



Athens Journal of Technology & Engineering

Volume 1, Issue 2, June 2014

Table of Contents

President's Message	91
ARTICLES	
<u>The Effect of DIMLE on Computer Literacy Level of Pre-Service Teachers</u> <i>Zerrin Ayvaz Reis and Sebnem Ozdemir</i>	95
<u>A Framework for Business IT Alignment in Turbulent Environments</u> <i>Fabrizio Amarilli</i>	103
<u>Enhancing the EAST-ADL Error Model with HiP-HOPS Semantics</u> <i>Septavera Sharvia, Yiannis Papadopoulos, DeJiu Chen, Martin Walker, Wenjing Yuan and Henrik Lonn</i>	119
<u>Numerical and Economical Study of Thermal Insulation in Multi-layer Wall Exposed to Real Climatic Conditions</u> <i>Youcef Tamene, Said Abboudi and Cherif Bougriou</i>	137
<u>Announcements</u>	149

Published by



The Engineering & Architecture Research Division of
The Athens Institute for Education and Research

Athens Journal of Technology & Engineering: A journal of the Engineering & Architecture
Research Division of the Athens Institute for Education and Research

ISSN NUMBER: 2241-8237

President of Editorial Board of ATINER's Publications

Dr. Gregory T. Papanikos, President, ATINER

Editor-in-Chief of ATINER's Publications

Dr. George Poulos, Vice President of Research, ATINER &
Professor Emeritus, University of South Africa

Editor of this Journal (Acting)

Dr. Theodore Trafalis, Head, Industrial Engineering Research Unit, Athens Institute for
Education and Research (ATINER) and Professor of Industrial and Systems Engineering &
Director, Optimization & Intelligent Systems Laboratory, The University of Oklahoma, USA.

Dr. Nicolas Abatzoglou, Professor and Head,
Department of Chemical &
Biotechnological Engineering, Université
de Sherbrooke, Canada.

Dr. Stavros Alifragkis Adjunct Lecturer,
Hellenic Army Academy, Athens, Greece.

Dr. Thomas Attard, Associate Research
Professor, Arizona State University, USA.

Dr. Prabir Kumar Bandyopadhyay, Professor,
GOA Institute of Management, India.

Dr. Ioannis Zisis, Assistant Professor,
Department of Civil and Environmental
Engineering, Florida International
University, USA

Dr. Tanuja Bandivadekar, Associate Professor,
Structural Engineering Department, Sardar
Patel College of Engineering, India.

Dr. Arthur Pantelides, Director of
Engineering, Sumitomo Machinery
Corporation of America, USA.

Dr. Nicholas Patricios, Director,
**Engineering & Architecture Research
Division**, ATINER and Professor &
Dean Emeritus, School of Architecture,
University of Miami, USA.

Dr. Panagiotis Petratos, Vice President of ICT,
Athens Institute for Education and Research
(ATINER) & Associate Professor of
Computer Information Systems, California
State University, Stanislaus, USA.

Dr. Christos Sakellariou, Vice President of
Finance, Athens Institute for Education
and Research (ATINER) & Associate
Professor of Economics, Nanyang
Technological University, Singapore.

Dr. Yiannis Papadopoulos, Professor of
Computer Science, Leader of Dependable
Systems Research Group, University of
Hull, UK.

Dr. Irena Pevac, Professor, Department
of Computer Science, Central
Connecticut State University, USA.

Dr. Neli P. Zlatareva, Professor of
Computer Science, Department of
Computer Science, Central Connecticut
State University, USA.

Dr. Roberto Gomez, Associate Professor,
Institute of Engineering, National
Autonomous University of Mexico,
Mexico.

Huseyin Ince, Associate Professor,
School of Business Administration,
Gebze Institute of Technology, Turkey.

Dr. Ahmed Kadhim Hussein, Assistant
Professor, Department of Mechanical
Engineering, College of Engineering,
University of Babylon, Republic of Iraq.

Dr. Amanda Peart, Senior Lecturer,
School of Computing, University of
Portsmouth, UK.

Dr. Jose Luis Garzon Lama, Senior
Researcher, Institute of Aeronautics and
Space, Brazil.

Dr. Lei Wang, Research Engineer,
MODEC, USA.

Managing Editor

Ms. Afrodete Papanikou

Offices

Athens Institute for Education and Research
8 Valaoritou Street, 10671 Athens, Greece

