

UNITWIN UNESCO Chairs Programme

UNESCO Chair Annual Progress Report

UNESCO Chair:	Information and Communication Engineering
Institution:	City University London Northampton Square, London, EC1V OHB, United Kingdom www.city.ac.uk
Date Chair Established: (mm, yyyy)	6 October 1998
Period of Activity Under Report: (mm, yyyy-mm, yyyy)	1 July 2007-31 July 2008
Report Established By: (name, position)	Professor Florin POPENTIU, UNESCO Chairholder Email: popentiu@imm.dtu.dk www.staff.city.ac.uk/~pop/

1. Executive Summary:

Major outcomes, results and impact of the Chair in relation to its objectives as stated in Article 2 of the Chair Agreement (between the Institution and UNESCO)
(Not exceeding 500 words)

- Joint research projects and curriculum development in software engineering management with European partner universities, including research on software system for controlling pollution dynamics in cement plants.
- Teaching of undergraduate, graduate and postgraduate programmes in information and communication engineering and development of transparent assessment and supervision modalities.
- Development and publishing of papers on mathematical methods and probabilistic models in software reliability engineering.
- International lecturing and training, fellowship arrangements, student exchange, and participation in international conferences.
- The UNESCO Chair in Information and Communication Engineering provides a framework in the achievement of the Lisbon goal of Europe becoming the most competitive and dynamic knowledge economy in the world by 2010.
- Also we are interested to find ways in order to attract and retain the brightest and best into research careers. Individual researchers should take greater responsibility for their own career development, actively seeking opportunities and information about employment options and skills development.

2. **Activities:**

Overview of activities undertaken by the Chair in the reporting period

a) Education/Training/Research

(key education programmes and training delivered and research undertaken by the Chair in the reporting period)

i) Education	<ol style="list-style-type: none">1. Performance Evaluation of Computers, Visiting Professor Florin POPENTIU, University "Politehnica" of Bucharest, Faculty of Engineering in Foreign Languages undergraduate students, semester 1(Year 4), academic years 2007-2008, in English, Credit Points (ETCS 5) http://ing.pub.ro/engleza/browse-m.php?action=100&cid=722. Evaluation des Systèmes Informatiques, Visiting Professor Florin POPENTIU, University "Politehnica" of Bucharest, Faculty of Engineering in Foreign Languages undergraduate students, academic years 2007-2008, semester 9(Year 5), in French, Credit Points (ETCS 4) http://ing.pub.ro/franceza/
ii) Training	<ol style="list-style-type: none">1. Software Reliability, , Visiting Professor ,The Technical University of Denmark, International Master of Science in Computer Systems Engineering, IMM, BSc/MSc, Course 02445, 3 weeks, 3 hours/day, academic years 2007-2008, in English, Credit Points (ETCS 5). http://www.kurser.dtu.dk/02445.aspx?menulanguage=en-gb
iii) Research	<p>The research results have been communicated at different international conferences:</p> <ol style="list-style-type: none">H. Madsen, P. Thyregod, B. Burtschy, G. Albeanu & Fl. Popentiu-Vladicescu, On using chained neural networks for software reliability prediction, ESREL 2007, Safety and Reliability Conference, 25-27 June 2007 - Stavanger, Norway, Proceedings of Risk, Reliability and Societal Safety -T. Aven & J.E. Vinnem (eds), Taylor & Francisc Group, London, ISBN 978-0-415-44786-7, Vol 1: Specialised Topics, pp. 411-418. ISI Indexed.Idiko Margit Pasc, R.C.Tarca,Fl. Popentiu-Vladicescu, G. Albeanu, On Designing Virtual Environments Based on Intelligent Mechatronic Systems, ISSAT International Conference on Modeling of Complex Systems and Enviroments, 16-18 July 2007, Ho Chi Minch City, Vietnam, pp. 126-130, ISBN 978-0-9763486-3-4. ISI Indexed.Ildiko Margit Pasc, Radu Catalin Tarca, Florin Popentiu-Vladicescu, Naiana Tarca, E-Learning Training Mechatronic System, TMT 2007, International Research/Expert Conference . Trend and the Development of Machinery and Associated Technology, 5-9 September 2007, Hammamet, pp. 643-646, ISBN 995861734-X, Tunisia.H. Madsen, P. Thyregod G. Albeanu, Fl Popentiu_Vladicescu., Risk Pollution in the Cement Plants-A Case Study within Nato Science Programme, Modelling And Analysis Of Safety and Risk in Complex Systems, MA RS 2007, 4 - 8 September 2007, pp. 206-211, ISBN: 978-5-8088-0266-7, 2007, Saint-Petersburg, Russia.G. Albeanu , H. Madsen , Manuela Ghica , P. Thyregod and F. Popentiu-Vladicescu , On using bootstrap methods for understanding empirical loss data and dynamic financial analysis, ENBIS 7 , September 24-26, 2007. , Dortmund, Germany, CD-ROM Edition.G Albeanu, L. Serbanescu, Fl. Popentiu-Vladicescu, On teaching data analysis and optimisation using software tools, Proceedings of the 2nd International Conference on Virtual Learning, Marin Vlada, Grigore Albanu, Dorin Mircea Popovici (eds.), Constata, 26-28 October 2007, pp. 255-260, Bucharest University Press, ISBN: 973-737-218-2 978-973-737-380-9, Romania.Radu Catalin Tarca, Idiko Margit Pasc, Naiana Tarca , Florin Popentiu-Vladicescu, , Remote Robot Control Via Internet Using Augmented Reality, , 1st European DAAAM International, Young Reserachers and Scientists Conference, 24-27 oct. 2007, pp. 739-740, ISSN 1726-9679, Zadar, Croatia, ISI & Inspec & Engineering Village Indexed.A. Ivanescu, Ioana Barda, Fl. Popentiu-Vladicescu, Distance Learning Answering Students'Needs ; The example of the Interactive e-Learning Environment (IELE) , The 4th

