گزارش

چهاردهمین کنفرانس بین‌المللی مدلسازی ومشابه‌سازی کاربردی

۴ الی ۶ ژوئن ۱۹۸۶ (۱۴ الی ۱۶ خرداد ۱۳۶۵)

کاروکوکی

استادیار دانشکده‌فنی

با وجود آن که مدلسازی ومشابه سازی اساس همه رشته های مختلف علمی را تشکیل می‌دهند وبنابراین تاریخ آن معادل با تاریخ علوم بطورکلی است ، اما به عنوان یک رشته تخصصی جداگانه بیش از ۳ الی ۴ دهه قدمت ندارد . شروع کاربردوسیع مدلسازی ریاضی ومشابه سازی سیستم ها را می‌توان در کارهای فون نیومان (Von Neumann) و ریاضیدانان دیگر در دهه ۴۰ بخصوص از هنگام به کارگیری کامپیوتر رقمی در دهه ۵۰ در نظر گرفت . اهمیت مدلسازی و مشابه سازی به‌اندازه‌ای است که سالیانه کنفرانسهای متعددی در نقاط مختلف‌جهان برای ارائه‌جدیدترین‌پیشرفتهای‌نظری وعلمی در این زمینه تشکیل می‌شود . چهاردهمین کنفرانس بین‌المللی مشابه سازی ومدلسازی کاربردی (ASM 86) که در تابستان سال ۱۳۶۵ در شهر ونکور ،کانادا ، برگزار شد یکی از معتبرترین کنفرانسهای جهانی در این زمینه است و به توسط موسسه IASTED (اتحادیه بین‌المللی علوم و تکنولوژی برای توسعه(International Association of Science and Technology for Development برنامه‌ریزی وبرگزار شده است . در این کنفرانس در درجه اول جنبه‌های کاربردی‌مدلسازی‌ومشابه سازی مورد نظر بوده است وهدف‌کنفرانس "ارائهٔ پیشرفتها ونتایج جدید درهمهٔ جنبه های کاربرد مدلسازی ومشابه سازی" اعلام شده است . مباحث مورد نظر کنفرانس در آگهی مربوطه دعوت مقالات علمی چنین اعلام شده است '(فهرست شماره ۱)

دعوت برای شرکت در کنفرانس وارائه مقاله باتوجه به نتایج‌داوری‌مقالات‌ارسال‌شده‌به عمل‌می‌آید . در کنفرانس ASM 86 با توجه به تنوع موارد کاربرد مدلسازی ومشابه سازی متجاوزاز ۲۰۰ مقاله علمی مختلف‌برای‌ارائه در کنفرانس پذیرفته شدند که بیشتر آنها در مجموعهٔ کنفرانس منتشر شده‌اند . بعلاوه همه این مقالات جهت انتشار در مجله علمی :

The International Jornal of
Modellling and Simulation

(مجله بین‌المللی مدلسازی ومشابه سازی)

موردبررسی قرار خواهند گرفت . مقالات پذیرفته شده درطی ۱۵ اجلاس مختلف به توسط تهیه کنندگان مقالات ارائه

شدند ،وپس‌از ارائه هرمقاله بحث وگفتگو در باره آنها انجام گرفت وارائه کننده‌مقاله‌به سئوالات وانتقادات‌شرکت‌کنندگان کنفرانس پاسخ می‌داد . فهرست کامل مقالات به پیوست این گزارش‌آمده است با توجه به این فهرست ملاحظه می‌شود که محققان وپژوهشگران مختلف از کشورهای متعدد آسیائی ، اروپائی ، آمریکائی وافریقائی در این کنفرانس شرکت‌داشتند وبرخلاف کنفرانسهای‌مشابه ،که‌درآنها اکثریت قریب به‌اتفاق شرکت کنندگان از ایالات‌متحده آمریکا می‌باشند ، کنفرانس ASM 86 از نظر ترکیب کشورهای شرکت‌کننده حقیقتا " جنبه بین‌المللی داشت . با وجود آن که چندیـن محقق ایرانی‌در این کنفرانس شرکت داشتند ، شرکت‌کنندگان ایرانی‌دیگر (به‌استثنای اینجانب) از کشورهای مختلف دیگر در کنفرانس شرکت کرده بودند . بنابر اظهار برگزار کنندگان کنفرانس حضورایران‌درکنفرانسهای قبلی چشمگیرتر بوده‌است وآنها ایشان امیدوار بودند در کنفرانسهای بعدی محققان بیشتری از ایران شرکت داشته باشند . و بخصوص ابراز علاقه می‌کردند که در ایران هم کنفرانسی برگزار شود ، که در ایـن موردقرار شد با‌مقامات مسئول کشور تماس حاصل شود . ضمنا " باتوجه به‌موضوع مقالهٔ مااز ما جهت ریاست اجلاسهای علمی کنفرانسهای‌آینده ونیزداوری مقالات ارائه شده‌دعوت به‌عمل آمد . بطورکلی‌کنفرانس ASM 86 بسیار آموزنده بود وعلاوه برآشنایی با آخرین نتایج علمی دراین رشته وکمک به برنامه ریزی تحقیقات در دانشگاه تهران از نظر آموزشی نیز بسیار مفیدبود وبرخی از مقالات ارائه شده جهت تدریس دردروس مختلف برنامهٔ آموزشی دانشکده فنی و از نظر آشنایـی دانشجویان با‌کاربردهای مختلف مدلساری ومشابه سازی قابل استفاده می‌باشند .

