



# GLOBAL JOURNAL OF ENGINEERING EDUCATION

**Editor-in-Chief: Zenon J. Pudlowski**

World Institute for Engineering and Technology Education (WIETE)  
Glen Waverley, Melbourne, VIC 3150, Australia

## WIETE Partners



Association of Taiwan  
Engineering Education and  
Management (ATEEM)  
Taichung, Taiwan



College of Engineering &  
Engineering Technology  
Northern Illinois University  
DeKalb, Illinois, USA



College of Management  
Hungkuang University  
Taichung, Taiwan



Commonwealth Science and  
Technology Academy for Research  
(C-STAR)  
Chennai, India

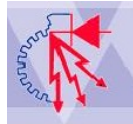


Department of Electrical and  
Power Engineering,  
AGH University of Science &  
Technology, Kraków, Poland

University of Ljubljana  
Faculty of Education  
Department of Physics  
and Technical Studies



Department of Physics and  
Technical Studies  
University of Ljubljana  
Ljubljana, Slovenia



Faculty of Electrical,  
Electronic, Computer &  
Control Engineering  
Technical University of Łódź,  
Łódź, Poland



iProfesor  
A Platform Bringing Together Men  
of Science  
Łódź, Poland



K.S. Rangasamy College of  
Technology  
Tiruchengode, India



Polytechnic Institute  
of New York University  
New York, USA



Russian Association of  
Engineering Universities  
Moscow, Russia



Society for the Development of  
Technology Education (SDTE)  
Ljubljana, Slovenia



Technological Education Institute  
of Piraeus  
Piraeus-Athens, Greece



UNIVERSITY OF BOTSWANA  
University of Botswana  
Gaborone, Botswana

Published by:

World Institute for Engineering and Technology Education (WIETE)  
34 Hampshire Road, Glen Waverley, Melbourne, VIC 3150, Australia

E-mail: [info@wiete.com.au](mailto:info@wiete.com.au)

Internet: <http://www.wiete.com.au>

© 2011 WIETE

ISSN 1328-3154

Articles published in the *Global Journal of Engineering Education* (GJEE) have undergone a formal process of peer review by international referees.

This Journal is copyright. Apart from any fair dealing for the purpose of private study, research, criticism or review as permitted under the Copyright Act, no part may be reproduced by any process without the written permission of the publisher.

*Responsibility for the contents of these articles rests upon the authors and not the publisher. Data presented and conclusions developed by the authors are for information only and are not intended for use without independent substantiating investigations on the part of the potential user.*

# Global Journal of Engineering Education

## EDITOR-IN-CHIEF

Prof. Zenon J. Pudlowski

World Institute for Engineering and Technology Education (WIETE)  
34 Hampshire Road, Glen Waverley, Melbourne, VIC 3150, Australia  
Tel/Fax: +61 3 85550953, E-mail: zenon.pudlowski@wiete.com.au  
Internet: <http://www.wiete.com.au>

## MANAGER & ASSOCIATE EDITOR

Ms Dianne Q. Nguyen

Monash University & WIETE, Melbourne, Australia

## ASSOCIATE EDITORS

Dr Elena A. Danilova

Monash University & WIETE, Melbourne, Australia

Dr Ian R. Dobson

Monash University, Melbourne, Australia

Ms Krystyna Wareing

Independent Communications Consultant, Crawley, West Sussex, England, UK

## ADVISORY BOARD MEMBERS

Prof. Hosni I. Abu-Mulaweh

Indiana University-Purdue University Fort Wayne, Fort Wayne, USA

Prof. Colin U. Chisholm

Glasgow Caledonian University, Glasgow, Scotland, UK

Prof. Ahmad Ibrahim

Yorkville University, Toronto, Ontario, Canada

Prof. Adinarayana Kalanidhi

Commonwealth Science and Technology Academy for Research, Chennai, India

Prof. Efrossini C. Kalkani

National Technical University of Athens, Athens, Greece

Prof. Krzysztof Kluszczyński

Silesian University of Technology, Gliwice, Poland

A/Prof. Slavko Kocijancic

University of Ljubljana, Ljubljana, Slovenia

Prof. Romanas V. Krivickas

Kaunas University of Technology, Kaunas, Lithuania

A/Prof. Wojciech Kuczborski

Edith Cowan University, Perth, Australia

A/Prof. Paul Maj

Edith Cowan University, Perth, Australia

Prof. George Metaxas

Technological Education Institute of Piraeus, Piraeus-Athens, Greece

Prof. Stanisław A. Mitkowski

AGH University of Science and Technology, Kraków, Poland

Prof. Nikos J. Mourtos

San José State University, San José, USA

Prof. Andrew Nafalski

University of South Australia, Adelaide, Australia

Prof. Derek O. Northwood

University of Windsor, Windsor, Canada

Dr Sivamalai Rangasamy

K.S. Rangasamy College of Technology, Tiruchengode, India

Prof. Dieter Schott

Hochschule Wismar - University of Technology, Business and Design, Wismar, Germany

Prof. Kin Wai Michael Siu

Hong Kong Polytechnic University, Hong Kong, PRC

Prof. David W.S. Tai

Association of Taiwan Engineering Education and Management, Taichung, Taiwan

Prof. Jacek Uziak

University of Botswana, Gaborone, Botswana

Prof. Algirdas V. Valiulis

Vilnius *Gediminas* Technical University, Vilnius, Lithuania

Prof. Promod Vohra

Northern Illinois University, DeKalb, USA

Prof. Sławomir Wiak

Technical University of Łódź, Łódź, Poland

# Global Journal of Engineering Education

## Contents

<b>Z.J. Pudlowski</b>	50	Editorial
<b>B-T. Wang, T-W. Sheu and N. Masatake</b>	51	Evaluating the English-learning of engineering students using the Grey S-P chart: a Facebook case study in Taiwan
<b>R.B. Ward</b>	57	Maintaining the corporate asset
<b>S. Chanchalor and D. Kammeungmai</b>	64	Vocational students in Thailand: collaborative learning via the Internet in groups of different sizes
<b>H-j. Meng</b>	70	Rural teachers' acceptance of interactive white board-based ICT in Taiwan
<b>D. Varona, L.F. Capretz and Y. Piñero</b>	77	Personality types of Cuban software developers
<b>O. Ghrayeb and P. Vohra</b>	82	Experiential learning in engineering education: a case study at NIU
<b>Index of Authors</b>	90	