International Scientific Conference eLSE "eLearning and Software for Education", Bucharest, April 17-18 2008, pp. 81-88 , ISBN: 978-973-749-362-0.

9. G. Albeanu Manuela Ghica Fl. Popentiu-Vladicescu , On using bootstrap scenario-generation for multi-period stochastic programming applications, Proceedings of ICCCC 2008, 15-17 May 2008 , pp. 156-161, ISSN 1841-9836, Baile Felix Spa-Oradea, Romania.
10. Fl.Popentiu-Vladicescu, Elena Maftai, Digital Libraries: Valuable Resources for the Risk Management Community, MA RS 2008, June 24-28, 2008, (in press), ISBN: 978-5-8088-0266-7, 2008, Saint-Petersburg, Russia.
11. Iena Maftai, Fl. Popentiu-Vladicescu, Information and communication technologies: Opportunities for Education in Electrical Systems , 2008 International Worls Energy System Conference, Technical University Gh. Asachi ,Iasi, Romania, June 30-July 2, ISSN 1198-0729 , 2008.
12. R. C. Tarca, A. Ivanescu, Ioana Barda, G..Albeanu , Ildiko Pasc, Fl. Popentiu Vladicescu, Augmented Reality used for a Remote Robot Control, The 12th World MultiConference on Systemics, Cybernetics and Informatics: WMSCI 2008, June 29th - July 2nd, 2008 Orlando, Florida, USA. **ISI Indexed.** (in press).

b) Conferences/Meeting

(key conferences and meetings organised by the Chair or to which its Chairholder contributed)

Professor Florin Popentiu has been a member of the Programme Committees for [MA RS-2007](#) in Saint-Petersburg, Russia, [ISSAT Conference](#) in Ho Chi Minh City, Vietnam, [MA RS-2008](#) and [WMSCI 2008](#) in Orlando, Florida, USA.

<http://www.inotel.org/masrconference/masr2008.htm>

<http://www.issatconferences.org/MCSE2007page.htm>

<http://sciiis.org/WMSCI2008/website/ProgramCommitte.asp?vc=1>

c) Interuniversity Exchanges/Partnerships

(principal exchanges/partnerships between the Chair and other institutions)

The activities have been developed under UNITWIN umbrella.

