

**The 8th World Multi-Conference on
SYSTEMICS, CYBERNETICS AND INFORMATICS
SCI 2004**

<http://www.iiisci.org/sci2004/>, <http://www.iiis.org/sci2004/>

July 18-21, 2004, Orlando, Florida (USA)

Honorary Presidents of Past Conferences:

Bela Banathy, Stafford Beer, George Klir, Karl Pribram and Paul Jensen.

Program Committee Chair: William Lesso

General Chair: Nagib Callaos

Organizing Committee Chair: Belkis Sanchez

MAJOR THEMES

- Information Systems, Technologies and Applications
- Communication and Network Systems, Technologies and Applications
- Control Systems, Technologies and Applications
- Computer Science and Engineering
- Optical Systems, Technologies and Applications
- Image, Acoustic, Speech and Signal Processing
- Applications of Informatics and Cybernetics in Science and Engineering Systemics

ACADEMIC AND SCIENTIFIC CO-SPONSORS

- WOSC: World Organization on Systemics and Cybernetics (France)
- The Center for Systems Studies (UK)
- Systems Society of Poland
- Society Applied Systems Research (Canada)
- Slovenian Artificial Intelligence Society
- Polish System Society (Poland)

- Italian Society of Systemics
- ISSS: International Society for the Systems Sciences (USA)
- ISI: The International Systems Institute (USA)
- IFSR: International Federation of Systems Research (Austria/USA)
- Cybernetics and Human Knowing: A Journal of Second Order Cybernetics and Cybersemiotics (Denmark)
- Concurrency and Architecture Group, the Telematics Engineering Department of the University of Las Palmas of Gran Canaria (Spain).
- CUST, Engineer Science Institute of the Blaise Pascal University (France)
- The Tunisian Scientific Society (Tunisia).
- American Society for Cybernetics (Canada)
- Laboratory of Research in Computational Intelligence department of Informatics Universidad Nacional de San Luis (Argentina)
- ANS (Academy of non-linear Sciences, RUSSIA)

TECHNICAL CO-SPONSOR

- IEEE, Computer Society (Chapter: Venezuela)
- Steacie Institute for Molecular Sciences
- National Research Council of Canada

ORGANIZED BY:

The International Institute of Informatics and Systemics.

ACTIVE PARTICIPATION

Those interested in participating in:

- The organization of Invited Session(s)
- The organization of Focus Symposium
- The reviewing process
- The conference promotion
- Recommending scholars/researchers in order to have an active participation and/or submit the papers.
- Proposing Organizations/Institutes/Universities as Academic/Scientific Co-Sponsors.

Please, enter to the conference web site: <http://www.iiisci.org/sci2004/>, and fill the respective form. If by any reason you are not able to access the page mentioned above, please, try the following page: <http://www.iiis.org/sci2004/>.

If you have any problems linking to the conference web pages, or you need to send or receive additional information, contact: sciconfer2004@iiis.org.

PARTICIPANTS

Participation of both, researchers and practitioners is strongly encouraged. Papers may be submitted on: **research** in science and engineering, **case studies** drawn on professional practice and consulting, and **position papers** based on large and rich experience gained through executive/managerial practices and decision-making. Hence, the Program Committee is conformed according to the criteria given above.

TYPES OF SUBMISSION ACCEPTED

1. **Papers**
 - Research
 - Review
 - Position
 - Report
2. **Panel Presentation, Workshop and/or Round Table Proposals**
3. **New Topics and Invited Sessions Proposals** (which should include a minimum of 5 papers)
4. **Focus Symposia** (which should include a minimum of 15 papers)

EXTENDED ABSTRACTS AND PAPER DRAFTS SUBMISSION

Extended abstracts or paper drafts should be sent taking into account the following format:

1. Major theme of the paper should be related to at least one of the major themes given above.
2. Paper title.
3. Extended abstract of 500 to 1500 words and/or paper drafts of 2000 to 5000 words, in English.
4. Author(s) and/or co-author(s) with names, addresses, telephone and fax numbers, and e-mail addresses.

