



Research Group on Simulation, Optimization and Control



FACULTY OF
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GROUP ON SIMULATION, OPTIMIZATION AND CONTROL

The Research Group on Simulation, Optimization and Control (G-SOC) was formed to encourage cooperative research and maintain informal interaction in areas of mutual interest to members of the group, including graduate students engaged in research at the M.Eng. or Ph.D. level. G-SOC organizes regular research and tutorial seminars throughout the year given by its members as well as bringing in well-known speakers from industry and universities. In addition to extensive publications by G-SOC members, a series of internal reports covering simulation, optimization and control topics is published by the group. Preprints or extended versions of papers, reprints of papers appearing in conference proceedings, fully documented computer program descriptions including listings, theses, notes and manuals appear as internal reports. Periodic short courses or workshops on topics of current interest are organized featuring outstanding authorities from outside McMaster University. A short course on "Optimization" is to be held June 19-21, 1974.

FACULTY MEMBERSHIP

Dr. J.W. Bandler

Associate Professor of Electrical Engineering, Coordinator of the Group on Simulation, Optimization and Control

Dr. C.M. Crowe

Professor of Chemical Engineering
Chairman of the Chemical Engineering Department

Dr. E. Della Torre

Professor of Electrical Engineering
Chairman of the Electrical Engineering Department

Mr. W. Kinsner

Lecturer in Electrical Engineering

Dr. J.F. MacGregor

Assistant Professor of Chemical Engineering

Dr. N.K. Sinha

Professor of Electrical Engineering

Dr. J.D. Wright

Assistant Professor of Chemical Engineering

GRADUATE STUDY

Administrative matters connected with the graduate work of members of G-SOC are dealt with through the departments to which they belong. Extensive facilities for research are available including the university's CDC 6400 computer as well as dedicated computers and computer terminals. Mention should be made, in particular, of a PDP 11/45 and a Supernova, both with real-time disc operating systems, as well as two Nova 1200 and one Nova digital computers which are dedicated to the research projects of G-SOC members. Prospective students are encouraged to apply to the chairmen of respective departments indicating their areas of interest. Information on graduate studies, equipment and facilities, scholarships, etc., is available in departmental research brochures. Enquiries concerning G-SOC activities are welcome and should be directed to the Coordinator.

FACULTY INTERESTS

J. W. Bandler Circuit and system modelling and design. Circuit theory. Microwave networks. Digital filters. Computer-aided design optimization. Non-linear and discrete programming. Nonlinear least pth and minimax approximation. Design tolerance optimization. Interactive optimization.

C. M. Crowe Control of chemical reactors. Boundary control. Stability of chemical reactor systems. Simulation and optimization techniques. Calculus of variations. Acceleration of convergence of iterative computations. Distributed parameter systems.

E. Della Torre Computer-aided optimal design. Numerical methods in electromagnetic field problems. Magnetic materials. Bubble memory devices. Computer memory systems. Parallel processing. Biomedical electronics.

W. Kinsner Numerical methods. Partial differential equations and integral equations. Finite element method. Acceleration of convergence of iterative computations. Interactive optimization. Bubble memories. Circuits. Microwaves. Digital systems.

J. F. MacGregor Statistical methods in chemical engineering. Parameter estimation. Time series analysis. Digital process control. Process identification. Applications in pollution data analysis and waste water treatment plant modelling.

N. K. Sinha Optimal and adaptive control. Optimal and adaptive estimation. Adaptive communication. Stochastic approximation. Satellite tracking. Stepping motors. On-line modelling. Applications to power systems, biological systems and humanistic systems.

J. D. Wright Application of real-time digital computers to chemical engineering process problems. Process identification. Digital process control. On-line process optimization.

ENQUIRY FORM

Please send me more information on

Graduate studies and research in _____ Engineering. I am interested in the following topics:

I hold the degree of _____ from the university of _____

Available Internal Reports in Simulation, Optimization and Control.

The seminars organized by G-SOC.

Short courses or workshops held through G-SOC.

Do not forget name and address on reverse side.