درخاتمه متذکرمی‌شود که‌شرکت‌اینجانب در‌کنفرانس ASM 86 به موجب‌ماموریت‌علمی‌دانشگاه تهران وتامین هزینه‌های کنفرانس امکان پذیر شده است ، وبدین وسیله از کلیهٔ مقامات مسئول دانشگاه تهران ، دانشکده فنی و گروه آموزشی مهندسی برق والکترونیک بخصوص از ریاست محترم دانشکده به خاطر این اقدام تشویق آمیز تشکر می‌نماید .

کار ولوکس
استادیار دانشگاه تهران

. Modelling
. Simulation
. Theory of modelling
. Soltware
. Hardware
. Languages
. Numerical methods
. Graphical methods
. Statistical methods
. Identification
. Estimation
. Optimization
. Bond graphs
. Microcomputers in simulation
. Supercomputers in simulation
. Modll validation
. Applications in all fields
  - Engineering
  - Science
  - Business

. Applicallons
  - Econenics
  - Management
  - Expert systems
  - Knowledge-based systems
  - Control
  - Signal processing
  - Power systems
  - Nuclear systems
  - Communications
  - Circuits and systems
  - Computers
  - VLSI
  - Robotics
  - Energy
  - Geophysics
  - Pulp and paper
  - Manufacturing
  - Fluid fiow
  - Social sciences

  - Food
  - Edueation
  - Transportation
  - Pipelines
  - Environmental systems
  - Water resources
  - Architecture
  - Health care
  - Biomedical engineering
  - Kinetics of drugs
  - Protein binding
  - Biomechanies
  - Management
  - Operations research
  - Queueing systems
  - Hydrology
  - Heat transter
  - Others

فهرست شماره ۱ . مباحث موردنظر کنفرانس

PRELIMINARY PROGRAM
Wednesday, June 4, 1986

8:00   **Registration**

9:00   **Welcome**

9:15   **Session 1** اجلاس اول

      Chairpersons: A. Allegretto (Canada), W.B. Joerg (Canada)

Parallel Programming Techniques for Simulation in VLSI CAD - W.B. Joerg (Canada).

Real Time SVD-Based Parameter Estimation With VLSI Array Processors - L.X. Le, G.C. McGonigal (Canada).

NMOS Realization of Ternary Symmetric Functions - H.M. Razavi (U.S.A.).

Finite Element Analysis of Magnetic Sensors Under Inhomogeneous Magnetic Fields - W. Allegretto, H.P. Baltes, A. Nathan (Canada).

VLSI Implementation of High Speed Table Look-Up Multiplier - S.-C. Pei, J.-L. Wu (R.O.C.).

Dedicated Interactive Simulators for VLSI CAD - W.B. Joerg (Canada).

An Optimum Design of Linear Nonuniformly Spaced Arrays - M.A. Hassan (Saudi Arabia).

Experimental Refinement of Magnetic Device Modeling - D.R. Briglio, H.P. Baltes, P. Haswell, A. Nathan, L. Ristic (Canada).

CMOS Fault Modelling and Testing - J.F. Wang, T.Y. Kuo, J.Y. Lee (R.O.C.).

Algebraic Model to Multiple Contact Faults in VLSI - A.M. Alturaqi, Z. Lotfi (France).

9:15   **Session 2** اجلاس دوم

      Chairpersons: J.W. Brewer, S. Deva Doss (U.S.A.)

Recent Developments in the Simulation of the Nonlinear Dynamics of Engineering Economics - J.W. Brewer (U.S.A.).

Inter-fuel Substitution in the Canadian Manufacturing Sector: Alternative Modelling Approaches - A. Andrikopoulos, J. Brox, E. Carvalho (Canada)

Probabilistics Production Costing Model - R.N. Allan, (England), A.M. Shaalan (Saudi Arabia).

Bit-Error Probability for Multipath Fading Channels With Intersymbol Interference - N.M. Shehadeh, U.A. Al-Suwailem, M.M. Dawoud, T.U. Halawani (Saudi Arabia).

Minimization of Memory Storage Size in Multilingual Translation - E.E. Hassan, A.-N. Minkarah (Saudi Arabia).

Computer Simulation of Combined-Cycle Biomass-Fueled Power Plants - D.J. Bushnell, G.M. Reistad, A. Dadkhah-Nikoo, J. Ranasinghe (U.S.A.).

