



Editors: Francklin Rivas-Echeverria, Gloria Mousalli-Kayat

Advances in E-Activities, Information Security and Privacy

Hosted and Sponsored by:
University of Los Andes
National Autonomous University
Merida, Venezuela



9th WSEAS International Conference on
E-Activities (E-ACTIVITIES '10)

9th WSEAS International Conference on
Information Security and Privacy (ISP '10)

University of Los Andes, Merida, Venezuela, December 14-16, 2010

ISSN: 1792-6971
ISSN: 1792-6955
ISBN: 978-960-474-258-5



Advances in E-Activities, Information Security and Privacy



ADVANCES in E-ACTIVITIES, INFORMATION SECURITY and PRIVACY

**9th WSEAS International Conference on E-ACTIVITIES
(E-ACTIVITIES '10)**

**9th WSEAS International Conference on INFORMATION
SECURITY and PRIVACY (ISP '10)**

**University of Los Andes, Merida
Venezuela, December 14-16, 2010**

ADVANCES in E-ACTIVITIES, INFORMATION SECURITY and PRIVACY

**9th WSEAS International Conference on E-ACTIVITIES
(E-ACTIVITIES '10)**

**9th WSEAS International Conference on INFORMATION
SECURITY and PRIVACY (ISP '10)**

**University of Los Andes, Merida
Venezuela, December 14-16, 2010**

Published by WSEAS Press

www.wseas.org

Copyright © 2010, by WSEAS Press

All the copyright of the present book belongs to the World Scientific and Engineering Academy and Society Press. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the Editor of World Scientific and Engineering Academy and Society Press.

All papers of the present volume were peer reviewed by two independent reviewers. Acceptance was granted when both reviewers' recommendations were positive.

See also: <http://www.worldses.org/review/index.html>

ISSN E-ACTIVITIES: 1792-6971

ISSN ISP: 1792-6955

ISBN: 978-960-474-258-5



World Scientific and Engineering Academy and Society

ADVANCES in E-ACTIVITIES, INFORMATION SECURITY and PRIVACY

**9th WSEAS International Conference on E-ACTIVITIES
(E-ACTIVITIES '10)**

**9th WSEAS International Conference on INFORMATION
SECURITY and PRIVACY (ISP '10)**

**University of Los Andes, Merida
Venezuela, December 14-16, 2010**

Editors:

Prof. Francklin Rivas-Echeverria, Universidad de Los Andes, Merida, Venezuela

Prof. Gloria Mousalli-Kayat, Universidad de Los Andes, Merida, Venezuela

International Program Committee Members:

Prof. Anna Perez

Prof. Jesus Calderon

Prof. Oscar Camacho

Prof. Luis A. Angulo

Prof. Raul Huizzi

Prof. Jose Aguilar

Prof. Milagro Rivero

Prof. Eliezer Colina

Prof. Flor Narciso

Prof. Addison Rios

Prof. Mary Vergara

Prof. Carlos Rivas

Prof. Sebastian Provenzano

Prof. Ana Patete

Prof. Andres Arcia

Preface

This year the 9th WSEAS International Conference on E-ACTIVITIES (E-ACTIVITIES '10) and the 9th WSEAS International Conference on INFORMATION SECURITY and PRIVACY (ISP '10) were held at the University of Los Andes, Merida, Venezuela, December 14-16, 2010. The conferences remain faithful to their original idea of providing a platform to discuss E-Learning, E-Communities, E-Commerce, E-Management, E-Marketing, E-Governance, passive attacks, active attacks, viruses, Trojan horses, worms, denial of service, information security services etc. with participants from all over the world, both from academia and from industry.

Their success is reflected in the papers received, with participants coming from several countries, allowing a real multinational multicultural exchange of experiences and ideas.

The accepted papers of these conferences are published in this Book that will be indexed by ISI. Please, check it: www.worldses.org/indexes as well as in the CD-ROM Proceedings. They will be also available in the E-Library of the WSEAS. The best papers will be also promoted in many Journals for further evaluation.

