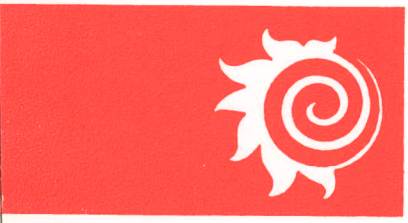

Research Group on Simulation, Optimization and Control

FACULTY OF ENGINEERING
McMASTER UNIVERSITY
Hamilton, Ontario, Canada

Dr. J. W. Bandler
Coordinator, G-SOC
Faculty of Engineering
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Name _____

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_____

_____

Dr. John W. Bandler, Coordinator
Group on Simulation, Optimization and Control
Faculty of Engineering
McMaster University
Hamilton, Ontario, Canada
L8S 4L7

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.

FACULTY MEMBERSHIP

Dr. J. W. Bandler

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

Dr. C. M. Crowe

Professor of Chemical Engineering

Dr. E. Della Torre

Professor of Electrical Engineering
Chairman of the Electrical Engineering Department

Dr. W. Kinsner

Assistant Professor of Electrical Engineering

Dr. J. F. MacGregor

Assistant Professor of Chemical Engineering

Dr. N. K. Sinha

Professor of Electrical Engineering

Dr. J. D. Wright

Associate 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 with sophisticated graphics capability and a dual processor shared disc Supernova - Nova, 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.

FACULTY INTERESTS

J. W. Bandler Circuit and system modelling and design. Microwave networks. Digital filters. Computer-aided design. Optimization. Nonlinear and discrete programming. Nonlinear least pth and minimax approximation. Design centering, tolerancing and tuning. 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. Finite element and finite difference methods. Acceleration of convergence of iterative computations. Algebras, Interactive optimization. Bubble systems and memories. Circuits. Digital systems. A/D converters. Computer graphics.

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. Stochastic approximation. Satellite tracking and control. On-line modelling and identification. 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.

PROFESSIONAL ACTIVITIES

Members of the group encourage and are active in projects sponsored by or carried out in collaboration with industry and government. They also provide advice on the formulation and solution of problems within their areas of expertise.

ENQUIRY FORM

☐ Please send me information on graduate studies and research in Electrical / Chemical Engineering.

I hold the degree of _____ from the university of _____

☐ I am interested in (*please state*): _____

☐ Please send me information on computer programs available through G-SOC.

☐ Please send me a list of available G-SOC reports.

☐ Please put me on the mailing list for G-SOC seminars.

☐ Please put me on the mailing list for forthcoming short courses or workshops.

Do not forget name and address on reverse side.