating will be determined by the wishes of the various member organizations as indicated by their requests to the Executive Council of IFAC. Specific examples of some of the technical committees being suggested by the Advisory Group are contained elsewhere in this Bulletin under the title "Suggested Technical Committees for IFAC Recommended by its Advisory Committee".

The Executive Council of IFAC plans to set up as many of these special technical committees as is warranted based upon the interest displayed by the member organizations of the IFAC countries. Although each member country will be allowed to participate in any of the technical committees it desires, one member

organization and one individual from that country will be charged with formulating a plan of work and carrying it out with the help of the other member organization's committee representatives.

Individuals will be selected by each member organization to work on these committees. I strongly suggest that each one of you interested in working on IFAC technical committees contact your member organization and indicate your field of interest and your desire to work. Although IFAC is a federation of member organizations representing national groups working in the field of automatic control, its strength and success will depend on the extent to which individuals are willing to work and to advance the science of automatic control among nations.

In addition to the specific technical committees mentioned above, there will be three other standing committees which will do an important job of integrating the work taking place in various nations in the field of automatic control. These committees are the Committee on Nomenclature, Definitions and Symbols of which Dr. E. Gerecke of Switzerland is Chairman, the Committee on Bibliography of which Dr. Oppelt of Germany is Chairman, and the Committee of Education for which no chairman has yet been selected.

The proposed program for the Moscow Congress in 1960 is a sound one, and I am very encouraged with the prospects for this Congress. More detailed information on the plans for the Congress is published elsewhere in this Bulletin. It is hoped that a number of the technical committees of IFAC will be well established prior to the Moscow Congress and that they will have met and be able to report at that time.

As a result of the meeting of the Executive Council in Zurich, I feel that the International Federation of Automatic Control has a sound plan for the future. Let us all work together to establish the IFAC technical committees and to prepare for a successful Congress in Moscow in 1960.

Harold Chestnut, President
International Federation of
Automatic Control

Note on Information Bulletin No 3

Information Bulletin No. 3 is expected to be published in November 1958. Information to appear in this issue should therefore reach the Editor

Professor Ing. Dr. Victor Broida
Second Vice-President of IFAC

13, Rue de la France-Mutualiste
Boulogne sur Seine (Seine) / France

not later than October 31st, 1958.

Publicity

The Member Organizations of IFAC are requested to inform the editors of their respective magazines and periodicals devoted to Control Engineering about the progress of IFAC as outlined in the Information Bulletins. IFAC wishes to get as wide cooperation as possible from experts in different countries and these experts, therefore, should be informed about the aims and achievements of IFAC, which can best be done by using the existing periodicals.

For the same purpose, extra copies of the Information Bulletins are available for the time being free of charge. (Requests should be directed to the Secretary of IFAC).

I - IFAC NEWS

Membership

In addition to the 14 national organizations which have joined IFAC until April 15th according to the information given in Bulletin No. 1, page 3, the following organizations recently have become member of IFAC with the annual subscription as indicated:

15°)	BELGIUM	Institut Belge de Régulation et d'Automatisme, 3, rue Ravenstein, Bruxelles	$ 125
16°)	THE NETHERLANDS	Koninglijk Instituut van Ingenieurs, Sectie voor Regeltechniek, Den Haag	$ 125
17°)	TURKEY	Teknik Universite, Istanbul	$ 125
18°)	UNITED KINGDOM	British Conference on Automation and Computation, c/o Institution of Electrical Engineers, Savoy Place, London W.C.2.	$ 250

Some more applications for membership are to be expected.

Tentative List of Suggested Technical Committees of IFAC

as recommended by its Advisory Committee

(The establishment of any committee will depend on the decision of the Executive Council based on the interest shown by the national member organizations)

1. ADVISORY COMMITTEE

This Committee will provide overall direction and guidance to the Executive Council in recommending new technical committees, their objectives and scope of activity and their chairman.

2. TECHNICAL COMMITTEES ON AUTOMATIC CONTROL THEORY

2.1 Continuous Control Systems

(Linear and non-linear control system having constant or time varying parameters and with either stochastic or programmed inputs. Steady, periodic and transient states are of interest).

2.2 Discrete Data Control Systems

(Control systems operating from or with discrete data, sampled data, or quantized data; including relay actuated systems.)

2.3 Control Systems Using Computing Devices

(as used for the purpose of prediction, self-adjustment or obtaining other control functions.)