Optimal Control Policy for Carbon Monoxide Converters - G.G. Getz, H. Torab (U.S.A.).

On Non-Linear Optimization Problems With Design Region Constraints - N.D. Ebrahimi (U.S.A.).

A Model for Combined Trip Distribution and Traffic Assignment - B.S.N. Reddy, B.R. Marwah (India).

Optimal Management in the Face of Uncertain Future Entry: A Case of Potential Entrants Engaged in Cost-Reducing R&D - F. Melese (U.S.A.).

Trade, Stability and Growth With Public Enterprises in LDC's - Z. Sattar (U.S.A.).

Modeling Commodity Trading Expertise - C.G. Lundberg, A. Barna (U.S.A.).

Monetary Policies, Exchange Rates, and U.S. Agriculture: An Econometric Simulation Analysis - S. Devadoss, W. Meyers (U.S.A.).

9:15   **Session 3** اجلاس سوم

      Chairperson: B.S. Dhillon (Canada).

Application of the Optimal Control Technique to Employment Problems in Belgium - A. Bayer, Y. Guillaume, D. Meulders (Belgium).

Some New Parameters for Signal Processing - P.K. Kalra (Canada).

Instability in a Multiply-Reclocked Distributed Processing System - F.B. Grosz, R.E. Trahan, D.E. Bourgeois (U.S.A.).

Vibrations of an Annular Plate - M.A. Mahrous, R.E. Trahan (U.S.A.).

Pre-entry Impact of an Expected Future Shift in Demand - F. Melese, R. Holcombe, J. Jackson (U.S.A.).

Probabilistic Modeling and Fault Analysis in Sequential Logic Using Computer Simulation - S.R. Das, K.L. Wong (Canada).

Performance Models for Multiple Bus Local Area Computer Networks Via Markov Process - M. Alam, H.E. Toews (Canada).

Reliability Optimization Techniques Used for an n-Section Cable System Design - S.D. Gupta, M.J. Al-Musawi (U.S.A.).

Simulation Applied to Bilinear Dynamic Structural Models - J. Dalsgard Sorensen (Denmark).

Orbit Prediction: A Critical Survey of Current Techniques - O. Abul-Haggag Ibrahim (Egypt).

Analysing the Efficiency of Multiple Sampling Plans of MIL-STD-105D Under Switching Rules - A.M.A. Haridy, A.Z. El-Shabrawy, M.F. Abdin (Egypt).

13:30   **Session 4** اجلاس چهارم

      Chairpersons: S.Y. Mansour (Canada), S.A. Soliman (Egypt).

A Long-Range Model for Distribution System Planning - M.A. Abu-El-Magd (Canada).

Economic Active-Reactive Dispatch for Large Scale Power Systems - S.Y. Mansour, D.H. Keily, D.O. Koval (Canada).

Discrete Stochastic Optimal Long-Term Scheduling of Hydro-Thermal Power Systems - S.A. Soliman (Egypt), G.S. Christensen (Canada).

A Computational Technique for the Evaluation of the Performance of the Thermal Power Plants - F.M. El-Mahallawy, Z.S. Safar, M.A. Habib, M.R. Taha (Egypt)

An Integrated CAD System for the Ship Electricity Layout and Routing Design - T.C. Huang, J.F. Wang, J.Y. Lee (R.O.C.).

Impact of Compensating Reactor Location and Magnitude on Steady State Stability at Light Load Operation - A.A. El-Sulaiman (Saudi Arabia).

A Sampling Method for Transient Analysis of Power Systems - J.A. Momoh (U.S.A.).

Criteria for Quantitative Health Services Evaluation - M. Bojanczyk (Puerto Rico), J. Krawczyk (New Zealand).

Computer Modelling of Steam Power Plant Cycles and Auxiliaries - N. Zubatov, F. Bono, G. Hamrock, J. Skurka, S. Warren (U.S.A.).

Equivalent Circuits for Modeling the Dynamic Response of Periodic Pulse-Amplitude-Modulated MHD Generator Power Output - R.M. Johnson (U.S.A.).

A Second Order Sensitivity Load Flow Technique - W. Xu, M.S. Sachdev (Canada).

A New Approach to the Modelling of Synchronous Machines - O. Abul-Haggag Ibrahim, M. El-Sobki (Egypt).

Methods for the Identification of Synchronous Machine Parameters - A Survey O. Abul-Haggag Ibrahim (Egypt).

On-Line Tracking State Estimator of Power Systems - M.B. Eteiba, M.A. Sheirah, M.A. El-Sayed, A.K. El-Ariny (Qatar).

Projecting Electricity Consumption With an Econometric Model - R.J. Sutherland (U.S.A.).

Static State Estimator for Multi-Area Power Systems - M.A. Fahim (Egypt).