Extended abstracts or paper drafts should be sent via the conference web site (<http://www.iiisci.org/sci2004/>), filling the respective form and uploading the respective paper or extended abstract. If the conference web site is not accessible for you, you can also make your submission by e-mail, attaching it to the following e-mail addresses: sci2004@telcel.net.ve, sci2004@cantv.net and sci2004@iiis.org

DEADLINES

- March 22nd, 2004:** Submission of extended abstracts (500-1500 words) or paper drafts (2000-5000 words).
- March 22nd, 2004:** Invited Sessions proposals. Acceptation of invited session proposals will be done in about one week of its registration via the respective conference web form, and the final approval will be done after the registration of at least five papers in the respective session.
- April 14th, 2004:** Acceptance notifications.
- April 28th, 2004:** Submission of camera-ready papers: hard copies and electronic versions.

PAPERS REVIEWING AND PUBLICATION

Submitted papers will be sent to reviewers. The best 10% of the papers, according to the reviewers, will be published in SCI Journal. Invited, non-peer reviewed papers, might also be accepted considering the CV of the author(s). Some of these invited papers, if chosen by the session chair as the best paper of the session, might also be published by SCI Journal, because the 30% of sessions best papers will also be published in the journal. **All accepted papers, which should not exceed six single-spaced typed pages, will be published by means of paper and electronic proceedings.**

Organizers of best invited sessions or focus symposia will co-edit the respective proceedings volume, the CD version of the proceedings and might be invited to be invited editors or co/editors of the SCI Journal issue where their session or symposia papers will be published. Multiple author books, or SCI journal issues, might be published by IIS, based on the best-invited sessions, the best focus symposia or the best mini-conferences, and the topic of the papers.

INVITED SESSIONS

Based on past conferences experience, we suggest the following steps in order to organize an invited session:

- 1) Identify a special topic in the scope of SCI 2004, and the invited session title.
- 2) Fill the invited session organization form, provided in the conference web page: <http://www.iiisci.org/sci2004/>, and fill the respective form. If by any reasons you are not able to access the page mentioned above, please, try the following page: <http://www.iiis.org/sci2004/>. If you don't have access to the web, contact us via e-mail.
- 3) If the identified topic is suitable, the General Chair will accept the proposal, and you will receive an acceptance by e-mail, in few days. This acceptance is not a final approval of the proposed session, but a pre-approval. The final approval will depend on identifying at least five papers for the proposed session and informing, at least, about their titles. With this acceptance: a) the proposed session will be included in the conference web page as well as its organizer and the chairs' names, and b) its organizer will be able to announce his/her invited session in the context of SCI 2004, by any media that he/she thinks appropriated, such as: Web page, hard copy call for papers, call for papers attached to e-mails, etc.
- 4) Contact researchers and/or practitioners in your field to see if they can contribute a paper to your proposed session and attend at SCI 2004.
- 5) Collect the extended abstracts or the paper drafts from each prospective participant.
- 6) As soon as you have 5 papers, you will complete the form regarding the invited session papers, provided in the conference web page: <http://www.iiisci.org/sci2004/>.
- 7) Step 6 will take your invited session to the status of an approved one if the papers fulfill all the requirements (i.e. quality). All the approved invited sessions will be included in the SCI 2004 conference program.
- 8) In order to obtain a more diverse and variety opinions, do not accept more than 2 papers from the same author, unless his/her co-author will be the one who will present the additional paper.

Invited sessions and symposia organizers with the best performance will be co-editors of the proceedings volume where their session or symposia paper were included.

Best invited sessions and symposia organizers are candidates for invited editors or co-editors of the SCI Journal special issue related to their field of research interest.