The UNESCO Chair in *Information and Communication Engineering*, continues a fruitful cooperation with the following academic entities:

- École Nationale Supérieure des Télécommunications (ENST) - TELECOM Paris, 46, rue Barrault, 75634 Paris cedex 13, France
- École Nationale de Techniques Avancees (ENSTA), 32 Bld Victor, 75739 Paris cedex 15, France
- The Technical University of Denmark Lyngby, Denmark
- The University "Politehnica" of Bucharest, UNESCO Chair in Engineering Sciences, Romania
- The Pierre et Marie Curie University in Paris, France
- The University of Oradea, UNESCO Chair in IT Technologies, Romania

d) Publications/Multimedia Materials

(major publications and teaching/learning materials)

tick relevant fields of output and indicate volume of output:

	[tick]	[no.]
Books	<input type="checkbox"/>	
Books (edited)	<input type="checkbox"/>	
Books (chapters)	<input type="checkbox"/>	
Monographs	<input type="checkbox"/>	
Research Reports	<input checked="" type="checkbox"/>	
Journal Articles (refereed)	<input checked="" type="checkbox"/>	
Conference Proceedings & Occasional Papers	<input checked="" type="checkbox"/>	
Teaching/Learning Materials	<input checked="" type="checkbox"/>	
Multimedia Materials (CD-Rom)	<input checked="" type="checkbox"/>	
Multimedia Materials (Video)	<input type="checkbox"/>	
Multimedia Materials (Other)	<input type="checkbox"/>	

Give details of major publications and materials including full citations.

1. V.P. Paun, Maria-Alexandra Paun, Antonela Toma, C. Ciucu , Fl. Popentiu, Transport Phenomenon Simulation for Linear Polymers through Nanometer Pores, *Materiale Plastice*, 45, **1(2008)**, ISSN: 0025-5289, pp. 57-60. **ISI Recognized.**

2. H. Madsen, P. Thyregod, B. Burtschy, G. Albeanu and F. Popentiu, On Using Soft Computing Techniques in Software Reliability Engineering, *International Journal of Reliability, Quality and Safety Engineering*, World Scientific Publishing Company, Vol. 13, No. 1, February, 2006, pp. 61-72, ISSN 0218-5393. **Inspec & Compendex & Scopus & Engineering Village Indexed.**

Cited by 1) Kiran, R.N., Ravi, V., Software reliability prediction by soft computing techniques, *Journal of Systems . Software*, **2008**, 81 (4), pp. 576-583, ISSN 0164-1212. **ISI Recognized.**

3. Fl.Popentiu-Vladicescu, G. Albeanu, P.Sens, P.Thyregod, [Software Architecture for Distributed Systems \(SADS\): Neural Networks \(NN\) and Explanatory Variables \(EV\) Approaches](#), ESREL2001, 16th-20th September 2001, Torino, Italy, Vol 2, pp. 1031-1039, ISBN 88-8202-099-1.

Cited by 1)Chapman, Cory Allen (Raleigh, NC, US) , Seethaler, Kenneth Scott (Raleigh, NC, US), Inventors, Cover for PCI express connector , United States Patent 7351076, Publication **Date: 04/01/2008.**

4. V. M. Catuneanu, C. Moldovan, Fl. Popentiu, G. Albeanu, [Maintenance Philosophy Using Queueing Multilevel Stochastic Service System](#), *Microelectronics and Reliability*, Pergamon Press, Oxford, 5(1990), pp. 897-901, ISSN 0026-2714. **ISI Recognized & Inspec & Compendex & Scopus & Engineering Village Indexed.**

Cited by 2) Vardar C, Gel E. S, Fowler J. W, A framework for evaluating remote diagnostics investment decisions for semiconductor equipment suppliers, *European Journal of Operational Research* 180 (3): 1411-1426 **Aug 1, 2007**, ISSN 0377-2217. **Index Recognition.**

e) Other

(any other activities to report)

Professor Florin POPENTIU VLĂDICESCU is Chairman of the following Charitable Trusts:

["Elena Teodorini" Academy of Arts - London](http://www.staff.city.ac.uk/~pop/elena.html) - <http://www.staff.city.ac.uk/~pop/elena.html>

[Academie des Arts "Elena Teodorini"](http://www.staff.city.ac.uk/~pop/Fondation.html) - <http://www.staff.city.ac.uk/~pop/Fondation.html>

3. Available Resources

Overview of resources placed at the disposal of the Chair in the reporting period

a) Human Resources

1. For the administration of the UNESCO Chair in Information and Communication Engineering
Florin POPENTIU, PhD professor, Chairholder (since October 1998)
2. For the teaching/training/research activities
4 professors, one visiting professor, 2-associated professor, 1 assistant professor, and 5 PhD students
3. For the information and documentation activities – the Chairholder
4. For other activities – the Chairholder

b) Other Resources

<i>tick sources of financial contribution</i>	[tick]
Host Institution	<input checked="" type="checkbox"/>
Partner Institution	<input checked="" type="checkbox"/>
Government Body	<input type="checkbox"/>
Other Public Institution/Body (incl. Research Councils)	<input type="checkbox"/>
UNESCO	<input type="checkbox"/>
Other UN Agency	<input type="checkbox"/>
IGO	<input type="checkbox"/>
NGO	<input type="checkbox"/>
Industry	<input type="checkbox"/>
Other Private	<input type="checkbox"/>

Give details of financial contributions, material resources and space.

1. For the administrative work
 - 5 Pentium IV, PC (5000 Euros)
 - 1 Xerox machine (500 Euros)
 - 1 fax (300 Euros)
 - Internet Connection and E-mail
2. For the teaching/training/research activities
 - 1 LAN with 5 PC 586, 586 Pentium systems connected at Internet (5000 euros)
 - 3 overhead projectors (1200 Euros)
 - 3 portable computer (3500 Euros)
 - 2 LCD 3 M M4100B (2000 Euros)
 - 1 room for lectures with modern facilities
3. For the information and documentation activities
 - The Library, including e-publications

4. Future Plans and Development Prospects:

Outline of action plan for the next biennium. And short/medium and long term development prospects. Please feel free to refer to difficulties that the Chair has experienced (Not exceeding 500 words)

The UNESCO Chair in Information and Communication Engineering is going to continue the teaching programmes for the undergraduate, graduate and postgraduate students, with transparent supervision and assessment, also to promote interdisciplinary training and the development of transferable skills.

We are going to participate at the ATHENS network which is composed of 16 european technological universities or institutions : the Universities and Technical Institutions of **BME** Budapest, **ITU** Istanbul, **TU Delft**, **KU** Leuven, **IST** Lisbon, **UCL** Louvain-la-Neuve, **UP** Madrid, **Politecnico Milan**, **TU Munich**, **CTU** Prague, **KTH Stockholm**, **AUTh** Thessaloniki, **NTNU** Trondheim, **TU Vienna**, **Warsaw UT**, and eight of the ten institutes of ParisTech "Grandes Ecoles d'Ingénieurs de Paris", (**AGROPARISTECH**, **ENPC**, **ENSAM**, **ENSCP**, **ENSMP**, **ENST**, **ENSTA**, **ESPCI**).

The principle goal of the Network is to facilitate the exchange of students, professors and researchers among the major European technological universities and to participate together under European technological development and training programmes.

<http://db.intersek.ntnu.no/athens/catalog/show/411>

The UNESCO Chair in Information and Communication Engineering is planning to become an international network related to the UNITWIN/UNESCO Chair programme involving collaborative efforts of leading European higher education institutions such as École Nationale Supérieure des Télécommunications (ENST) - Telecom Paris, Ecole Nationale Supérieure des Techniques Avancées, ENSTA, The Technical University of Denmark Lyngby DK, The University "Politehnica" of Bucharest, UNESCO Chair in Engineering Sciences RO The Pierre et Marie Curie University in Paris, FR, and The University of Oradea, UNESCO Chair in IT Technologies, RO.