13:30   Session 5   اجلاس پنجم

Chairpersons: E.G. Plett (Canada), F. El-Hawary (Canada).

Energy Simulation in School Buildings in Southern Louisiana's Hot-Humid Climate - J.F. Leaver, T.M. McQueen (U.S.A.).

A Numerical Model to Help Evaluation of Measured Basement Wall Heat Losses - J.D. Dale (Canada).

Frequency Domain Modelling and Periodic Simulation of Heat Transfer in Passive Solar Buildings - A.K. Athienitis (Canada).

Maximum Likelihood Identification of Residential Air Conditioning System - A. Pahwa, C.W. Brice, III (U.S.A.)

Thermal Performance of Piping in an Energy Distribution System - E.G. Plett, M.G. Psofogiannakis (Canada).

Simulation and Modelling for Underwater Acoustic Propagation - F. El-Hawary (Canada).

Channel Capacity of a Linear Model of Long Underwater Acoustic Channel - N.M. Shehadeh, A.S. Balghunem, M.M. Dawoud, T.U. Halawani (Saudi Arabia).

Optimal Detection of the Electrogastrographic Signal in Man - A Mathematical Model - O.B. Familoni, Y.J. Kingma, K.L. Bowes (Canada).

RTD-Based Models and Transport Process-based Models in Biomedical Engineering - A.V. Naimpally, S. Naimpally (U.S.A.).

Upper Bounds on the Error When Computing the Matrix Exponential and a Related Aspect - M.A. Shalaby (Egypt).

The Clipped Least Mean Square (LMS) Algorithm for System Identification - W.E. Mattis (U.S.A.).

An Optimized Network for Shaping a Triangular Function into Sinusoidal - R. Seara, E. Stein (Brazil).

A Study of Stiff Property of Boundary-Layer Equations - T.H. Chang (U.S.A.).

Heat Transfer from Bodies Buried in a Porous Medium - P.H. Oosthuizen, J.T. Paul (Canada).

Criteria for District Heating Source Siting in a Large Metropolitan Area - E. Lavagno, P. Ravetto, M. Sumini, A. Spaziante (Italy).

Modelling the Performance of Natural Convection Solar Rice Dryers - P.H. Oosthuizen, J.T. Paul (Canada).

A Computer Simulation of a Mathematical Model of the Gonodatropic and Ovarian Hormones of the PMS Sufferer - R.C. Blanche, G. Gallitano (U.S.A.).

Optimal Flowrates Through a Solar System - R.H. Turner (U.S.A.).

A Microcomputer Load Flow Analysis of a Major Fusion Project - J.H. Wilson, S. Goldberg (U.S.A.).

13:30   Session 6   اجلاس ششم

Chairperson: Naran Vira (U.S.A.)

On the Existence Conditions of the Optimum Points of Linear Functionals on Matrix Spaces - D. Ionescu (Canada).

An Innovative Approach to Systems Modeling and Decision Analysis - G.A. Decker, D.L. Tondreau (U.S.A.).

An Optimization Program for the Design of AC Systems - M.R. Iravani (Canada).

Stochastic Optimal Control with Poisson Measurements - H.M. Faridani (Canada).

Aspects of Nuclear Power Systems' Analysis with Advanced Thermal Reactors - D. Serghiuta, V. Raica, L. Nicolescu (Romania).

Lagrangian Dynamics of Flexible Manipulators Using w Instead of W - J. King, V. Gourishankar, R. Rink (Canada).

A Fortran Program for Computing Aerodynamic Characteristics of Slender- Finned Vehicles at Supersonic Speeds - Part 1 Total Vehicles Aerodynamics - N. Vira (U.S.A.).

A Fortran Program for Computing Aerodynamic Characteristics of Slender- finned Vehicles at Supersonic Speeds - Part 2 Body Aerodynamics - N. Vira (U.S.A.)

Tais-Toi Quand Tu Parles! (Keep Silent When You Talk) - T. Starkermann (Canada).

Simulation Model for Design Verification, Transient Analysis of Processes and System Control of an Industrial Waste Treatment Plant - W.D. Burrows (U.S.A.).

Simulation of Oil Slick Movement Induced by Gravity Waves - R.J. Palczynski (Canada).

Judging the Performance of Forecasting Models: A Case Study - Y.-W. Liu (U.S.A.).

Analysis of Insurance Benefit Plans for Alcoholism Treatment through Computer Simulation - J.B. Hallan, H.D. Holder (U.S.A.).

Another Look at Estimating Traffic-Flow Relations - S.M. Easa (Canada).

A Unified Disaggregated Simulation Approach to Travel Forecasting - M. Saradhi, B.R. Marwah (India).

Thursday, June 5, 1986

8:30   Session 7   اجلاس هفتم

Chairpersons: A.M. Sharaf and M.S. Sachdev (Canada)

Logic Models of Static Power Converters - A.M. Trzynadlowski (U.S.A.).