2.4 Optimalizing and Extremum Control Systems

2.5 Multi-Variable Control Systems

2.6 Control Systems Including a Human Operator

2.7 Information Theory and Data Handling

2.8 Switching System Theory

2.9 Stochastic Processes

2.10 Simulators and Computers for Application to Control Problems

3. TECHNICAL COMMITTEES ON COMPONENTS AND MEASUREMENTS

The following Technical Committees (3.1 to 3.6) shall be concerned with the theory and fundamentals of the construction and operation, methods of design, static and dynamic characteristics, and practical experience including reliability.

- 3.1 Transducers, Transformers and Instruments
- 3.2 Amplifiers
- 3.3 Computers and Logical Devices
- 3.4 Regulators
- 3.5 Telemetry and Remote Control
- 3.6 Final Control Elements (Servo-Motors)
- 3.7 Components Measurements
  (Methods and devices for measuring the static and dynamic characteristics of control systems and their components.)
- 3.8 Analysis of Disturbances
  (Methods and devices for the investigation of disturbances.)
- 3.9 Components Reliability
  (General problems of the reliability of control systems and their components.)

4. TECHNICAL COMMITTEES ON APPLICATIONS

The following Technical Committees shall be concerned with the methods of design, the principles of construction and operation, and the practical experience including economical considerations of the automatic control systems as applied in the particular field.

- 4.1 Electrical Machines
- 4.2 Power Systems
- 4.3 Petroleum
- 4.4 Chemical Engineering
- 4.5 Metallurgical Industry
- 4.6 Metal Working
- 4.7 Land Transportation
- 4.8 Aeronautical and Marine
- 4.9 Heating and Air-Conditioning
- 4.10 Materials Handling
- 4.11 Mining
- 4.12 Nuclear Reactors
- 4.13 Other Industries (Textile, Paper, Rubber)
- 4.14 Agriculture
- 4.15 Social and Economic Problems

5. COMMITTEE ON NOMENCLATURE, DEFINITIONS, AND SYMBOLS

This Committee, subdivided in Subcommittees on

(1) Nomenclature
(2) Definitions
(3) Symbols

should compile what has been recommended in the different countries and only do the preparatory work for the standardization to be finished either by IEC (International Electrotechnical Commission) or by ISO (International Standards Organization). Therefore, the Member Organizations are requested to provide information in order to get going.
Dr. Gerecke, Switzerland, has been asked to act as Chairman.

6. COMMITTEE ON EDUCATION

The National Committees should be asked to collect and submit suggestions on promoting education in colleges and universities as well as in industry.

7. COMMITTEE ON BIBLIOGRAPHY

For the time being, each National Organization should be requested to prepare a bibliography of current works, and over a certain period, of past works. A consolidated report should be published for IFAC. The question of whether only titles should be collected or also abstracts is to be left to the discretion of the Committee. Dr. Oppelt, Germany, has been asked to act as Chairman.

First International Congress of IFAC

Moscow 1960

1. GENERAL ORGANIZATION

In accordance with the decision of the General Assembly of IFAC reached in Paris on 12th September, 1957, the First International Congress of IFAC will take place in Moscow from June 25th to July 5th, 1960.

The Congress is planned to cover the following three fields of endeavour of scientists and engineers working in the many different aspects of automatics:

Section I. Theoretical and Experimental Investigations carried out in Automatic Control and Servomechanisms.

Section II. Instrumentation and Investigations connected with the Development of Automatic Control Systems.

Section III. Industrial Applications of Automatic Control (including the application of prediction and computing devices).

The motto of the Congress should be:

"For the theory: wide applications;
for the instrumentation: maximum reliability;
for the process control: the highest efficiency."

It is intended that the Congress shall last for 10 days and include

a) the presentation and discussion of scientific reports,
b) excursions to scientific institutions and also to various automatic undertakings,
c) visits to centres of culture in Moscow.

2. THE SCIENTIFIC PROGRAMME OF THE CONGRESS

In accordance with the fields of activity described above, the scientific programme for the Congress is described in detail below.

In the first section, the general and particular theoretical problems of research and design of automatic control systems and the methods of their solution are enumerated.

A general or specific mathematical aspect of any problem and any (precise or approximate) method of its solution will be admitted. The field of theoretical research includes mathematical problems, the aim of which is to develop new methods of solution as well as concrete physical problems, the aim of which is to obtain particular results of scientific and practical value for use in engineering designs. The subjects of research can be in connection with closed-loop or open-loop systems with constant or variable parameters, with one or more inputs and outputs, determined or stochastic, and also systems, containing men or computers as links.

