

THE SECOND INTERNATIONAL CONFERENCE ON MODELING, SIMULATION, AND APPLIED OPTIMIZATION

THE PETROLEUM INSTITUTE

Abu Dhabi, UAE
March 24-27, 2007



PRELIMINARY PROGRAM

ISBN 978-9948-03-349-3

EAN 9789948033943



The Petroleum Institute will host the second international conferences on modeling, simulation and applied optimization. The conference provides a forum for International groups of engineers and scientists, from academia and industry, to discuss their most recent work in modeling and simulation of processes and systems. The Conference will include tutorials, keynotes, technical presentations, special sessions, and Engineering Management related workshops.

ORGANIZING COMMITTEE

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CONFERENCE TOPICS

Two hundred and fifty technical papers on the following topics have been accepted for presentation at the Conference:

- Simulations and modeling in the oil and gas industry
- Power and energy related systems
- Electric Power Systems
- Statistical and probabilistic modeling
- Robotics and mechatronics and optimal control
- Modeling and control in smart materials
- Micro and nano systems
- Modeling and identification
- Numerical methods
- Artificial intelligence
- Optimization theory and Algorithms
- Communications and networking

PARTICIPATING JOURNALS

Papers presented at the conference will be published in the conference proceedings. Of these selected papers will be published in special issues of the following well recognized peer reviewed international journals:

- The International Journal Integrated Computer-Aided Engineering.
- The Journal of Applied Mathematics and Computation.

KEYNOTE LECTURES

The following keynote lectures by leading researchers and industry leaders will be delivered during the conference:

- **The Role of Education in Sustainable Development**
Professor Amadou - Mahtar MBow
Former Director General of UNESCO
- **Computational Methods for Enterprise-wide Optimization of Process Industries**
Professor Ignacio E. Grossmann
Department of Chemical Engineering
Carnegie Mellon University
- **Wavelets to Enhance Computational Intelligence**
Dr. Hojjat Adeli
Abba F. Lichtenstein Professor,
Biomedical Informatics, Aerospace,
Electrical and Computer Engineering, Civil and
Environmental Engineering and Geodetic Science.
Ohio State University, U.S.A
- **Reservoir Simulation: Unruly Teenager or Mature Adult?**
Dr. Garf Bowen
Schlumberger, U.S.A
- **Modeling of Natural Systems: Ecohydrology of A Cloud**
Professor Elfatih A. B. Eltahir
Department of Civil and Environmental Engineering
Massachusetts Institute of Technology, U.S.A
- **The Role of Science and Technology in Sustainable Development**
Professor Ahmad Zaharudin Idrus,
Chairman, Malaysian Biotechnology Corporation
President, Academy of Sciences Malaysia
Former Advisor to the Prime Minister of Malaysia
on Science and Technology
Joint Chairman, Malaysian Industry-Government Group for
High Technology

TUTORIALS

During the course of the conference the following tutorials will be offered to interested participants:

- **Global Optimization Techniques -- Application to Models History Matching and Field Development**
Professor Shawket G. Ghedan
The Petroleum Institute, U.A.E
- **Industrial Power Systems**
Professor Ali Mihrigg
AM Power Systems Inc. Vancouver, Canada

Who should attend: Engineers, geologists, geophysicists, asset team leaders and managers who want to get an overview of the reservoir optimization technology and its application to dynamic simulation models construction and optimization of full field development plan.

- **Harmonics and Power Quality Control in**

Who should attend: Practicing engineers and consultants in electric power systems. This tutorial is also useful to academicians and researchers in this area.



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- **Vibration-Control Systems: Conceptual Design, Recent Developments and Practical Implementation**

Professor Nader Jalili
Department of Mechanical Engineering
Clemson University, U.S.A

Who should attend: Mechanical Engineers, academicians working, researching and teaching vibrations and controls and graduate students.

- **Statistical Process Control for Improved Financial Performance in the Petroleum Industry**

Professor Bruce R. Palmer
The Petroleum Institute, U.A.E.

Who should attend: Operation engineers, managers and scientists involved in process and quality control. Maintenance engineers analyzing maintenance records for decline equipment reliability and accountants performing financial analysis for chemical operations.

- **Power Electronics: Recent Developments and Applications**

Professor Abdul Rahiman Beig
The Petroleum Institute, U.A.E.

Who should attend: Practicing engineers and consultants in electric drives, power electronic systems and industrial automation systems. This tutorial is also useful to academicians and researchers in these areas.

- **Application of Computational Fluids Dynamics (CFD) Analysis to the Thermal Design of Electronic Equipment**

Professor Peter Rodgers
The Petroleum Institute, U.A.E.

Who should attend: Engineers, managers and scientists involved in the thermal management of electronic systems. It is aimed at participants with varying expertise levels in CFD, from novice to advanced.

SPECIAL SESSIONS

- **Advances in Wireless and Multimedia Communications**
- **Process Optimization**
- **Applications of Wavelet Methods in Oil Industry**
- **Pure and Applied Mathematics**

FULL DAY WORKSHOPS

Project Management Skills
Professor Matej Zajc, Senior IEEE
University of Ljubljana, Slovenia
Saturday, March 24, 2007

Development of Leadership Skills
Professor Kurt R. Richter, Fellow IEEE
Technical University of Graz, Austria
Sunday, March 25, 2007

REGISTRATION

Regular	USD 300
Students	USD 100
Tutorials	USD 50/Tutorial

Contact:

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