On the Modelling of Current and Energy Flow in Power Electronic Circuits - P.E. Sutherland, E.F. Hill (Canada).

A Constant Frequency Generator for Wind Energy - Part 1: Steady State Analysis - S.A. Soliman, M.S. Morsy, M.A. Badr (Egypt).

Operation of Two Induction Motors on the Same Shaft: Dynamic Simulation and Performance - A.L. Mohamadein, A. Al-Ohaly, A.H. Al-Bahrani (Saudi Arabia).

Self-Excitation Security Monitoring Using Pattern Recognition in AC/DC Power Systems - E.A. Mohamed, G.W. Swift (Canada).

Shunt Reactors as Counter Measure for Reactive Power Surplus: Location and Impact on System Stability Performance - A.A. Al-Ohaly, Z. Elrazaz (Saudi Arabia).

Modeling of Various Components for Harmonic Analysis - H.M. Turanli, R.E. Trahan, A.A. Mahmoud, Y. Tang (U.S.A.).

Reliability Analysis of Standby Systems with Human Errors - B.S. Dhillon, S.N. Rayapati (Canada).

A Non-Stationary Two State Reliability Model - B. Lenoach, (Ireland), D.O. Koval, B. Zimmer (Canada).

Computer Simulation of Digital Relays - H.C. Wood, T.S. Sidhu, M.S. Sachdev (Canada).

Server Networks - L. Zeidner (U.S.A.).

Inception Voltage and Time of Positive Impulse Corona as Influenced by the Steepness of the Applied Voltage - M. Abdel-Salam, A.H. Turky (U.S.A.).

A Fast Microprocessor-based Algorithm for Power System Relaying - M.M. Mansour (Egypt).

Digital Simulation of an HVDC System Incorporating a Series Tapping Station - S. Arabi, M.Z. Tarnawecky (Canada).

A Sampling Method for Transient Analysis of Power Systems - J.A. Momoh, H.T. Chieh (U.S.A.).

8:30   Session 8 اجلاس هشتم

Chairpersons: Guy Jumarie, Khalid J. Siddiqui (Canada)

On the Calculus Complexity of the Model of the Three-Bodies Problem - I. Popescu (Canada).

An Interactive Graphics Library for the Rapid Solution of Differential Equations - S.R. Hoole (U.S.A.), P.R. Hoole (U.K.), S. Jayakumaran (U.S.A.).

Interactive Real-Time Root Locus Plotting - F.N. DiMeo, S. Rubner, K. Agatone (U.S.A.).

A Generalized Approach to Sensitivity Analysis in the Frequency Domain - J.M. Wojciechowski (U.S.A.).

Microprocessor-based Simulation of the Intelligent Integrator - D.E. Ventzas, G. Theodorelos (Greece).

A Numerical Method for Evaluating the Exponential of a Matrix - M.A. Shalaby (Egypt).

Systolic Prime Length Fast Biased Polynomial Transform Architecture for Two Dimensional Convolutions - S.-C. Pei, J.-L. Wu (R.O.C.).

Partial Coverings of a Sphere With Small Circles - E. Maddry (U.S.A.).

A Flexible Method to Define, Extract, and Organize Shape Features in a Pattern Recognition System - P. Ahmed, (Canada), K.J. Siddiqui (U.S.A.), C.Y. Suen (Canada).

A Distributed Mixed-Mode Hierarchical Simulator - J. Cloutier, C. Roy, E. Cerny (Canada).

Modelling Self-Adapting Automatons - C.G. Looney (U.S.A.).

Asymptotic Observer for Nonlinearizable Uncertain System - J.M. Skowronski (U.S.A.).

12:15   LUNCH

13:30   Session 9 اجلاس نهم

Chairperson: Lawrence Eisenberg (U.S.A.)

Discrete Stochastic Optimal Long-Term Scheduling of Series Reservoirs - S.A. Soliman (Egypt), G.S. Christensen (Canada).

An Improved Technique for Automatic Contingency Ranking in Power System Control and Reliability Analysis - M.A. El-Kady, M.S. El-Sobki, N.K. Sinha (Canada).

Evaluating the Impact of Transient Outages on Network Reliability Levels - H.K. Kua, D.O. Koval (Canada).

Water Diversion and Pumpback Hydropower: A Progress Report - M.H. Sonstegaard (U.S.A.).

Computer Aided Design of Optimal Load Frequency Controller for a Two Area Power System with a Specified Relative Stability - J.K. Pal, V. Shantaram, M. Hanmandlu (India).

Substation Reliability Evaluation - S.C. Sharma, D.O. Koval (Canada).

Cost Optimization for Burn-In Programs - A.R. Green, D.O. Koval (Canada).

Simulation of the Space Station Data System Real-Time Control Function - E. Volansky (U.S.A.).

The Economics of the Brazilian Alcohol Program Within a General Equilibrium Framework - M. da Conceicao Sampaio de Souza (Brazil).