In the second section, the subjects of research first of all concern elementary components of instrumentation: measuring elements, transducers, transformers, relays, regulators, final control elements etc. The general problems of the theory and design, the determination of the accuracy of existing components, and also determination of their static and dynamic characteristics will be included. These problems may refer to any control system. In the same section the most important problem of instrumentation - that of maximum reliability will be considered. The solution of this problem may be illustrated with the results of experimental study of instrumentation and also with the results of its application. In addition the principles of design of instruments, experience of their design, and manufacture and economic questions will be considered.

New physical principles, which can be the basis of the development of new devices, automatic systems, control and computing devices, will be included.

In the third section, theoretical and experimental methods of the static and dynamic analysis of components and processes and also the methods of analysis of disturbances will be considered. Mathematical interpretation of automatized systems and processes and also the application of these methods will be directed to the development of scientific principles of automation. On this basis the principles of construction of large control systems and automatic units may be considered and also the principles of automatic process control. Finally the problems of improving conditions of work and productivity, and also the economic efficiency of automation will be discussed.

3. DETAILED INFORMATIONS ON THE SCIENTIFIC PROGRAMME OF THE CONGRESS

a) Fields of Investigation to be covered by the Congress:

Section I - Theory

(General and particular problems of Automatic Control theory)

1. Approximate and simplified methods of design of regulators and control systems.
2. Methods of determining optimum settings for automatic regulators.
3. Methods of plotting the design characteristics of a system based on experimental data.
4. Analysis of practical control systems and generalization of results.
5. The problems of optimum control.
6. Nomograms, tables, graphs, sliderules and auxiliary means for the analysis and synthesis of control systems.
7. Stability problems.
8. Problems of periodic motion.
9. Methods of estimating the transient response of control systems and of designing systems for given transient response. Theory of slide motions.
10. The problem of structure synthesis and the selection of parameters.
11. Methods of synthesis of optimum systems.
12. The problems of program control.
13. Problems of invariance and the theory of combination of open-loop and closed-loop control systems.
14. Statistical theory of automatic control problems.
15. Theory of programming.
16. Operational research and logical design.
17. Theory of data transmission.
18. Application of analog computers to the analysis and synthesis of control systems.
19. Statics of control systems and the design for given steady-state regimes.
20. Terminology, history.

Section II - Technical Means

(Problems of technical means of automatic control and instrumentation)

1. Theoretical and experimental methods of determining the static and dynamic characteristics of automatic control components.
2. Methods of experimental research into the properties of automatic control components and systems.
3. Analysis of disturbances.
4. Problems of application of automatic control in instrumentation.
5. Classification of automatic control components and systems and the principles underlying their operation.
6. Development of automatic control components.
7. Design of automatic control components.
8. The economics of measurement and control.
9. New physical principles employed in measurement and control.

Section III - Automatics in Industry

(Problems and theories of control)

1. Methods of investigating the static and dynamic characteristics of plants and processes to be controlled and methods of design for given characteristics.
2. Experimental research into the properties for given characteristics of objects and technological processes to be controlled.
3. Analysis of disturbances.
4. Classification and description in mathematical terms of objects and processes to be controlled.
5. Problems of the application of automatic control to large systems.
6. The principles and theoretical basis of control.
7. Automatic process control.
8. Design of large scale systems (automatic departments, plants).
9. New principles of control.
10. Productivity and economic efficiency of automatic plants.
11. Terminology, history.

b) Fields of Application to be covered by the Congress:

Section I - Theory

1. Continuous control systems.
2. Discontinuous control systems.
3. Sampled-data systems.
4. Automatic control systems with computing devices.
5. Self-adjusting systems.
6. Peak-holding (extremum) control systems.
7. Servo systems.
8. Program control systems.
9. Combination of open-loop and closed-loop control systems.

Section II - Technical Means

1. Transducers and transformers.
2. Regulators and their elements.
3. Final control elements (servomotors).
4. Automatic control systems.
5. Remote control systems.
6. Computing control systems.
7. Relays.

Section III - Automation in Industry

1. Electrical machines; generators, motors, transformers.
2. Prime movers; turbines, steam-engines, etc.
3. Power systems: stoves, boilers, reactors, heat-exchangers.
4. Chemical processes.
5. Pyro-metallurgical processes; refining processes, steel production, production of cast-iron, non-ferrous metals, alloys.
6. Electro-metallurgical processes; electrolytic processes, metallization.
7. Hydro-metallurgical processes.
8. Transfer-machines and transfer lines; rolling mills, paper machines.
9. Mining and building works.
10. Transport; railways, cranes, automotive transport.
11. Flying and floating apparatus; aeroplanes, ships, boats, rockets.
12. Processes of mechanical working of materials; machines, presses, large hammers.
13. Processes of transfer, blending and classification of dry substances (concrete, moulded mixtures, ore cleaning).
14. Exploitation of wells; extraction of oil, water, gas; oil-, gas-, and water-pipings.
15. Food processing.