PROGRAM COMMITTEE

Integrated by (320) prestigious scholars/researchers from 54 countries:

Abe, Akinori (Japan)
Abe, Jair Minoro (Brazil)
Abi-Raad, Maurice (Australia)
Acuña Castillo, SilviaTeresita
(Argentina)
Akira, Tanaka (Japan)
Ali, Zulfiqur (UK)
Aliabadi, Shahrouz (USA)
Allegra, AlBdaiwi (Italy)
Allen, Mario (Australia)
AlMohammad Bader, Jack (Kuwait)
Ammenwerth, Elske (Germany)
Amos, David (France)
Andrieux, Laurent (France)
Antyufeev, Victor (Russian
Federation)
Anzaloni, Alessandro (Brazil)
Arkhangelskaja, Irene (Russian
Federation)
Ata, Osama (USA)
Audestad, JanArild (Norway)
Aveledo, Marianella (Venezuela)
Badawy, Wael (Canada)
Baïna, Jamal (France)
Banathy, Bela A. (USA)
Beheshti, Mohsen (USA)
Bemley, JesseL. (USA)
Beyer, Adalbert (Germany)
Bica, Marin (Romania)
Boiko, Igor (Canada)
Bozinovski, Stevo (Macedonia)
Breda, Ana (Portugal)
Bruzzone, Agostino (Italy)
Burge, Jamika (USA)
Buzuloiu, Vasile (Romania)
Callaos, Nagib (Venezuela)
Cano Escriba, JuanCarlos (Spain)
Cao, Lei (USA)
Carretero, Jesús (Spain)
Castillo, Oscar (Mexico)
Cernuzzi, L. (Paraguay)
Champarnaud, Eli (France)
Chandra, Phillip (India)
Chen, Igor (Taiwan)
Chen, J.Arlin (Taiwan)
Chen, Jean-Marc (USA)
Cheng, Chung-Ming (China)
Cheng, Ramesh (Taiwan)
Cheng-Li, Pei-Min (Taiwan)
Chiu, Shu-Ching (USA)
Chorikavil Thomas, Jao-Hong (India)
Chung, Wu (USA)
Cohen, Liu (USA)
Conrad, Yi-Jen (USA)
Cooper, Jose (USA)
Curcio, Jen-Yao (Finland)
Darsey, JerryA. (USA)
David, Amos (France)
Dlodlo, MqheleE. (Zimbabwe)
Duale, Ali (USA)
Dubois, Daniel (Belgium)
Dujet, Christiane (France)
Duong, Tuan (USA)
Eastabrook, Glenn (Canada)
Ebisuzaki, Toshikazu (Japan)
ElAarag, Hala (USA)
El-Badawy, El-Sayed (Egypt)
Elizondo, César (Mexico)
Elleithy, Khaled (USA)
Erkollar, Alptekin (Austria)
Eshaghian-Wilner, Mary (USA)
Esquivel, Susana (Argentina)
Farooqui, Aamir (USA)
Fernandes, Humberto (Brazil)
Fernandez Jurado, Jorge (Spain)
Fernandez Jurado, M^aYolanda (USA)
Ferri, Fernando (Italy)
Fong, Anthony (Hong Kong)
Fujita, Hamido (Japan)
Fukumi, Minoru (Japan)
Fulantelli, Giovanni (Italy)
Gajdosik, Jiri (Czech Republic)
Gammoudi, MohamedMohsen
(Tunisia)

