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Preface

This book contains the proceedings of the 8th WSEAS International Conference on DISTANCE LEARNING and WEB ENGINEERING (DIWEB '08) and 8th WSEAS International Conference on MULTIMEDIA, INTERNET & VIDEO TECHNOLOGIES (MIV '08) which were held in Santander, Cantabria, Spain, September 23-25, 2008. These conferences aim to disseminate the latest research and applications in Web-based Education, Intelligent teachers, E-commerce, Web banking, Multimedia, Sound technologies, Image technologies, Mobile Internet and other relevant topics and applications.

The friendliness and openness of the WSEAS conferences, adds to their ability to grow by constantly attracting young researchers. The WSEAS Conferences attract a large number of well-established and leading researchers in various areas of Science and Engineering as you can see from **http://www.wseas.org/reports**. Your feedback encourages the society to go ahead as you can see in **http://www.worldses.org/feedback.htm**

The contents of this Book are also published in the CD-ROM Proceedings of the Conference. Both will be sent to the WSEAS collaborating indices after the conference: **www.worldses.org/indexes**

In addition, papers of this book are permanently available to all the scientific community via the WSEAS E-Library.

Expanded and enhanced versions of papers published in this conference proceedings are also going to be considered for possible publication in one of the WSEAS journals that participate in the major International Scientific Indices (Elsevier, Scopus, EI, ACM, Compendex, INSPEC, CSA .... see: www.worldses.org/indexes) these papers must be of high-quality (break-through work) and a new round of a very strict review will follow. (No additional fee will be required for the publication of the extended version in a journal). WSEAS has also collaboration with several other international publishers and all these excellent papers of this volume could be further improved, could be extended and could be enhanced for possible additional evaluation in one of the editions of these international publishers.

Finally, we cordially thank all the people of WSEAS for their efforts to maintain the high scientific level of conferences, proceedings and journals.

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Plenary Lecture I

Game-Based Learning in Higher Education and Lifelong Learning: Bridging the Gap between Theory and Practice

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Abstract: Game-based learning virtual environments are tailored for diversified university and lifelong student groups preparing them to enter national, European and global environments. They foster collaboration at various levels between university and industry providing knowledge and innovation exchange. In learning processes support collaboration among teachers/educators and learners at the international level. Representing a real life phenomenon – complex and dynamic systems in which the variables for manipulation illustrate variables in real life situations. Learners are offered to learn in an authentic environment of imitating concrete activities which they will face in their professional life. Learning about complex phenomena and systems is more meaningful in collaboration because knowledge is distributed among learners and the cognition is socially shared. Currently there are many initiatives at European and global level aiming at agreements for arranging new learning environments which will offer learning linking theory and practice, university and industry. Paper provide framework for new solutions at institutional level facing challenges of game-based learning in virtual environments.

Brief Biography of the Speaker: Andreja Istenic Starcic holds a B. Sc. in sociology of culture (1998) and Ph.D. in education (2002) University of Ljubljana, Slovenia. She received habilitation for assistant professor in didactics and educational technology and habilitation for research in management. Her research interests include social impacts of information and communication technology, information communication systems for professional development, knowledge management, educational technology, computer supported collaborative learning, web based communities, game-based learning, sustainable development.

She has been acting as a member of research groups:

• Research in education (2000-2002), University of Ljubljana, Faculty of Arts and Humanities;
• Management and informatisation of education and employability (2004-2004), University of Primorska, Faculty of Management;

• E-construction engineering (2006-), University of Ljubljana, Faculty of Civil and Geodetic engineering, Institute of construction, earthquake engineering and computing.

She has been developing educational technologies for all levels of education and adult education since 1993. She is devoted to teacher education and professional development and had developed the first e-learning courses for university teachers and adult educators in Slovenia. Present research projects are: Intensive e-learning introduction for rising educational level and suppress regional discordance in Slovenia, I3CON – Industrialised, Integrated, Intelligent Construction, Virtual International Business Management Learning Environment for Hospitality and Destination management.

Dr. Istenic Starcic has published several referred journal and conference papers, workbooks and monographs. Her publication also including invited state-of-the-art chapters in international scientific monographs. She is in editorial board of international journal IJET http://online-journals.org/i-jet/about. Dr. Starcic is a convenor in The European Educational Research Association EERA Didactic section http://www.eera.ac.uk/web/eng/all/home/index.html

She was giving courses at Belfast Queens University Northern Ireland, Luleå University of technology Sweden, and University of Turku Finland.

Plenary Lecture II

Challenges for Wireless Sensor Networks Deployment

Professor Zoran S. Bojkovic
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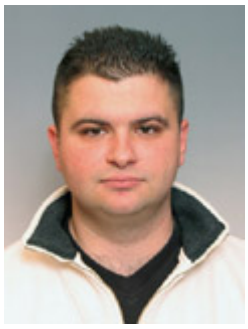

Bojan M. Bakmaz
Faculty of Transport and Traffic Engineering
University of Belgrade
SERBIA

Abstract: In the recent years extensive research has opened challenging issues for wireless sensor networks (WSNs) deployment. Many of ad hoc networks are sensor networks designed to collect data and revert to a centre unit connected to the Internet or monitored. WSNs are formed by a large number of resource-constrained and inexpensive nodes, which has an impact on protocol design and network scalability. Sensor networks have enabled a range of applications where the objective is to observe an environment and collect information about the observed phenomena or events. This has lead to the emergence of a new generation sensor networks called sensor actuator networks. Sensors gather information about the physical world, while actuators make decisions and perform actions that affect the environment. To enable next-generation sensor actuator systems, new customizable architectures are needed. The collected information and sensor nodes must be localized in space to identify the location of an event. This positioning is accomplished using localization systems. They not only locate events, but can also be used as the base for routing, density control, tracing and a number of other protocols. Due to their key role in WSNs, localization systems can be a target of an attack. In order to be fully autonomous and self-capable, it is essential for the nodes to be aware of their environment, and will not be able to configure itself to respond to internal/external events.
The first part of this lecture deals with sensor actuator networks and localization systems. We continue with self configurability, situation awareness, and information detection system. The next part treats the problem of wireless sensor network for distributed detection. Model proposal for wireless sensor network concludes the presentation.

Brief Biography of the Speakers:

Zoran S. Bojkovic received the Diploma in electrical engineering and the M.S. and Ph.D. degree all from the Faculty of electrical engineering, University of Belgrade, Serbia. He is a professor of Electrical Engineering at the University of Belgrade.

He is the co-author of the books "Introduction to Multimedia Communications Applications" (Wiley, 2006), "Multimedia Communications Systems" (Prentice-Hall 2002) and "Packet Video Communications over ATM Networks" (Prentice-Hall, 2000), all with prof. K. R. Rao from the University of Texas at Arlington, USA. He has published in international peer-reviewed journals and participated in many scientific and industrial internacional projects.
Prof. Bojkovic is Editor-in-chief for the WSEAS Transactions on Communications and WSEAS Transaction Science and Applications. He is IEEE Senior Member and EURASIP member.

Bojan M. Bakmaz received B.Sc. and M.Sc. degrees in telecommunication traffic from the Faculty of Traffic and Transport Engineering, University of Belgrade, Serbia in 2004 and 2007, respectively.

He is a Ph.D candidate on the same faculty. He is a teaching assistant at the Department of Telecommunication Traffic and Networks. Bojan Bakmaz is the author of one monograph and coauthor of 10 papers in International Journals and the Proceedings of the International Conferences. Also he participates in several projects in the domain of telecommunication traffic and networks. His research interest also includes the field of multimedia wireless networks: convergence, DSP, QoS and security.

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