4. THE PROCEDURE OF PREPARING AND SELECTING OF THE REPORTS

The following will be the procedure for the preparation and selection of papers for the Congress:

1. In each country the selection of papers for the Congress will be made by the Member Organization (National Committee).
2. Any paper must contain some scientific (theoretical or experimental) or practical work carried out by one or more authors in any of the enumerated fields of activity or in a new field, applied to one of the topics of research, dealing with development of the methods of design of automatic systems or of their application in industry.
3. The papers, selected by the Member Organizations to be included in the Congress Programme will be submitted to the Executive Council of IFAC.
4. All papers, submitted by the Member Organization for presentation at the Congress and approved by the Executive Council of IFAC, will be published in the Proceedings of the Congress in English and Russian.
5. Individual scientists and engineers from any country will be able to take part in the Congress and in the discussions, if time is available, subject to the approval of the Executive Council.
6. It is desirable that papers shall not exceed 40.000 signs, including illustrations, i.e. about 7.000 words.
7. Papers will be presented in Russian and English.

5. TIMETABLE

1. The Congress will open on 25th June, 1960. The duration of the Congress will be 10 days.
2. The last day for submission of papers to the National Committee of the Soviet Union will be 31st October, 1959.
3. Final drafts of all papers approved for publication must be in the hands of the USSR National Committee by 31st Dec. 1959.
4. Date of publication - 31st March, 1960.
5. Distribution of preprints to authors and participants in the Congress - 30th April 1960.
6. The Congress will take place at the Moscow State University. The first day of the Congress will be devoted to a plenary meeting, which will include:

   a) the opening ceremony,
   b) a lecture entitled: "Scientific Principles of Automatic Control and Technical Process."

7. The Section Meetings will take place from the 2nd to 9th day inclusive.
8. The last day will be devoted to a plenary meeting, at which reports will be made by the section chairmen. This will be followed by a General Assembly of the Federation at which current affairs will be able to be discussed and resolutions passed. Finally there will be a closing ceremony.
9. The decisions on what sections must be created will depend on the contents of the papers to be presented and will therefore not be made until the majority have been received by the USSR National Committee.

II - INTERNATIONAL EVENTS

Spain

The "Instituto de Electricidad y Automatica" is organizing under the sponsorship of the "Consejo Superior de Investigaciones Cientificas" an International Congress on Automatic Control which will be held in Madrid, from October 13 to 18, 1958.

The following topics will be dealt with:

1°) Linear and non-linear Automatic Control
2°) Switching theory
3°) Research and development in the field of electronic computers
4°) New elements of electronic computers
5°) Techniques of logical design of electronic computers
6°) Machine tools with digital and analog control
7°) Automatisation of industrial plants
8°) Data processing
9°) Human and economic aspects of Automatic Control.

The papers will be simultaneously translated into German, Spanish, French, English and Russian.

The subscription rates are 200 pesetas for individuals and 1000 pesetas for companies.

Further particulars can be obtained from:

Prof. J.G. Santesmases,
Chairman of the Organization Committee,

Instituto de Electricidad y Automatica,
Ciudad Universitaria
M a d r i d / Spain

United Kingdom

Joint Symposium on Instrumentation and Computation in Process Development and Plant Design

The Symposium will be held in the Central Hall, Westminster, London, on the 11th, 12th and 13th May, 1959, with subjects and sessions as follows:

11th May : Morning Session.
Subject : Improving the efficiency of existing processes.

11th May : Afternoon Session.
Subject : The design of new processes.

12th May : Morning Session.
Subject : The application of on-line computers.

12th May : Afternoon Session.
Subject : Recent Developments in instruments, on-line computers and computers for design.

13th May : Morning Session.
Subject : a) The use of computer techniques in large and small companies.
b) The future (one paper only).

This meeting is being organized by The Institution of Chemical Engineers, the Society of Instrument Technology and The British Computer Society, under the aegis of The British Conference on Automation and Computation. Any person wishing to present a paper at the Symposium should send a summary not later than 1st June 1958 to:

The General Secretary,
The Institution of Chemical Engineers,
16, Belgrave Square,
L o n d o n , S.W. / England

USA

IRD Conference of ASME

The 4th annual conference of the Instruments and Regulators Division of the American Society of Mechanical Engineers was held at the University of Delaware on April 2 to 4, 1958, as already mentioned in our No. 1 Bulletin. This meeting - attended by 200 engineers - was organised in co-operation with the ASME Delaware Section and enjoyed the participation of the American Institute of Chemical Engineers, the Institute of Radio Engineers, the Instrument Society of America and the American Institute of Electrical Engineers.

