Advances in Computer, Information, and Systems Sciences, and Engineering

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Proceedings of IETA 2005, TeNe 2005, EIAE 2005

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Preface
Advances in Computer, Information, and Systems Sciences, and Engineering

This book includes the proceedings of the International Conference on Industrial Electronics, Technology & Automation (IETA'05), the International Conference on Telecommunications and Networking (TeNe'05), and the International Conference on Engineering Education, Instructional Technology, Assessment, and E-learning (EIAE'05). The proceedings are a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Industrial Electronics, Technology & Automation, Telecommunications and Networking, Engineering Education, Instructional Technology, Assessment, and E-learning.

IETA'05, TeNe'05, and EIAE'05 were part of the International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE'05) (www.cisse2005.org), the World's first Engineering/Computing and Systems Research E-Conference.

CISSE 2005 was the first high-caliber Research Conference in the world to be completely conducted online in real-time via the internet. CISSE 2005 received 255 research paper submissions and the final program included 140 accepted papers, from more than 45 countries. The concept and format of CISSE 2005 were very exciting and ground-breaking. The PowerPoint presentations, final paper manuscripts and time schedule for live presentations over the web had been available for 3 weeks prior to the start of the conference for all registrants, so they could choose the presentations they want to attend and think about questions that they might want to ask. The live audio presentations were also recorded and were part of the permanent CISSE archive, which also included all power point presentations and papers.

IETA'05, TeNe'05, EIAE'05 provided a virtual forum for presentation and discussion of the state-of the-art research in Industrial Electronics, Technology & Automation (IETA'05), Telecommunications and Networking (TeNe'05), and Engineering Education, Instructional Technology, Assessment, and E-learning (EIAE'05). The virtual conferences were conducted through the Internet using web-conferencing tools, made available by the conference. Authors presented their PowerPoint, audio or video presentations using web-conferencing tools without the need for travel. The Conferences sessions

were broadcasted to all the conference participants, where session participants were able to interact with the presenter during the presentation and (or) during the Q&A slot that followed the presentation. These international conferences were held entirely on-line. The accepted and presented papers were made available after the conference both on a CD and as a book publication by Springer.

The IETA'05, TeNe'05, and EIAE'05 conferences audio rooms provided superb audio even over low speed internet connections, the ability to display PowerPoint presentations, and cross-platform compatibility (the conferencing software runs on Windows, Mac, and any other operating system that supports Java). In addition, the conferencing system allowed for an unlimited number of participants, which in turn granted us the opportunity to allow all IETA'05, TeNe'05, and EIAE'05 participants to attend all presentations, as opposed to limiting the number of available seats for each session.

This volume of the conference's proceedings includes 74 papers that were presented in the three conferences. The papers cover an interesting range of topics in the area of industrial electronics, technology & automation such as signal modeling, distributed remote control, precise diagnosis, wireless sensor networks, resource management in cellular networks, and wavelet thresholding.

Furthermore, in the area of telecommunications and networking the papers cover a broad range of research issues such as voice over IP, design of pervasive architectures, ad-hoc wireless networks, network design and simulation, reliability of telecommunications laws and regulation, ATM networks, and enhancing QoS support in mobile ad-hoc networks.

Finally, in the area of engineering education, instructional technology, assessment, and E-learning, the included papers cover a range of interesting topics such as computer aided learning technique in engineering education, web-based teaching collaborative platforms, engineering education, interdisciplinary project-based learning, intelligent learning environment, relationship between pedagogy, ethics & technology, and visual modeling.

We hope that you will find the selected papers interesting and covering the state-of-the-art advances in the area of industrial electronics, technology & automation telecommunications and networking, engineering education, instructional technology, assessment, and E-learning. We are looking forward to your participation in CISSE'06 (www.cisse2006.org).

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