Conferences such as these can only succeed as a team effort, so the Editors want to thank the International Scientific Committee and the Reviewers for their excellent work in reviewing the papers as well as their invaluable input and advice.

The Editors

Table of Contents

| | |
|--|----|
| Plenary Lecture 1: Information Systems and Artificial Intelligence Applications and Limitations on Medical E-learning and E-Management, a Venezuelan Experience <i>Carlos Rivas-Echeverria</i> | 11 |
| Information and Communication Technology Application on Learning Bahasa Melayu among Foreign Students <i>Maimun Aqsha Lubis, Mohamed Amin Embi, Ismail Suardi Wekke, Kamarulzaman Abdul Ghani, Sabariah Sulaiman</i> | 13 |
| Protecting Cookies against Cross-Site Scripting Attacks using Cryptography <i>S. Mohammadi, Farhad Koohbor</i> | 22 |
| Polychronicity and Multipresence: A Grounded Theory of E-Learning Timeawareness as Expressed by Portuguese Academics' Time Concepts <i>Jorge Tiago Martins, Miguel Baptista Nunes</i> | 32 |
| New Mobile Payment Protocol: Mobile Pay Center Protocol (MPCP) <i>Mohammad Vahid Alizade, Reza Askari Moghaddam, Samad Momenebellah</i> | 41 |
| Multi-Layered Collaborative Approach to Address Enterprise Mobile Security Challenges <i>Jithesh Sathyan, Manesh Sadasivan</i> | 47 |
| A System and Design of Extensible Authentication Protocols based on ECC and SKE Mechanisms for Mobile and Wireless Communications <i>Natarajan Vijayarangan</i> | 53 |
| Risk Management with ISO 27000 Standards in Information Security <i>Kaja Prislan, Igor Bernik</i> | 58 |
| Regular Expressions Fusion using Emergent Computing <i>Rafael Torres, Junior Altamiranda, Jose Aguilar, Christian Delamarche</i> | 64 |
| Implementation of a Open Source Security Software Platform in a Telemedicine Network <i>M. Huerta, T. Viva, R. Clotet, R. Gonzalez, R. Alvizu, A. Perez, D. Rivas, F. Lara y R. Escalante, Ruben Gonzalez</i> | 72 |
| A Standard-Compliant Integrated Security Framework <i>Hassen Sallay, Khaled Al-Shalfan</i> | 77 |
| Managing Online Communities: An E-Moderation Collaboratively Constructed Paper <i>Teadira Perez, Raymond Marquina</i> | 85 |
| E-Banking Systems Implementation and Introduction with Focus on Iranian Banking Transactions <i>Abolfazl Kalanaki</i> | 91 |
| Education Blog: Institutional Technological Change Manager <i>Joan F. Chipira Lobo, Francklin Rivas, Gloria Mousalli-Kayat</i> | 97 |

| | |
|---|-----|
| Architecture of an Auto Vaccination System for Handheld Device and the Countermeasures for the Security Threats <i>Maricel O. Balitanas, Tai-Hoon Kim</i> | 103 |
| Formal Analysis of Intrusion Detection Systems for High Speed Networks <i>Mohsen Rouached, Hassen Sallay, Ouissem Ben Fredj, Adel Ammar, Khaled Al-Shalfan, Majdi Ben Saad</i> | 109 |
| On Distributed Intrusion Detection Systems Design for High Speed Networks <i>Ouissem Ben Fredj, Hassen Sallay, Adel Ammar, Mohsen Rouached, Khaled Al-Shalfan, Majdi Ben Saad</i> | 115 |
| Cellular Automata Encryption Method: Description, Evaluation and Tests <i>Lucian Milea, Mihail Teodorescu, Vlad Grosu, Orest Oltu</i> | 121 |
| Authors Index | 125 |