Technical papers were received from the Universities of Princeton and Columbia, the Massachussetts Institute of Technology, the Universities of Minnesota and of California and the Case Institute of Technology. Others came from the laboratories of Westinghouse, Daystrom Systems, Du Pont, Ramo-Wooldridge, International Business Machines, U.S. Navy, Beckman Systems, General Electric, Aeronutronics Systems etc. Two Russian papers were received from the Institute of Automatics and Telemechanics of the Academy of Sciences of the USSR. All were devoted to Automatic Optimization.

On April 2, at the evening session an Instrument Society of America Film on frequency response was presented by D.M. Boyd of Universal Oil Products.

On April 3, a limited group visited the Mechanical Development Laboratory of Du Pont in Wilmington, whilst a larger group enjoyed a tour of the important Delaware City Rafinery, which has the largest crude distillation unit ever built and an advanced control centre.

In course of the banquet, President Landis introduced the three Soviet guests, in reply to which professor Avenir A. Voronov brought to the audience the greetings of the Academy of Science of the USSR.

Professor Hrones, formerly of the Massachussetts Institute of Technology, now vice-president for academic affairs at Case Institute, delivered a speech on the weaknesses and needs of the educational system. He strongly criticized the present emphasis on conformity, and the training of "interchangeable men". He stated that "the true role of education is to develop intellectual power and add to knowledge". President Landis closed the meeting with remarks on the great development in control equipment expected during the next 20 years.

Automation Congress

The 1958 Automation Congress and Exposition was held in Philadelphia in June. It was attended by about 8000 visitors; American and foreign exhibitors (including Russian manufacturers) displayed their products.

ISA Conference and Exhibition 1958 and 1959

The 13th Annual Instrument-Automation Conference and Exhibition of the Instrument Society of America will be held in Philadelphia on September 15 to 19, 1958.

The 14th ISA Annual Instruments-Automation Conference and Exhibit will be held in Chicago on September 21 to 25, 1959. Full particulars can be obtained from

Instrument Society of America
313 Sixth Avenue
Pittsburgh 22, Pennsylvania / USA

III - NEWS FROM NATIONAL MEMBERS

Austria

The ÖAA (Österreichischer Arbeitsausschuß für Automatisierung - Austrian Working Committee for Automatisation) is an independent Committee of the ÖPZ (Österreichisches Produktivitäts-Zentrum - Austrian Productivity Centre), Hohenstaufengasse 3, Wien 1, and has its headquarters at this address. The ÖPZ also covers the expenses of this Committee. The active secretary of this committee is Dr. W. Oburger, assistant manager of the ÖPZ. The Chairman is Professor Dr. Heinrich Hochrainer who is in charge of Servomechanism teaching at the Engineering Academy of Vienna. The Vice-Presidents are Dr. K. Kottulinsky of the Association of Austrian Manufacturers (an organization of industrial executives) and W. Stern of the Workers Association of Vienna (an organization of employees).

This Committee having been set up, the first general meeting of all its members took place on May 21, 1958 in Vienna. Several papers were read namely by Dr. H. Hochrainer on the aims and tasks of the ÖAA, by Dr. W. Oburger on the technical information possibilities of this committee and by Dr. H. Schnewlin from Zurich on the outlook and limitations of automatisation in Switzerland.

A film of the OPEL-Works in Rüsselsheim shown to the audience outlined automatic control of production based on orders received from customers and manufacturing programming using punched cards and remote recorders.

On June 11, 1958, Dr. Heinz Zemanek read a paper on logistics and electronics considered as basis of program control.

The ÖAA also expects to publish in the future an information bulletin which would form part of the ÖPZ periodical entitled "Der Schlüssel" ("The Key").

Germany

The VDI/VDE-Fachgruppe Regelungstechnik invites for a meeting on Open and Closed Loop Control for Electric Drives to be held at Aachen (Aix-la-Chapelle) on October 15 to 17, 1958.