Optimal Design of Gravity Dams - R.E. Trahan, Jr., A'A. A. Hannoura, S. El Moustafa (U.S.A.).

A Contingency Selection Algorithm Based on Power System Security Enhancement - M. Daneshdoost, L. Lam (U.S.A.).

Digital Implementation of Robust Linear Multivariable Controllers for Current Fed Induction Motor Drive - S. Sivakumar, A.M. Sharaf, R. Doraiswami (Canada).

Modelling and Control Design of Induction Generator Based Wind Energy Conversion Scheme - S. Nataraghan, A.M. Sharaf, S. Naganathan (Canada).

Some New Approaches to Short-Term Power Demand Models - T.N. Goh, N.L. Ong (Singapore).

A New Approach to the Solution of the Subsynchronous Resonance Problem of Synchronous Machines - M.A. Badr (Egypt).

Validity of the Inertial Model Representation of Turbo-Generators in Strongly Coupled Power Systems - M.A. Badr (Egypt).

A New Adaptive Power System Stabilizer Using a Lyapunov Design Technique - O. Abul Haggag Ibrahim (Egypt).

The System Approach of LMFBR Integration in a CAND System - R.D. Palmquist, J.P.H. Steele (Rumania).

On the Secure Operation of Electric Power Transmission Systems - L. Eisenberg (U.S.A.).

13:30   Session 10 اجلاس دهم

Chairpersons: Julia Bukowski (U.S.A.), Ilie Popescu (Canada)

Simulation Modeling for Access Path Maintenance in Data Base Management - Y. Uckan (U.S.A.).

A New Methodology for Predicting Software System Performance - J.V. Bukowski, M. Baykal (U.S.A.).

Simulation Program Reusability Based on a Data-Flow System - A. Soceneantu, W. Breitenstein (U.S.A.).

A Potential Application of Fuzzy Set Theory to Software Testing - J.V. Bukowski, N.X. Chen (U.S.A.).

Language Planning in a Bicultural Environment - C. Lucas, E. Nercissians (Iran).

Transportation Energy Demand from 1980 to 2010: Structure and Results of the Transportation Energy and Emissions Modeling System - A. Vyas, M. Millar, P. Patterson (U.S.A.).

On the Knowledge Based Backtracking Expert Systems - I. Popescu (Canada).

Independent Process Resource Handling - A. Soceneantu (U.S.A.).

Simulation Craft: An Expert System Approach to Simulation Model Creation - V. Baskaran, M. Fox, N. Sathi, J. Bouer (U.S.A.).

Human Factors Simulation and Artificial Intelligence: Person-Machine Simulation in Future Transportation Research - W.F. Woodman, K.A. Brewer (U.S.A.).

Simulating the Flow-Graph Projection Method - J. Czyzowicz, M. Iglewski (Canada).

Resistance to Artificial Intelligence in Transportation Management - K.A. Brewer, W.F. Woodman (U.S.A.).

Adapting Routing Simulation Package - A Comparative Study - N.M.A. Ayad, F.A. Mohamed (U.S.A.).

Line Break Algorithm for Dot-Matrix Printers - T.S. Narayanan, A.K. Nanda (Mexico).

Friday, June 6, 1986

8:30   Session 11   اجلاس یازدهم

Chairpersons: W.E. Pinebrook, Russell E. Trahan (U.S.A.)

Evolutionary System Optimization - W.E. Pinebrook (U.S.A.).

Optimization and Numerical Design of Dynamic Vibration Absorber Systems - R. Luoma, M.J. Young (U.S.A.).

Digital Feedback Processor Optimization by Gradient Method - B.S.M. Granborg (U.S.A.).

Theoretical Analysis of Unsaturated Flow in a Swelling Soil - R.N. Yong, D.M. Xu, P. Boonsinsuk, S.C.H. Cheung (Canada).

Modeling Heat and Mass Transfer in Catalytic Wood Gasification - M.D. Brown, R.J. Robertus, L.K. Mudge, E.G. Baker (U.S.A.).

Application of Statistical Analyses to Embankment Design - S.D. Koppula (Canada).

Simulation of Miscible Displacement in Porous Media Using the SCHOS Scheme - A. Nouar, D.L. Flock (Canada).

Optimum Conjunctive Allocation and Use of Surface and Ground Water in Varamin - Iran - A. Tavakoli (U.S.A.).

Modelling Political Elections: An Attempt to Achieve Fair Representation - M. Gassner (Belgium).

Kinematic Modelling and Graphic Simulation of Path Planning for Mobile Vehicles - R.D. Palmquist, J.P.H. Steele (U.S.A.).

Closed Loop End Piece Control of a Servo Controlled Manipulator - D.B. Cherchas, D.C. Boucher (Canada).

Optimal Experiment Design for Multistage Estimation - L.Z. Koszalka (U.S.A.).