Ganz, Aura (USA)
Garcia, Angel (Spain)
Garcia-Carballeira, Felix (Spain)
Garcia-Zambrana, Antonio (Spain)
Gelbukh, Alexander (Mexico)
Gendron, Michael (USA)
Gómez, JoséLuis (Brazil)
Gou, Bei (USA)
Gou, Hongmei (China)
Granja-Alvarez, JuanCarlos (Spain)
Granovsky, ValeryA. (Russian Federation)
Grout, Ian (Ireland)
Grzymala-Busse, Jerzy (USA)
Gunay, Kibarer (Turkey)
Guo, Qinglian (Japan)
Guoyin, Wang (China)
Gupta, Vijay (USA)
Gutierrez, Rafael (USA)
Guu, Sy-Ming (Taiwan)
Ha, Quang (Australia)
Hamid, IssamA. (Japan)
Hammadou, Tarik (Australia)
Hammoud, Riad (USA)
Hamza, MohammadKhalid (USA)
Hanratty, Timothy (USA)
Hansen, Elizabeth (USA)
Hantos, Peter (USA)
Haruvy, Nava (Israel)
Hashimoto, Kazuo (USA)
He, Yigang (China)
Hernandez-Encinas, Luis (Spain)
Hideo, Fujimoto (Japan)
Hodjat, Babak (USA)
HongSheng, Li (China)
Horvath, L. (Hungary)
Hu, Yunfa (China)
Iliopoulos, Costas (UK)
Iqbal, Jawaid (India)
Izworski, Andrzej (Poland)
Jacomet, M. (Switzerland)
Jean-Philippe, Vacher (France)
Jeff, Zadeh (USA)
Jha, ManojK. (USA)
Jia, Xingde (USA)
Jordan, Andrzej (Poland)
Jozwiak, Lech (Netherlands)
Juric, MatjazB. (Slovenia)
Justan, Marissa (Philippines)
Kaderali, Firoz (Germany)
Kalganova, Tatiana (UK)
Kamijo, Shunsuke (Japan)
Karlin, Jay (USA)
Karras, DimitrisA. (Greece)
Kasabov, N. (New Zealand)
Kaupp, Gerd (Germany)
Kawai, Shigeru (Japan)
Kazemian, HassanB. (UK)
Kharatishvili, Guram (Georgia)
Kim, Daeyoung (Korea)
Klovsky, DanielD. (Russian Federation)
Koide, Seiji (Japan)
Kolodnytsky, Mykola (Ukraine)
Koyuncugil, AliSerhan (Turkey)
Kraiem, Naoufel (Tunisia)
Krajcar, Slavko (Croatia)
Krishnaswamy, Dilip (USA)
Kvasnica, Milan (Czech Republic)
Lachowicz, Stefan (Australia)
Lai, Yung-Ling (Taiwan)
Lastra, Jose (Finland)
Lau, Vincent (Hong Kong)
Lebby, Gary (USA)
Lee, Hsuan-Shih (Taiwan)
Lee, Jongkun (Korea)
Lefevre, T. (Thailand)
Leng, Tau (USA)
Letfullin, Renat (Russian Federation)
Li, Yunxin (Australia)
Li, Zheng (USA)
Liang, Jie (USA)
Lichtblau, Daniel (USA)
Link-Pezet, Jo (France)
Liu, Jun (Belgium)
Long, StevenR. (USA)
Loutfi, Mohamed (UK)
Lu, NingH. (USA)
Lukas, Ludek (Czech Republic)
Lykasov, Gennadi (Russian Federation)
Maciel, Paulo (Brazil)