During the first two days, 24 papers will be read and discussed. On October 17, visiting tours to industrial centres in the environs of Aachen and in the Rhine-Ruhr district will be arranged. Further informations by:

VDI/VDE-Fachgruppe Regelungstechnik
Prinz-Georg-Str. 79
Düsseldorf / Germany

Japan

Responding to the formation of IFAC, the National Committee of Automatic Control was established in the Science Council of Japan (Ueno Park, Tokyo, Japan) with the support of the following 12 engineering societies:

- the Japanese Society of Mechanical Engineers
- the Textile Machinery Society of Japan
- the Institute of Electrical Communication Engineers of Japan
- the Society of Applied Physics of Japan
- the Society of Instrumentation and Automation
- the Society of Instrument Technology of Japan
- the Society of Automatic Control of Central Japan
- the Iron and Steel Institute of Japan
- the Society of Chemical Engineers of Japan
- the Institute of Electrical Engineers of Japan
- the Japanese Society of Automatic Control
- the Japanese Association of Automatic Control Engineers.

At the first meeting held on November 2, 1957, professor Kankuro Kaneshige of the University of Tokyo, was elected Chairman with professor Ysujiro Oshima as Secretary. Professor Ishigai of Osaka University presented a report on the Constitutive Meeting of IFAC in Paris which he attended as the delegate from Japan.

The First Joint Conference on Automatic Control will be held in Osaka on November 11 and 12, 1958. It is being organized by the Society of Instrument Technology, the Japanese Association of Automatic Control Engineers, the Textile Machinery Society and four other engineering societies. Five more societies will be invited.

The conference will have the following three sections:

1. Automatic Control Theory
2. Automatic Control Elements
3. Application of Automatic Control to Industries.

All particulars can be obtained from:

The Japanese Association of Automatic
Control Engineers,
c/o Shugakuin
Annex of the Engineering Research Institute,
Kyoto University
1, Yamabata - Itchoda - machi
Sakyo-Ku,
Kyoto / Japan

Switzerland

The Third Symposium of the SGA (Schweizerische Gesellschaft für Automatik - Swiss Society of Automatic Control) was held at the Polytechnic School of the University of Lausanne on June 25 and 26, 1958. Its aim was to extend the knowledge of digital computing techniques and to stimulate interest in their application for industry and for science. This symposium was organized in co-operation with professor Blanc, director of the Institute of Applied Mathematics of the Polytechnic Institute of the University of Lausanne.

Demonstrations of the new digital computer "Zebra" were a part of this Symposium, as well as the showing of a technical film. This symposium was attended by more than 100 people.

On June 25, the following papers were read:

- "Principles of the logic structure of an electronic digital computer" by professor Blanc, Ecole Polytechnique de l'Université de Lausanne.
- "Description of the electronic digital computer Zebra and of its performance" by Mr. C. Jeanneret of the Standard Telephone and Radio, Zurich.
- "Numerical methods for solving differential equations" by professor Kuntzmann of the Polytechnic Institute of Grenoble (France).
- "Valeurs propres et vecteurs propres de matrices" by professor Blanc.
- "Introduction to impulse analysis" by Dr. M. Cuénod, Société Générale pour l'Industrie, Geneva.
- Film: "The I.B.M. Ordinators".

On June 26, the following papers were read and discussed:

- "Problems studied by the Institute of Applied Mathematics of the Polytechnic School of the University of Lausanne" by Dr. Banderet.
- "Erfahrungen und Anregungen über den Einsatz digitaler Rechenautomaten für wissenschaftliche und technische Probleme" by professor H. Rutishauser of the Federal Polytechnic University of Zurich.
- "A unified international formula language for digital computing" by Mr. H. Läuchli.
- "Problems studied by the Computation Laboratory of the Polytechnic Institute of Grenoble" by professor Kuntzmann.
- "The solution of a partial differential equation of the elasticity theory using a digital computer" by Dr. Ginsburg from Zurich.
- "Problems studied by the I.B.M. Computation Centre of Zurich" by Mr. Bobillier.
- Discussion and conclusions by professor Ed. Gerecke, Chairman of the S.G.A.

The Fourth Symposium of the S.G.A. will be held in the late autumn of 1958 in the German speaking part of Switzerland. The following are expected to be the main topics for discussion:

1. Automatic Control of machine-tools.
2. Automatic Control in heating and in chemical processes.

USA

The American Automatic Control Council has adopted a Constitution with the approval of the 5 constituent Societies:

- the American Society of Mechanical Engineers
- the American Institute of Electrical Engineers
- the American Institute of Chemical Engineers
- the Institute of Radio Engineers
- the Instrument Society of America

Following the Constitution, an election of officers resulted as follows:

President -	Professor Rufus Oldenburger, School of Mechanical Engineering, Purdue University Lafayette, Indiana
Vice-President -	Dr. J.C. Lozier, Bell Telephone Laboratories, Whippany, New Jersey
Secretary-Treasurer -	Mr. William E. Vannah, Control Engineering, Mc Graw-Hill Publishing Company 330 West 42nd Street New York 36, New York

The officers were elected to serve until the end of 1959.