A Quasi-Random Method for the Optimization and Integration of Functions - J.P. Lambert (U.S.A.).

Optimization of Tool Geometry and Cutting Condition for Machining Surfaces with High Integrity - M.M. Elkhabeery (Egypt).

Optimal Experiment Design for Closed-Loop Systems - G.A. Elkobrosy (Egypt).

Problem-Solving and Knowledge-Based Learning in Science - G. Pallrand, D. Husain, N. Moyer (U.S.A.).

Numerical Analysis of Movement of Soil Confined Between Two Unyielding Boundaries - R.N. Yong, P. Boonsinsuk (Canada).

8:30   Session 12   اجلاس دوازدهم

Chairpersons: K.P. Lam, Oleg G. Vinogradov (Canada).

Self Motion of a 9R Redundant Robot - K.P. Lam (Canada).

Real-Time Simulation of a Distributed Teleoperator System - M. Salganicoff, F. Austin, C.P. Fong (U.S.A.).

Dynamic Modelling of Flexible Manipulators - K.H. Low, R.N. Dubey (Canada).

On Interference Free Frequency Hopping Codes for Multiple Access - D.B. Jevtic, H.S. AlKhatib (U.S.A.).

Simulation of Motion of Cluster of Ice Floes - O. Vinogradov, P. Wierzba (Canada).

Simulation of the Mechanical Behaviour of Ice - W. Szyzkowski, P.G. Glockner (Canada).

Supercomputers in Simulation of 3-D Fluid Flow - O. Buneman, Y. Shiran (U.S.A.).

Thermalhydraulics Analysis on Surface Rippling During Laser Material Processing: Part II - Transient Solutions - S.-S. Hsieh, A.C. Ku (R.O.C.).

On the Decomposition of Stochastic Distributed Systems into Slow Systems and Fast Systems by Using a Distributed Fokker-Plank-Kolmogorov Equation - G. Jumarie (Canada).

Optimal Quota-Share Reinsurance Treaty - F. Abikhalil (Belgium).

The Simulation of a Coordinated Robotic System - M.R. Zomlefer, D. Khalili (U.S.A.).

An Efficient Method for Simulating the Dynamics of a Robot Manipulator and its Controller - M.T. Adams, P.D. Lawrence (Canada).

Modelling and Simulation of a Mobile Platform Robot - C. Jaluba, A.A. Goldenberg, R.G. Fenton, B. Benhabib (Canada).

An Experimental Stochastic Noise Model for Determining Flow Velocities in a Two-Phase System - C.D. Rakopoulos, N.S. Vlachos (Greece).

13:30   Session 13   اجلاس سیزدهم

Chairpersons: R.C. Flanagan (Canada), Paraschos Maniatis (U.S.A.)

Simulation Model of a Manufacturing Cell Using GPSS V - D.E. Douglas (U.S.A.).

Individual Research in Swedish Industries Concerning Materials Handling, Plant Layout, Work Environment, and Protection - P. Maniatis (U.S.A.).

GPSS Simulation of DDT Manufacture - C.R. Blaylock, C.O. Morgan, J.T. Sommerfeld (U.S.A.).

A Study of the Damping Capacity of Shrink-Fitted Assemblies Subjected to Cyclic Torque by Iterative Method - M.G. Lau (Canada).

A Regression Process Applied to Model Structure Determination - J.C. Wang (U.S.A.).

Development and Evaluation of a Diesel Engine Thermodynamic Model - R.C. Flanagan, Y.Q. Xia (Canada).

Buckling of Large Span Frameworks Under the Effect of Member Axial Force and Soil-Structure Interaction - B.A. Ovunc (U.S.A.).

Simulation, Flight Testing and Modeling of RSRA Fixed-Wing Dynamics - M.Y. DeMiroz (U.S.A.).

Effects of Carbondioxide Leaning in Hydrogen Fueled I.C. Engines for Reduction of Nitrogen Oxides Emissions - K. Balagurunathan, R. Badrinarayanan, R. Raghavan (India).

The Use of Digital Signal Processors for the Control Loading System of a Flight Simulator - A. Diamant, A. Goytia, A. Herrera (Mexico).

Improving Ride Quality Through Cab Isolation Systems - M.M. ElMadany, M. Tibawi (Saudi Arabia).

General Purpose Nonlinear Finite Element Computer Program for Use in Automobile Crashworthiness Analysis - K.S. Yeung (U.S.A.).

Two-Dimensional Rectangular Cutting Stock Problem - C.H. Dagli (U.S.A.).

Computer Modelling of Gas Turbine Cycles - V.J. Lopardo (U.S.A.).

13:30   **Session 14** اجلاس چهاردهم

       Chairpersons: Dan Ionescu (Canada), S. Das Gupta (U.S.A.)

Accurate Frequency Tracking Using Autoregressive Spectral Analysis - C.Y. Choi, D. Ionescu, W. Steenaart (Canada).