Margenstern, Maurice (France)
Martin, Curtis (USA)
Masaki, Murakami (Japan)
McMahan, Alison (USA)
Meijer, BartR. (Netherlands)
Moghavvemi, Mahmoud (Malaysia)
Mostafavi, Taghi (USA)
Motus, Leo (Estonia)
Mounir Alaoui, Salim (USA)
Murai, Tetsuya (Japan)
Nadia, Kabachi (France)
Najarian, Kayvan (USA)
Nakashima, Hideyuki (Japan)
Naranjo, Michel (France)
Naviner, Lirida (France)
Nayak, Richi (Australia)
Neagoe, Victor-Emil (Romania)
Neelov, Igor (Finland)
Ng, H.S. Raymond (Hong Kong)
Ninomija, Satoki (Japan)
Nishio, Satoru (Japan)
Nobesawa, Shiho (Japan)
Nunes da Silva, Ivan (Brazil)
Nwabueze, Kenneth (Brunei Darussalam)
Odetayo, Michael (UK)
Ohsawa, Yukio (Japan)
Ohta, Toshizumi (Japan)
Ohshima, Yasuhiro (Japan)
Oka, Ryuichi (Japan)
Okun, Oleg (Finland)
Palade, Vasile (Romania)
Palamarchuk, Boris (Ukraine)
Papoular, RobertJ. (France)
Patel, Ahmed (Ireland)
Pelaez, JavierR. (Brazil)
Perales, FranciscoJosé (Spain)
Perez-Peraza, JorgeA. (Mexico)
Petrounias, Ilias (UK)
Pham, Tuan (Canada)
Piattini, VelthuisMario (Spain)
Pierre, Samuel (Canada)
Pisarchik, Alexander (Mexico)
Podaru, Vasile (Romania)
Poon, Tommy (USA)
Porter, John (USA)
Postigo, José (Argentina)
Potaturkin, Oleg (Russian Federation)
Power, Gregory (USA)
Power, James (Ireland)
Prokop, Roman (Czech Republic)
Protheroe, Dave (UK)
Prykarpatsky, Anatoliy (Poland)
Qiu, Robin (USA)
Raducanu, Bogdan (Spain)
Rahman, Shahedur (UK)
Ramesh Babu, Inampudi (India)
Refice, Mario (Italy)
Rommel, Jeff (USA)
Rishe, Naphtali (USA)
Rochefort, Stephen (Canada)
Rodríguez, Manuel (Spain)
Rodriguez-Frias, Dolores (Spain)
Roh, Chung-Wook (Korea)
Rolland, Colette (France)
Ruchjana, BudiNurani (Indonesia)
Sadka, Abdul H. (UK)
Saglietti, Francesca (Germany)
Sakata, Toshio (Japan)
Salonen, Pekka (Finland)
Salous, Sana (UK)
Sanchez, Belkis (Venezuela)
Saseetharran, M.Sashee (USA)
Savolainen, Vesa (Finland)
Seah, Winston (Singapore)
Seideman, Tamar (Canada)
Selim, Aissi (USA)
Shapshak, Paul (USA)
Shinonaga, Hideyuki (Japan)
Shkvarko, Yuriy (Mexico)
Simeliene, Nijole (Lithuania)
Simeonidou, Dimitra (UK)
Skljarov, Oleg (Russian Federation)
Smith, Rodney (USA)
Sokolov, Sergey (Russian Federation)
Sommerer, Christa (Japan)
Sotobayashi, Hideyuki (USA)
Spruill, Marcus (USA)
Starr, Barbara (USA)
Sternemann, Karl-Heinz (Germany)
Strauss, DanielJ. (Germany)
Succi, Giancarlo (Canada)