IV - PUBLICATIONS

Switzerland

The following two reports published by the S.G.A. (Schweizerische Gesellschaft für Automatik - Swiss Society of Automatic Control) can be obtained from this Society, Sternwartstr. 7, Zurich, at a price 5 Swiss francs each sent to Postscheck-Konto VIII-31116, Zurich.

1) Report on papers read at the First Symposium of the S.G.A. in Zurich on Dec. 6 and 7, 1956, comprising:

- "The non-linear control circuit and the geometric representation of its characteristics" (in French) by professor Ed. Gerecke.
- "Introduction to the distribution theory for the study of linear control" (in French) by professor E. Stiefel.
- "Principles and examples of application of stabilizing devices"(in French) by Dr. M. Cuénod.
- "Some applications of Automatic Control and of Analog Computers in Anti-Aircraft Defense" (in French) by Mr. L. Ambrosini.

2) Report on papers read at the Second Symposium of the S.G.A. in Zurich on Sept. 3 and 4, 1957, comprising:

- "Swiss mechanical and digital computers. Mathematical basis for the aims of mechanical integrating devices in control problems" (in German) by Mr. Theodor Erismann.
- "Modern mechanical integrating devices" (in German) by Mr. Theodor Erismann.
- "Digital circuit arrangements using transistors"(in German) by Mr. P. Speiser.
- "The electronic and magnetic circuits of the ERMETH Computer" (in German) by Mr. Alfred Schai.

Turkey

Victor Broida: Otomatik Regulasyon (Automatic Control) Lectures at the Technical University of Istanbul translated from French into Turkish by Docent M.N. OZDAS. 2 issues (45 and 47 pages) published by Berksoy Matbaasi, Istanbul.

USA and United Kingdom

Donald P. Eckman: Automatic Process Control. 376 pages $ 9.00. John Wiley & Sons, Inc., New York (and Chapman and Hall Ltd., London).

USA

A complete English translation of the leading Soviet automatic control journal "Avtomatika i Telemekhanika" is now available in the United States. This translation has been undertaken by the Massachussetts Institute of Technology in co-operation with the National Science Foundation and the Instrument Society of America.

Publication and distribution of the translated journal under these auspices will begin with the Russian volume XVIII, issue no. 1 (January 1957). There are 12 issues per year. The subscription rates are of $ 33 per year (12 issues) or $ 3.50 per issue. Libraries of academic and other non-profit institutions will pay only $ 18 per year (12 issues). All above subscription rates are for countries outside the United States and Canada.

Orders should be sent to:

Instrument Society of America
313 Sixth Avenue
Pittsburgh, 22, Pennsylvania / USA.

H. Clifton Morse and David M. Cox: "Numerically controlled machine tools". Published by Cox & Cox, 333 North Michigan Avenue, Chicago, Illinois, 200 pages, $ 25.00. This is a management report on numerically controlled machine tools.

USSR

Books and publications on automation to be published before long:

1° - Publications of the Academy of Science

1) - V.A. Trapeznikov (Editor): Industrial process automatisation. 2nd issue.

2) - Group of authors: Essays on Automatic Control and Remote Control.

2° - Publications Gosenergoisdat

3) - A.A. Bulgakov: Electronic devices in Automatic Control.

4) - L.S. Gutkin: Principles of control of non-piloted systems.

5) - K.G. Krug: Corrective elements in Automatic Control diagrams.

6) - A.O. Ostrovsky: Remote control of electric movers.

7) - A.V. Fateev (Editor): Examples and problems on linear theory of Automatic Control.

8) - F.M. Yuferov: Electric movers of final elements.

9) - N.N. Shumilovsky and L.V. Meltzer: Application of nucleonic radiations to the Automatic Checking of technological processes.

3° - Publications Oborongis

10) - S.P. Kolosov: Elements of automatic control devices in aircraft.

11) - N.T.Kusovkov: Automatic control theory based on frequency methods.

12) - A.A. Feldbaum: Electrical Automatic Control systems.

4° - Publications Machgis

13) - B.N. Bojanov: Pneumatic mechanisms.

14) - V.I. Tropizin: Automatisation of production processes in industrial plants.

15) - V.S. Vichman: Electro-automatics of technological checking of machine-building products.

16) - I.I. Eterman: Continuous - acting mathematical computers.

17) - V.V. Solodovnikov (Editor): Fundamentals of Automatic Control. Elements of automatic controllers in follow-up systems. 2 issues.