Computer Aided Manufacturing Planning and Control Expert Model - C.-H. Chang, T.G. Steiner (U.S.A.).

Simulation Expert-System for Dynamical Processes - D. Ionescu, I. Popescu, I. Trif (Canada).

Simulation of Multistage Interconnection Networks in a Packet Communication Environment - V. Lopez De Buen (Spain).

Boundedness Checking in Extended Petri Nets - W.M. Zuberek (Canada).

An Automated Diagnostician for Hardware Faults in Digital Systems - T.H. Yeap, T.H. Szymanski, W.M. Snelgrove, S.G. Zaky (Canada).

Improving the Routing Steps for ILLIAC-IV Computer - C.S. Yang, J.F. Wang, J.Y. Lee (R.O.C.).

An Interactive Editor for Real Time Oriented Data Bases - S. Ran, F. Martin-Polo, R. Meixner, E. Aguirre (Mexico).

A Microcomputer-based Low Cost Process Control Training Simulator - K.W. Lim, C.C. Hang, C.C. Lim (Singapore).

An Experimental Comparison of Two Adaptive PID Schemes on a Heat Exchanger - C.C. Lim, K.W. Lim, C.C. Hang (Singapore).

Simulation of Microprogrammable Controllers as an Aid for Undergraduate Lab - S. Das Gupta, C. Batcho, V. Sklaar, R. Mohebbi (U.S.A.).

Noise Performance of a Digital Tanlock Loop - C.A. Pomalaza-Raez, W.J. Hurd (U.S.A.).

A Queueing Model for Synchronous Parallel Processing in Multiple-Computer Systems - L.-M. Tseng, Y.-M. Chen (R.O.C.).

Multimicroprocessor-based Parameter-Optimized Adaptive Control Based on an On-Line Asynchronous Identification - Y. Luzing, W. Shouping, S. Haibo, Z. Yming (P.R.C.).

13:30   **Session 15** اجلاس پانزدهم

       Chairpersons: T.B.A

Modelling of Cost Estimates for Hazardous Site Cleanups - H. Erodgen, H.-N. Hsieh (U.S.A.).

On-Line Structure Selection for Multivariable Continuous Time Input-Output Models - A.H. Abu-El-Magd, N.K. Sinha (Canada).

A Novel Shunt Microprocessor Controlled Fault-Current-Limiter - E.F. King, A.Y. Chikhani, M.H. Rahman, R. Hackman (Canada).

On Jumping Processes in Computer Modelling - D. Ionescu (Canada).

Expert System Simulation Generator for Discrete Systems - G.N. Pitts (U.S.A.).

Line Break Algorithm for Dot-Matrix Printers - T.S. Narayanan, A.K. Nanda (Canada).

A Greedy Algorithm for a Class of Linear Programs - G. Calvillo, D. Romero (Mexico).

Time-Domain Modeling of Automotive Transients - R. Kumar (U.S.A.).

Simulation and Control of the Dehydration Process - H.C. Wood, K.S. Jawanda, S. Sokhansanj (Canada).

Simulation of a Pocket Radio Protocol on a Voice Network - D.R. Smith, E.J. Mifflin (Canada).

Effects of Using Semiconductors in Industrial Applications Upon Electrical Networks - A.I. Said (Egypt).

Physical Modelling and Simulation of a Solar Still - C. Wu, T.S. Kymn, P.W. Springer (U.S.A.).

The Effect of High Temperature Ceramics on the Performance of Large 2-Stroke Diesel Engines - N.P. Kyrtatos (Greece).

An Experimental-Stochastic Analysis Procedure for Investigating the Cyclic Dispersion in a Petrol Engine - N.S. Vlachos, C.D. Rakopoulos (Greece).

On Active Suspension Design of Ground Vehicles Using Observers - F. Al-Sulaiman (Saudi Arabia).

Simulation of the Chatter Phenomenon in Metal Cutting - I. Pandelidis, I. Minis (U.S.A.).

A Comparison Between the Running Characteristics of a Power Driven and Non-Driven Trailer - A.M. Abou El-Einene (Egypt).

On Tool Damage in Electrochemical Machining Processes - M.S. Hewidy (Egypt).

Short-Cut Formulas to Compute the Theoretical Number of Stages in a Distillation Column with Attached Intermediate Reboiler - A. Naimpally (U.S.A.).

Risk Analysis in Corporate Modelling - D.J. Harris (U.K.).

Model of Telescope in Laser Communications - Z. Ge (Canada).

On the Parameter Estimation of Armax Model - G.A. Elkobrosy (Egypt).

A System for Controlling a Programmable Automated Carrier - J.A. MacDonald, D.B. Roberts (Canada).

Modelling of Recurring Patterns of Measurements by Component Analysis - T.N. Goh (Singapore).

A Cellular Array to Find a Maximum of a Set of Numbers - M.A. Alturaigi (Saudi Arabia).