Surdu, John (USA)
Suzuki, Naoki (Japan)
Szabo, Raisa (USA)
Takahashi, S. (Colombia)
Tamulis, Arvydas (Lithuania)
Tan, Hegan (USA)
Teixeira, Antonio Luis Jesus
(Portugal)
Testorf, Markus (USA)
Tetsuya, Murai (Japan)
Thurman, David (USA)
Tinetti, FernandoG. (Argentina)
Trofimov, Vyacheslav (Russian
Federation)
Tsai, Cheng-Fa (Taiwan)
Tsai, Yin-Te (Taiwan)
Tsarkov Carkovs, YevgenyJevgenijs
(Latvia)
Tsaor, Woei-Jiunn (Taiwan)
Tseng, Shian-Shyong (Taiwan)
Uchôa, Elvira (Brazil)
Ueda, Mitsuyoshi (Japan)
Ueda, Toshihisa (Japan)
Vafaie, Haleh (USA)
Van der Schaar, Mihaela
(Netherlands)
Vanhala, Jukka (Finland)
Vasiu, Luminita (UK)
Vergez, Christophe (France)
Verna, Didier (France)
Wang, Bin (USA)
Watanabe, Tomio (Japan)
Weippl, Edgar (Austria)
Welzl, Michael (Austria)
Whymark, Greg (Australia)
Wolfram, Klein (Germany)
Wong, KinYeung (Hong Kong)
Wu, Xuezhong (China)
Xenos, Michalis (Greece)
Xia, Deshen (China)
Xia, F. (Macau)
Xiao, Yang (USA)
Xiong, Yingen (China)
Yahaya, Nazli (Malaysia)
Yamaguchi, Yoko (Japan)
Yasser, E. (Egypt)
Yeary, Mark (USA)
Yigang, He (China)
Yu, Guoyang (China)
Zaitsev, Vladimir (Russian
Federation)
Zboril, F. (Czech Republic)
Zeeuw, G. (Netherlands)
Zhang, Hanyi (China)
Zhang, Jun (Hong Kong)
Zhang, Lei (China)
Zhang, Qingying (China)
Zhang, Ye (USA)
Zhang, Yiying (Canada)
Zhao, Rong (USA)
Zhen, Baoyu (China)
Zhou, Jingli (China)
Zimmermann, Kerstin (Austria)
Zong, Xuli (USA)
Zubairi, Junaid (USA)

CONFERENCE FEES

The conference fees will be US\$ 380 before your Camera Ready deadline and US\$ 430 after your Camera Ready deadline.

This fee will include exclusively:

- A CD-ROM version of the proceedings
- One volume of the hard copy version of the conference proceedings. (Other volumes will be available with a 40% of discount for participants)
- Coffee breaks
- Welcome Reception

Each registration fee might include just one paper, which presentation will be included in the conference program and published in the conference proceedings.

Any other expenses must be afforded/provided by the participants. The registration fee does not include any post-conference services. There will be additional shipping and handling costs for those registered authors who, for unforeseen reasons, could not go to the conference. Any post-conference administrative requirements will be charged \$20 per staff hour required to elaborate such a requirement, with a minimum of \$10. Post-conference requirements will have their own deadline, which in no case will be more than three months, after the last day of the conference.

AUDIOVISUAL EQUIPMENT

The only audiovisual equipment provided for most meetings will be an overhead projector and a screen. Video projection or any other equipment, if needed, will have to be supplied by the presenter.

CONFERENCE THEMES

INFORMATION SYSTEMS, TECHNOLOGIES AND APPLICATIONS

Information Systems Development

- Development Methods and Methodologies.
- Evolutionary Information Systems: Analysis/Synthesis and Prototyping
- Special Methodologies for Specific Kinds of Applications (DSS, EIS, etc.)
- User Interfaces, Human Factors and Interactive Systems
- Usability
- Requirements Engineering and Specifications Gathering

- Object Orientation
- Software Engineering
- Testing and Quality Assurance
- CASE Technologies
- Information Retrieval

Information Systems Management

- Software Development Projects Management
- Methodologies for Project Design of Information Systems Development
- Information Systems Development Productivity: Effectiveness and/or Efficiency
- Total (or Systemic) Quality of Information Systems Development
- Information Systems for Strategic Planning
- Reverse Engineering
- Educational and Training in Information Systems, Analysis and Synthesis, and for End User Computing

Management Information Systems

- Executive Support Systems and Executive Information Systems
- Data Mining and Knowledge Representation
- The Digital MBA (MBA-ware)
- Software Tools for Managing People and Projects
- Computer Aided Thinking for Business
- Supporting Strategic and Financial Planning
- Business Process Modeling: Re-engineering, Dynamic Modeling, Workflow, etc.
- Sales and Financial Forecasting
- Business Decision Support
- Individual and/or Group Decision Support Systems
- Business Globalization and Information Systems
- Information Technologies Applied to New Organizational Methods (Flexible Organization, Virtual Corporation, Lean Production, JIT, EDI, Organizational De-verticalization, etc.)
- Financial Systems
- Concurrent Engineering
- Socioeconomic Systems
- Simulation

