Romania

(480)

UNITWIN/UNESCO Chairs Programme

Progress report

Period of activity : 2006

UNESCO Chair in Information Technologies

Report established by: Prof. PhD Grigore Albeanu, Chairholder, University of Oradea

I. Activities

1. Academic activities

Education

During 2006, the chair participated to the following academic activities:

➢ **Information and Communication Technologies**
Fall semester 2006
Target groups: Undergraduate students (50 students)
Geographical coverage: national
Funding sources: - the Romanian government (MEC: www.edu.ro)

➢ **AutoCAD for engineers**
Fall semester 2006
Target groups: Undergraduate students (25 students)
Geographical coverage: national
Funding sources: - partially by the Romanian government (MEC: www.edu.ro)

➢ **Auto LISP Programming**
Spring semester 2006
Target groups: Undergraduate students (25 students)
Geographical coverage: national
Funding sources: - partially by the Romanian government (MEC: www.edu.ro)

➢ **Distributed Programming**
Spring semester 2006
Target groups: Graduate students (15 students)
Partnership: - University of Oradea, Faculty of Science
Geographical coverage: national, e-learning type course
Funding sources: - partially by the Romanian government (MEC: www.edu.ro)

➢ **Software Reliability**
Summer courses (July - September) 2006

Target groups: Graduate students (20 students)
Partnership: - Danish Technical University, Denmark
Geographical coverage: international master
Funding sources: - Danish Government (www.imm.dtu.dk)

> **Modelling and programming for Virtual Reality Applications**

Two semesters
Target groups: undergraduate students (75 students)
Partnership: - University of Bucharest, Faculty of Computer Science and Mathematics
Geographical coverage: national
Funding sources: - Romanian government (MEC: www.edu.ro)

Research

> Soft-computing methods in complex systems reliability optimisation (internal research project). Research Team: UNESCO IT Chair & Faculty of Power Engineering

> Research on the reliability modelling, evaluation, and improvements for safety-critical systems by soft-computing techniques (internal research project). Research Team: UNESCO IT Chair & Faculty of Power Engineering

> IT Research at UNESCO IT Chair – Developments in 1. software quality, and 2. Time series modelling, analysis and forecasting (new results, software system and e-learning Java based system). Research Team : UNESCO IT Chair, IMM, ENST - Telecom Paris.

2. Conferences/Congresses/Meetings

Meetings
- The Applied informatics Contest: Buzau (May 2006):
  http://www.cia.buzau.ro/comisiacentrala.htm
- The Chair holder is one of the CIA funding members; CIA is an abbreviation for the Romanian: **C**oncursul de **I**nformatica **A**plicata
- The National Conference on Virtual Learning (Bucharest; October 2006, co-organiser); http://www.cniv.ro
- The International Conference on Virtual Learning (Bucharest, October 2006, co-organiser), http://www.icvl.eu
- Online Educa Berlin (The 12th International Conference on Technology Supporting Learning and Training: Designing Effective Online Learning; Game-Based Learning and Simulations; Quality Standards; Emerging Tools and Community-Based Services; Sector Specific Approaches; Lifelong and Informal Learning; Performance Based Assessment; Promoting Inclusivity; The Impact of ICT in Schools; Higher Education and the Impact of ICT; ICT Supported Training in Companies; E-Learning in the Public Sector), http://www.online-educa.com/

3. Partnerships

The UNESCO IT Chair - University of Oradea, as an active member in the UNITWIN international program, continues a fruitful cooperation with the following academic entities
- Université Pierre et Marie Curie, LIP6, Université de Paris (France)
- The Technical University of Denmark, Lyngby, DK
- The University "Politehnica" of Bucharest, RO
- The City University London

It is our aim to extend the collaboration with other academic and research entities. The UNITWIN program is a great opportunity to manage the globalisation trend.

4. Reports related to meetings
1. [2006] G. Albeanu. On some methods for non-stationary time series analysis: a Java - based software. International Journal of Computers, Communications & Control, Supplementary issue - Proceedings of ICCCC 2006, 1, pp. 62-67, 2006.
2. [2006] H. Madsen, P. Thyregod, B. Burtschy, G. Albeanu and F. Popentiu. A fuzzy logic approach to software testing and debugging. In C. Guedes Soares & E. Zio (ed.), Safety and Reliability for Managing Risk (ESREL 2006), Vol. II, pp. 1435-1442. Taylor and Francisc Group, London, 2006.
3. [2006] Grigore ALBEANU, Poul Thyregod, Henrik Madsen and Florin Popentiu-Vladicescu. On Using Six Sigma Methodology for Software Quality Assurance. In Jeroen de Mast (ed.), Proceedings of ENBIS-6 Wroclaw. ENBIS, 2006.
4. [2006] H. Madsen, P. Thyregod, B. Burtschy, G. Albeanu, F. Popentiu. On Using Soft ComputingTechniques in Software Reliability Engineering. International Journal of Reliability, Quality, and Safety Engineering, Vol. 13, No. 1, pp. 1-12, 2006.
5. [2006] G. Albeanu, Modelling and Programming VR applications: An ICT undergraduate course, Proceedings of ICVL, pp. 83-90, http://fmi.unibuc.ro/cniv/2006/disc/icvl/documente/pdf/met/2_albeanu.pdf
6. [2006] H. Madsen, G. Albeanu, B. Burtschy, and F. Popentiu, Addressing Time Series Modelling, Analysis and Forecasting in e-Learning Environments, Proceedings of ICVL, pp. 37-44, http://fmi.unibuc.ro/cniv/2006/disc/icvl/documente/pdf/invited/2_madsen.pdf

5. Awards

For the activity described above, the chairholder obtained the following award: [2006] ***The EXCELLENCE Prize "EXCELLENCE VIRTUAL CENTER SIVECO***" - awarded for the papers presented at ICVL Conference.
(http://fmi.unibuc.ro/cniv/2006/pages/rezultate_concurs.pdf).

II. Impact

The course activities organized by our UNESCO Chair lead to a greater integration of the information technology in the curricula of the undergraduate (the CNIV and CIA events), and graduate student (the ICVL event).
The geographical coverage of the Chair is national and regional (Eastern and Central Europe Western Europe

The UNESCO Chair is involved in research activities and promotes the ITC research as a new opportunity for students and industry. Some other organizations have a huge impact, such as the CIA (rom: Concursul de Informatica Aplicata), CNIV (rom: Conferinta Nationala de Invatamant Virtual) and ICVL (eng: International Conference on Virtual Leaning). Both conferences celebrate 100 years since the birth of Great Romanian Mathematician and Computer Pioneer (IEEE-1996), Grigore C. Moisil (1906-1973).

III. Forthcoming activities

Some of the training activities will continue during 2008, and the following area of research were established for 2008: Modelling and Programming for Virtual Reality Applications (including Virtual Learning), Software Reliability, Computer Aided Reliability engineering, Software Quality, Data mining, Soft computing, Web and Multimedia techniques, Project management. Already established research programs will be also continued.

The UNESCO Chair in Information Technologies at University of Oradea will continue to promote ICT in the framework of forthcoming events CIA 2007 (http://www.robodesign.ro/cia/), CNIV 2007 (http://www.cniv.ro) and ICVL 2007 (http://www.icvl.eu). Also, the Chairholder is a member of the International Advisory Committee of the First Proficiency Testing Conference: http://www.pt-conf.ro/)

Finally, the Chair intends to participate to the activities organized by our national UNESCO committee, including the 'Education for all' program.