



# Athens Journal of Technology & Engineering

Volume 5, Issue 3, September 2018

## Table of Contents

<b>President's Message</b>	<b>195</b>
<b>ARTICLES</b>	
<b><u>Simulations of Hadoop/MapReduce-Based Platform to Support its Usability of Big Data Analytics in Healthcare</u></b> <i>Dillon Chrimes, Hamid Zamani, Belaid Moa &amp; Alex Kuo</i>	<b>197</b>
<b><u>Design, Build and Fly a Flying Wing</u></b> <i>Ahmed A. Hamada, Abdelrahman A. Sultan &amp; Mohamed M. Abdelrahman</i>	<b>223</b>
<b><u>The Effect of Wind Loads on the Seismic Performance of Tall Buildings</u></b> <i>Shilpa Nirman Thilakarathna, Naveed Anwar, Pramin Norachan &amp; Fawad Ahmed Naja</i>	<b>251</b>
<b><u>Optimum Design of Reinforced Concrete Cantilever Retaining Walls according Eurocode 2 (EC2)</u></b> <i>Fouad A. Mohammad &amp; Hemin G. Ahmed</i>	<b>277</b>
<b><u>Announcements</u></b>	<b>297</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  
DOI: 10.30958/ajte

**Editor of this Journal**

- **Dr. Panagiotis Petratos**, Vice-President of Information Communications Technology, ATINER & Fellow, Institution of Engineering and Technology & Professor, Department of Computer Information Systems, California State University, Stanislaus, USA.
- **Dr. Nikos Mourtos**, Head, Mechanical Engineering Research Unit, ATINER & Professor, San Jose State University 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.
- **Dr. Virginia Sisiopiku**, Head, Transportation Engineering Research Unit, ATINER & Associate Professor, The University of Alabama at Birmingham, 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: <https://www.athensjournals.gr/ajte>

# Athens Journal of Technology & Engineering

Volume 5, Issue 3, September 2018

<b>Table of Contents</b>	
<b>President's Message</b>	<b>195</b>
<b>ARTICLES</b>	
<b><u>Simulations of Hadoop/MapReduce-Based Platform to Support its Usability of Big Data Analytics in Healthcare</u></b> <i>Dillon Chrimes, Hamid Zamani, Belaid Moa &amp; Alex Kuo</i>	<b>197</b>
<b><u>Design, Build and Fly a Flying Wing</u></b> <i>Ahmed A. Hamada, Abdelrahman A. Sultan &amp; Mohamed M. Abdelrahman</i>	<b>223</b>
<b><u>The Effect of Wind Loads on the Seismic Performance of Tall Buildings</u></b> <i>Shilpa Nirman Thilakarathna, Naveed Anwar, Pramin Norachan &amp; Fawad Ahmed Naja</i>	<b>251</b>
<b><u>Optimum Design of Reinforced Concrete Cantilever Retaining Walls according Eurocode 2 (EC2)</u></b> <i>Fouad A. Mohammad &amp; Hemin G. Ahmed</i>	<b>277</b>
<b><u>Announcements</u></b>	<b>297</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 fifth 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