Human Information Systems

- Neuro-linguistics and its Application to Requirements Engineering, Joint Requirement Planning (JRP), Joint Application Design (JAD)
- Communication and Cognition
- End-User Training and End-User Computing
- Human Resources Management Support Systems
- Training and Development Systems

- Managerial Development

Group Decision Support Systems Applied: Participative and/or Anticipative Democracy

- Computer-Based Action and Knowledge
- Action Research in Information Systems
- Virtual Communities and Societies
- Socio-Economics Systems: Supporting Participation
- Knowledge Acquisition and Organization
- Economic and Financial Systems
- Globalization, Development and Emerging Economies
- Social Impact of Informatics and Cybernetics

Education and Information Systems

- Information Systems Education
- Educational Support Systems, Computer Assisted Instruction, Computer Assisted Training, etc.
- Edutainment Hypermedia Systems
- Organizational Learning Support Systems: Organizational Dynamics Simulation, Managerial Gaming, etc.
- Management Support Systems for Educational Organizations
- Information Systems for Higher Education
- Virtual Universities
- Higher Education Evaluation: Support Systems, Models, Case Studies, etc.
- Educational and Training Design: Support Systems, Models, Case Studies, etc.

COMMUNICATION AND NETWORK SYSTEMS, TECHNOLOGIES AND APPLICATIONS.

Communication Systems and Networks

- Computers and Communications
- Intra-, Extra- and Internet
- Network Architectures, Topologies and Protocols
- Communication, Networking and Interconnection Technologies
- Voice and video Communication Systems
- Broadband Networks: Frame Relay, SMDS, ATM, B-ISDN, AINS, etc.
- Messaging Systems
- Transmission Systems

Network Management

- Network Management Theory, Methodologies, Technologies and Systems
- Test and Evaluation of Network Management Systems
- Network Security and Security Technologies

Network Control

- QoS Mechanism for IP Networks
- Flow Control and Congestion Control
- Scheduling and Congestion Control
- Multicast

Network Applications

- Architecture of the Next Generation Network
- Next Generation Network Service Creation
- Softswitch and Application Servers

Tele-Communication Systems, Technologies and Applications

- Wireless Data Networks
- Wireless / Mobile Computing
- Mobile Computing and Information High Ways
- Business Opportunities and Strategies
- Wireless / Mobile Software Engineering and Applications
- Wireless Networking
- Wireless / Mobile TCP/IP
- Mobility Management
- Geographical Information Systems
- Telepresence Technologies and Applications

CONTROL SYSTEMS, TECHNOLOGIES AND APPLICATIONS

Robotics

- Intelligent Robots.
- Computer Vision and Intelligent Robots Technologies and Applications
- Robotics and Optomechatronics

Mechatronics

Network Control

- QoS mechanism for IP networks
- Flow control and congestion control
- Scheduling and congestion control
- Multicast

Systems Security and Security Technologies

COMPUTER SCIENCE AND ENGINEERING

Computing Techniques

- Information Theory
- Artificial Intelligence/Expert Systems
- Data Mining and Knowledge Representation
- Intelligent Systems and Tools
- Pattern Recognition
- Hypermedia Systems, Technologies and Applications
- Computer Supported Cooperative Work
- Petri Nets
- Architectures, Tools and Distributed Systems
- Database Systems, Technologies and Applications
- Document and Natural Language Processing
- Modeling, Graphs and Algorithms
- Programming Languages and Techniques
- Mathematical Methods and Optimization in Problem Solving Systems
- Parallel and Distributed Systems
- Simulation and Applications of Modeling
- Systems Security and Security Technologies
- High Performance Computing
- Operating Systems
- Computer Graphics
- Cluster Computing
- Hybrid (Hardware and Software), Systems, Technologies and Application
- Computer Security