18) - A.Ya. Lerner: Introduction to the Automatic Control theory.

19) - F.S. Demianiuk: Technological fundamentals of continuous and automatized production.

20) - A.P. Vladzievsky: Automatic lines in machine building.

21) - K.V. Tschertorijsky: Electro-automatics in metal-cutting machine tools.

22) - V.A. Girsky: Automatized concrete plants and concrete-mixing devices.

23) - N.A. Morozov: Fundamentals of layouts for wood-working automatic lines.

24) - V.V. Solodovnikov (Editor): Automatic Control and computing techniques.

5° - Publications "Soviet Radio"

25) - Yu.I. Konev: Transistors in Automatic Control devices.

6° - Publications Avtotransisdat

26) - V.G. Kurov: An automatized asphalt and concrete plant.

7° - State Publications of Physico-Mathematical Literature

27) - M.A. Aizerman: Courses on Automatic Control.

28) - V.V. Solodovnikov: Introduction to the statistic dynamics of Automatic Control systems.

29) - Ya.Z. Zypkin: Theory of impulse systems.

30) - B.Ya. Kogan: Automatic Control system analogues.

31) - M.V. Meerov: Structural synthesis of highly accurate Automatic Control systems.

32) - A.A. Feldbaum: Computing devices in automatized systems.

8° - Publications Gostoptechisdat

33) - I.V. Anisimov: Automatic Control of continuous rectifying processes.

34) - Z.Ya. Rabinovitch: Automatisation of gas feeders.

35) - L.V. Kublanovsky: Automatisation and Remote Control of ore wells.

36) - I.V. Butusov: Automatic checking, measuring and control instruments.

Periodicals

First list of some entirely or partly specialised reviews published in English, French and German

a) in English

- "Electronic Engineering", 28, Essex street, Strand, London W.C. 2.
- "Automation Progress". A Journal of automatic production and control published by Leonard Hill Technical Group, Stratford House 9, Eden Street, London N.W.1.
- "Instrument Review".Review of instruments, electronics, automatica, published by the Herbert Publishing Co., Ltd., 27, Craven street, London W.C.2.
- " Electronic and Business Edition".Mc Graw Hill, 330 West 42nd Street, New York 36, USA.
- "Electric Manufacturing". Review of design engineering of electrically energized machines, appliances and equipment published by the Gage Publishing Company, 1250 Sixth Avenue, New York, USA.
- "Control Engineering". Review of instrumentation and automatic control systems published by Mc Graw-Hill, 330 West 42nd Street, New York 36, USA.
- "Electrical Engineering". Published by the American Institute of Electrical Engineers 33, West 39th Street, New York, USA.
- "Instruments and Automation". 845 Ridge Avenue, Pittsburgh 12, Pennsylvania, USA.
- "I.S.A.-Journal". Instrument Society of America, 313 Sixth Avenue, Pittsburgh 22, Pennsylvania, USA.
- "Cybernetica" (in English and French) 13, Basse-Marcelle, Namur/Belgium.
- "Control". 3, Percy Street, London W.1.
- "Process Control and Automation". published by The Colliery Guardian Co., Ltd., 30 and 31, Furnival Street, Halborn, London E.C.4.
- "Instrument Practice". United Trade Press Ltd., 9, Gough Square, Fleet Street, London E.C. 4.
- "Electronics and Control" published by Taylor and Francis, Ltd., Red Lion Square, London E.C.4.

b) in French

- "Automatisme", Review of industrial and office work automatic control published by Dunod, Paris.
- "Automation". Review of automatic control and industrial applications of electronics, published by "L'Industrie Française" 6, rue de Liège, Paris.
- "Mesures et contrôle industriel". Review of Automatic Control and Materials Testing, 79, Avenue des Champs-Elyseés, Paris.

c) in German

- "Regelungstechnik". Review of automatic control, published by Verlag R. Oldenbourg, München.
- "Automatisierung". Industrial review, published by Karl M. Hageneier-Verlag, Heidelberg.
- "Internationale Automation", published by Verlag Walter Hadert, Herbertstraße 3, Berlin-Schöneberg.
- "Elektronische Rundschau". Review of high frequency, television, electro-acoustics, measurement, automatic control and general electronics, published by Verlag für Radio-Foto-Kinotechnik, Berlin-Borsigwalde.
- "Elektronik". Review of electronic techniques in industry medicine and transport, published by Franzis-Verlag, München.

The above list is not, of course, exhaustive. Other complementary lists of reviews published in English, French, German and Russian and entirely or partly devoted to Automatic Control will be given later. The Editor would welcome any information in this connection.