Plenary Lecture 1

Information Systems and Artificial Intelligence Applications and Limitations on Medical E-learning and E-Management, a Venezuelan Experience



Professor Carlos Rivas-Echeverria

Laboratorio de Sistemas Inteligentes, Universidad de Los Andes

also with

Clinicas del Sueno SLEEPCARE & Fundacion Dra. Yolanda Echeverria

Merida, 5101

VENEZUELA

E-mail: rivasecheverria@gmail.com

Abstract: Information systems and artificial intelligence have plenty applications on the medical field and they are wide and common. Computer support has shown that can improve the quality of general medical care. It can improve the efficiency and optimize the management of the sanitary system and the clinical practice; and can reduce errors. Most countries are using electronic health records for the primary care system and hospitals. Electronic drug prescribing has significantly reduce drug errors. Telemedicine (including robotics) had delivered specialized medicine regardless the distance where the patients or physicians are located. Digital imaging management has facilitated the availability of images throughout the whole healthcare system, dramatically reducing film-developing and other costs while making them immediately available to the practitioner. Informatics management is fundamental to health care delivery. These are just a few examples among several other applications. Our laboratory, in Venezuela, has developed several expert systems and information systems that have been particularly designed for educational purposes; and recently we have developed some that also have applications on management. The plenary session includes the features and applications of the systems as well as their limitations in a developing country like ours. The trends and possible future for these systems are also discussed.

Brief Biography of the Speaker: Carlos Rivas-Echeverria, MD, PhD, FACP. Specialist in Internal Medicine and in Critical Care. Has a Master Degree on Sleep Medicine and a Diplomate on Franchising Systems Management. Is the Head of the SLEEPCARE Sleep Clinics. Is Full Professor at the University of Los Andes, Head of the Department of Pharmacology. He is cofounder and active Member of the Intelligent Systems Laboratory. Over 60 publications in high level conferences and journals: the main topics of his papers are: Hypertensive disorders of pregnancy, sleep disorders, traffic accidents and artificial intelligence.

Authors Index

| | | | |
|---------------------|--------------|--------------------|--------------|
| Aguilar, J. | 64 | Marquina, R. | 85 |
| Alizade, M. V. | 41 | Milea, L. | 121 |
| Al-Shalfan, K. | 77, 109, 115 | Moghaddam, R. A. | 41 |
| Altamiranda, J. | 64 | Mohammadi, S. | 22 |
| Alvizu, R. | 72 | Momenebellah, S. | 41 |
| Ammar, A. | 109, 115 | Mousalli-Kayat, G. | 97 |
| Balitanas, M. O. | 103 | Oltu, O. | 121 |
| Baptista Nunes, M. | 32 | Perez, A. | 72 |
| Ben Fredj, O. | 109, 115 | Perez, T. | 85 |
| Bernik, I. | 58 | Prislan, K. | 58 |
| Chipia Lobo, J. F. | 97 | Rivas, D. | 72 |
| Clotet, R. | 72 | Rivas, F. | 97 |
| Delamarche, C. | 64 | Rouached, M. | 109, 115 |
| Embi, M. A. | 13 | Saad, M. B. | 109, 115 |
| Escalante, F. L. R. | 72 | Sadasivan, M. | 47 |
| Ghani, K. A. | 13 | Sallay, H. | 77, 109, 115 |
| Gonzalez, R. | 72 | Sathyan, J. | 47 |
| Gonzalez, R. | 72 | Sulaiman, S. | 13 |
| Grosu, V. | 121 | Teodorescu, M. | 121 |
| Huerta, M. | 72 | Tiago Martins, J. | 32 |
| Kalanaki, A. | 91 | Torres, R. | 64 |
| Kim, T.-H. | 103 | Vijayarangan, N. | 53 |
| Koohbor, F. | 22 | Viva, T. | 72 |
| Lubis, M. A. | 13 | Wekke, I. S. | 13 |