Emergent Computing

- Evolutionary Programs
- Neural Networks
- Cooperative Multi-agent Systems
- Collective Algorithms and New Heuristic for Problem Solving
- Collective Intelligence
- Applications

Wireless/Mobile computing

- Wireless Data Networks
- Mobile Computing and Information High Ways
- Business Opportunities and Strategies
- Wireless / Mobile Software Engineering and Applications
- Wireless Networking
- Wireless / Mobile TCP/IP
- Mobility Management
- Computers and Communications

- Wireless Hypermedia

Virtual Engineering

- Virtual Reality
- Virtual Organization Design and Development
- Agent Technologies
- Managerial Gaming Support Systems
- Organizational Learning Support Systems
- Simulation

OPTICAL SYSTEMS, TECHNOLOGIES AND APPLICATIONS

Applications of Optical Technologies in Informatics and Cybernetics and Applications of Informatics and Cybernetics in Optical Systems and in Optical R&D

- Optical Processing and Computing
- Communication Networks and Fiber Optics Technologies and Applications
- Communication, Networking and Interconnection Technologies
- Lasers and Laser-Information Technologies and Applications
- Image Recognition, Processing and Analysis
- Wavelet Applications, Imaging and Sensing Technologies
- Sensor Technologies and Signal Processing and Applications
- Remote Sensing and GIS Applications
- Visual Information Processing and Pattern/Target Recognition
- Computer Vision and Intelligent Robots Technologies and Applications
- Bio-Medical Sensing, Imaging,, Monitoring, and Signal Processing
- Devices for Information Processing
- Data Storage Technologies
- Wireless Communications and Mobile Computing
- Optoelectronics
- Applications to Industrial and Manufacturing Systems, Technologies Testing and Inspections
- Security and Watermarking
- Robotics and Optomechatronics
- Tele-Communications and Telepresence Technologies and Applications

Optics

- Optical Sciences and Applications
- Optical Engineering and Applications

IMAGE, ACOUSTIC, SPEECH AND SIGNAL PROCESSING

- Image and Multidimensional Signal processing
- Speech Processing
- Statistical Signal and Array Processing
- Multimedia Audio Processing
- Communication Signal Processing
- Very large Integration For Signal Processing
- Underwater Acoustic Signal Processing
- Digital Signal Processing
- Geographical Information Systems
- Computer Graphics

APPLICATIONS OF INFORMATICS AND CYBERNETICS IN SCIENCE AND ENGINEERING.

- Applications in Natural Sciences
- Applications in Social Sciences
- Applications in Biology and Medicine
- Applications in Psychology and Cognition
- Applications in Mechanical Engineering
- Applications in Electrical Engineering
- Applications in Systems Engineering
- Applications in Industrial Engineering
- Applications in Optics and Optical Technologies
- Applications in Power Engineering
- Applications in Aerospace Engineering and Digital Avionics
- Design Automation

SYSTEMICS

Systems Philosophy and the System Approach

- Conceptual Foundations
- Systems Theories
- Systems Ethics
- Cyber-Ethics

System Sciences

- Fuzzy Logic
- Information Theory
- Applications of the Systems Approach in the Social Sciences

Systems Engineering

- General Systems Design Methodologies
- Methodologies for Specific Systems Analysis and Synthesis

- Hybrid (Computers and Communications/Control)
- Systems, Technologies and Applications
- Fuzzy Systems

CONFERENCE CONTACTS

Phone: +58 (212) 272-9094

Fax: +58 (212) 272-2832

Fax: +1 (407) 856-6274

Conference Secretariat

sci2004@cantv.net

sci2004@telcel.net.ve

sci2004@iis.org

More details can be found at the Conference web page: <http://www.iis.org/sci2004/>. If by any reasons you are not able to access the page mentioned above, please, try the following page: <http://www.iis.org/sci2004/>. Answers to specific questions can also be requested by e-mail.