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PRESS RELEASEPRESS RELEASEIFAC INTERNATIONAL SYMPOSIUM ON TECHNICAL  
AND BIOLOGICAL PROBLEMS OF CONTROLCALL FOR PAPERS

A symposium on this subject will be held at Yerevan (USSR) from September 24 to 28, 1968. It will be sponsored by the IFAC Technical Committees on Components and on Systems Engineering.

The proposed topics of the Symposium are listed below. Prospective authors are asked to contact the secretary of the organizing committee under the following address:

Dr. M.A. Boyarchenkov  
USSR National Committee of Automatic Control  
Kalanchevskaja ul., 15-a,  
Moscow, B-53, USSR.

Abstracts of proposed papers should be submitted in the English language to this Committee by September 30, 1967. The full manuscripts of the papers adopted for the Symposium are asked to reach the National Committee by March 31, 1968.

The abstracts will be reproduced photographically for distribution to the attendants of the Symposium. Therefore they should comply with the following requests:

- Length two pages, single spaced on sheets of good quality paper 18 x 24 centimeters, including equations, figures and tables. One copy should be added.
- The title of the paper is centered at the top of the page, is underlined, and is typed in capital letters. Two lines below this, the name(s) of the author(s) should appear, and on the next line the business affiliation and mailing address.
- Figures should be inked in black, the text should be typed single spaced with a fresh black ribbon.
- Lettering should be large enough to permit a reduction of 7/10 of the original length.



Major areas of interest for the IFAC International  
Symposium on technical and biological problems  
of control (cybernetics)

I Technical Problems

1. How to teach machines to differentiate and to classify.
2. Heuristic programmes (for the simplification of completed calculations with electronic computers, for instance for the solution of strategic games, establishments of proofs, establishment of time-tables, labyrinth search, etc.).
3. Adaptive systems (algorithms of simulation of adaptive processes theory of adaptive systems, etc.).
4. Simulation of processes of evolution and evolution of artificial systems (growing automata, etc.).
5. Methods for development of reliable systems by using unreliable elements.
6. Utilization of machines and programmes for teaching man.
7. Utilization of cybernetic means for the purpose of making prostheses (artificial heart, lung, kidney, etc.).

II System Approach to Development of Biological Aspects  
of Cybernetics

1. Concept of system in biology and engineering. Role of system approach to formation of cybernetic laws. Classification of biological and engineering systems: "large scale" and "small scale" systems, "hierarchy of systems."
2. Properties and chief mechanisms of biological systems. Laws of their evolution. Possible applications in technical cybernetics.
3. Functional system as entity of organism's integrating activity. Mechanisms of "decision-making," "forecast of results," "information of results" and "error-suppression." Use of these mechanisms in construction of cybernetic apparatus.
4. System approach to study of living organisms adaptation.
5. Study and simulation of higher nervous activity (models of brain, neuron and neural nets).
6. Physical and engineering methods of receptor activity investigation. Theory of receptor. Use of receptor analogs in technology (analyzers, space orientation).
7. Engineering psychology "Man-Computer-Man" interaction as prototype of "large-scale" systems.
8. Use of computers in biological and physiological systems.



ISRAEL SYMPOSIUM ON COMPUTER CONTROL OF NATURAL RESOURCES  
AND PUBLIC UTILITIES

Bulletin 3 containing program details have just been issued on the meetings to be held at Technion City, Haifa from Sept. 11th to 14th, 1967. It is sponsored by the Applications Committee of IFAC and is being organized by the Israel Committee for Automatic Control.

The Symposium covers a wide range of subjects from computer control of water supplies, vehicular traffic, telephone systems through to control of oil refineries and power stations. Additional sessions will cover trends in computer hardware, theoretical aspects of automatic control and its impact on public utilities.

Of great interest will be the introductory paper in the computer control of water supply session describing Israel's water supply. This is followed by three other Israeli papers describing how to obtain optimal control of reservoirs during a flood season, new methods for creating analog models for hydraulic networks and water network operating problems. Applications of advanced techniques to this age old problem of controlling water resources are the main theme of the announced contributions, dealing with dynamics and dynamic programming for water systems control and applying space technology to water resource control.

The session on vehicular traffic control aims to be truly international with papers from six countries one of which describing a hierarchical computer system with master and slave units for traffic-area control.

Electric power systems feature in the session of computer control of refineries and power stations.

The theoretical problems being covered include such subjects as building mathematical models of resources, optimal and suboptimal systems and system stability.

Applications for attendance should be sent to the

Organizing Committee,  
IFAC Symposium for Automatic Control,  
Electric Eng. Dept.,  
Technion City, Haifa  
Israel