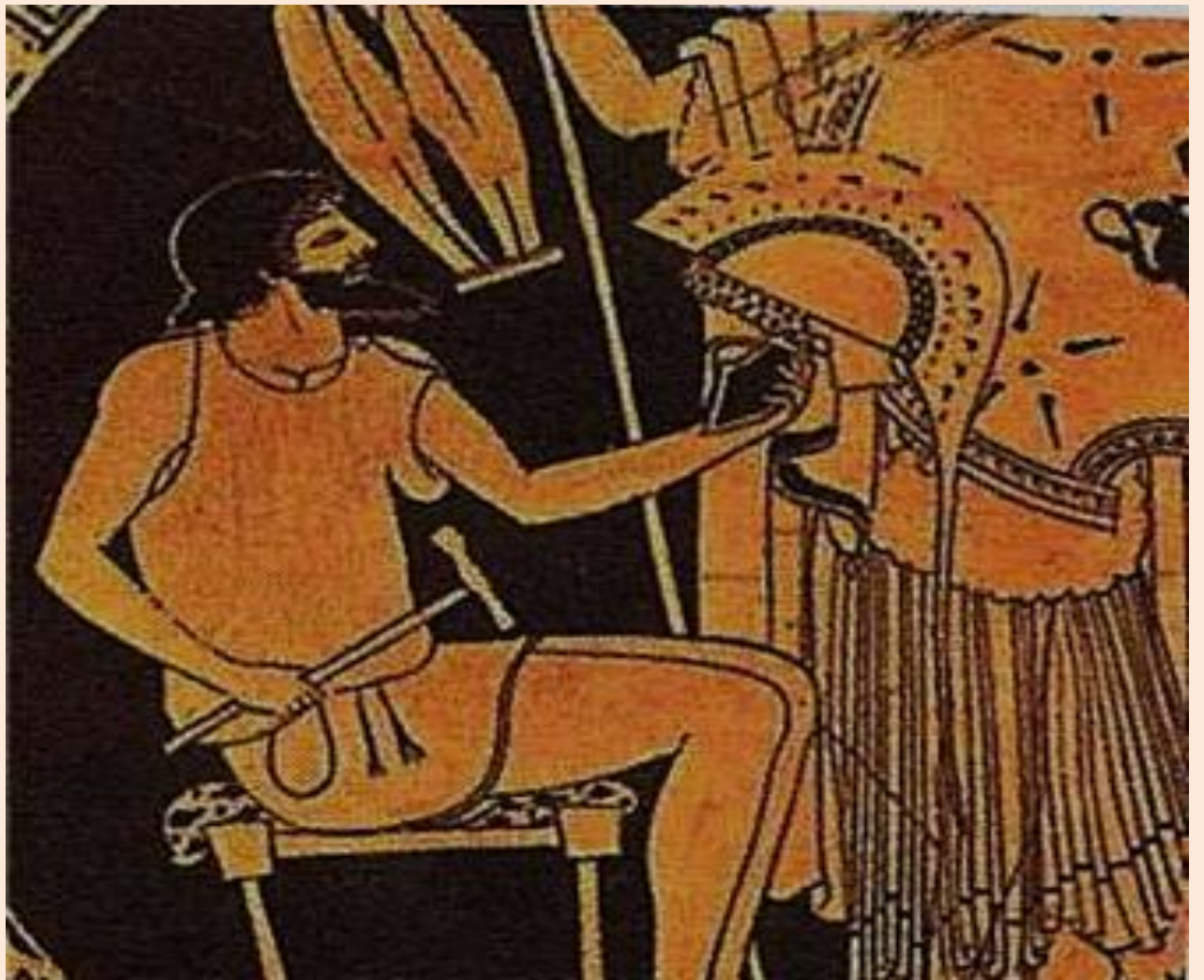
Phone: + 30 210 3634210 Fax + 30 210 3634209

Email: technology-journal@atiner.gr

URL: <http://www.atiner.gr/journals/technology.htm>

**Athens Journal of
Technology & Engineering
Volume 1, Issue 2, June 2014**

Table of Contents	
President's Message	91
ARTICLES	
<u>The Effect of DIMLE on Computer Literacy Level of Pre-Service Teachers</u> <i>Zerrin Ayyaz Reis and Sebnem Ozdemir</i>	95
<u>A Framework for Business IT Alignment in Turbulent Environments</u> <i>Fabrizio Amarilli</i>	103
<u>Enhancing the EAST-ADL Error Model with HiP-HOPS Semantics</u> <i>Septavera Sharvia, Yiannis Papadopoulos, DeJiu Chen, Martin Walker, Wenjing Yuan and Henrik Lonn</i>	119
<u>Numerical and Economical Study of Thermal Insulation in Multi-layer Wall Exposed to Real Climatic Conditions</u> <i>Youcef Tamene, Said Abboudi and Cherif Bougriou</i>	137
<u>Announcements</u>	149



President's Message

The Athens Institute for Education and Research (ATINER) is pleased to announce the publication of a number of peer reviewed, open access journals of original research work. Most of the articles will be selected from the numerous papers that have been presented at the various annual international academic conferences organized by the different research divisions and units of the Athens Institute for Education and Research. The plethora of papers presented every year will enable the editorial board of each journal to select the best, and in so doing produce a top quality academic journal. In addition to papers presented, ATINER will encourage the independent submission of papers to be evaluated for publication.

The current issue is the first of the *Athens Journal of Technology & Engineering* published by the Engineering & Architecture Research Division of the Athens Institute for Education and Research (ATINER). The Head of the Engineering & Architecture Research Division is member of the Editorial Advisory Board. The Academic Members of the research unit are members of the Editorial Board and will assist the editor and the Editorial Advisory Board with the peer reviewing of all submitted papers. Currently, the academic members of the five research units consist of over 100 international experts from about 50 countries.

Gregory T. Papanikos

President

Athens Institute for Education and Research

