



# Athens Journal of Technology & Engineering

Volume 2, Issue 3, September 2015

## Table of Contents

<b>President's Message</b>	<b>147</b>
<b>ARTICLES</b>	
<b><u>Feasibility of Recycling CDW as Raw Material in Gypsum Composites</u></b> <i>Alicia San-Antonio-Gonzalez, Rocío Santos Jimenez, Mercedes del Río Merino, Mariano González Cortina and Carmen Vinas Arrebola</i>	<b>149</b>
<b><u>Non-linear FE Modelling of CFRP-strengthened RC Slabs under Cyclic Loading</u></b> <i>Raid Daud, Lee Cunningham and Yong Wang</i>	<b>161</b>
<b><u>Investigation of Mechanical Properties of Carbon Nanotubes/High Density Polyethylene Composites Produced by Extrusion Method</u></b> <i>Mustafa Tasyurek, Serafettin Ekinci and Murat Mirik</i>	<b>181</b>
<b><u>Assessment of Residual Stresses due to Cold Bending Structural Steel Girders using Finite Element Modeling</u></b> <i>Issam Tawk, Jihad Rishmany and Antoine Gergess</i>	<b>193</b>
<b><u>Announcements</u></b>	<b>211</b>

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

**Editor of this Journal**

- **Dr. Thomas Attard**, Head, Civil Engineering Research Unit, ATINER & Associate Professor, The University of Alabama at Birmingham, USA.
- **Dr. Virginia Sisiopiku**, Head, Transportation Engineering Research Unit, ATINER & Associate Professor, The University of Alabama at Birmingham, USA.
- **Dr. Theodore Trafalis**, Head, Industrial Engineering Research Unit, ATINER & Professor of Industrial and Systems Engineering & Director, Optimization & Intelligent Systems Laboratory, The University of Oklahoma, USA.

**Editorial & Reviewers' Board**

**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](mailto:technology-journal@atiner.gr)

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

*Athens Journal of*  
*Technology & Engineering*  
**Volume 2, Issue 3, September 2015**

<b>Table of Contents</b>	
<b>President's Message</b>	<b>147</b>
<b>ARTICLES</b>	
<b><u>Feasibility of Recycling CDW as Raw Material in Gypsum Composites</u></b> <i>Alicia San-Antonio-Gonzalez, Rocio Santos Jimenez, Mercedes del Rio Merino, Mariano Gonzalez Cortina and Carmen Vinas Arrebola</i>	<b>149</b>
<b><u>Non-linear FE Modelling of CFRP-strengthened RC Slabs under Cyclic Loading</u></b> <i>Raid Daud, Lee Cunningham and Yong Wang</i>	<b>161</b>
<b><u>Investigation of Mechanical Properties of Carbon Nanotubes/High Density Polyethylene Composites Produced by Extrusion Method</u></b> <i>Mustafa Tasyurek, Serafettin Ekinici and Murat Mirik</i>	<b>181</b>
<b><u>Assessment of Residual Stresses due to Cold Bending Structural Steel Girders using Finite Element Modeling</u></b> <i>Issam Tawk, Jihad Rishmany and Antoine Gergess</i>	<b>193</b>
<b><u>Announcements</u></b>	<b>211</b>



## **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 third from the second volume 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

