

Contents

Section I

Special Issue

**Selected papers from the 2012 International STEM in Education Conference,
Beijing, P. R. China**

Guest Editor

**Feng-Kuang Chiang—School of Educational Technology, Faculty of Education,
Beijing Normal University, Beijing, P. R. China**

Ahmad Ibrahim	809–810	Editorial
Feng-Kuang Chiang	811–813	Guest Editorial
Peter Hudson, Lyn D. English and Les Dawes	814–821	Female Students' Interactions in a Middle School Engineering Project: A Case Study
Merilyn (Lyn) G. Carter	822–828	A Picture is worth a Thousand Words: A Cross-curricular Approach to Learning about Visuals in STEM
Guo-Wei Chen and Chung-Shan Sun	829–832	Acceptance Level of Junior High School Students of Network Educational Games
Kar-Tin Lee and Rod Nason	833–838	The Recruitment of STEM-Talented Students into Teacher Education Programs
Samson M. Nashon and David Anderson	839–845	Teacher Change: The Effect of Student Learning on Science Teachers' Teaching in Kenya
Gillian Kidman, Stephen Keast and Rebecca Cooper	846–855	Enhancing Preservice Teacher Learning through Slowmotion Animation
Su Cai, Feng-Kuang Chiang and Xu Wang	856–865	Using the Augmented Reality 3D Technique for a Convex Imaging Experiment in a Physics Course

Section II

**Contributions in: Creativity, Problem-Based Learning, Motivation, Retention,
Student Stress, Professional Skills, Oral Presentations, Ethical Reasoning, Assessment,
Computing Engineering, Virtual Laboratories, Software Tutorials, Robot Simulation,
Architectural Design, Physics & Engineering, Outreach**

Chunfang Zhou and Anette Kolmos	866–878	Interplay between Individual Creativity and Group Creativity in Problem and Project-Based Learning (PBL) Environment in Engineering Education
DeLean A. Tolbert and Shanna R. Daly	879–890	First-Year Engineering Student Perceptions of Creative Opportunities in Design
Josep M. Mateo-Sanz, Carme Olivé and Dolors Puigjaner	891–903	Two New Moodle Modules for the Enhancement of a Problem-Based Learning Approach
Zin Eddine Dadach	904–913	Quantifying the Effects of an Active Learning Strategy on the Motivation of Students
Brandi N. Geisinger and D. Raj Raman	914–925	Why They Leave: Understanding Student Attrition from Engineering Majors
Ali Rizwan, Muhammad Abbas Choudhary, Mirza Jahanzaib, Ali Imran, Umair Manzoor and Ammar Ali	926–932	Analysis of Factors Affecting the Stress Level of Engineering Students from Remote Areas
A. Ashrif A. Bakar, Rosdiadee Nordin, Nasharuddin Zainal, Khadijah Alavi, M. M. Mustafa and H. Hussain	933–939	Nurturing Engineering Enthusiasm and Soft Skills in High School Students
Luc de Grez and Martin Valcke	940–947	Student Response System and How to Make Engineering Students Learn Oral Presentation Skills
Ewa A. Rudnicka, Mary Besterfield-Sacre and Larry J. Shuman	948–966	Development and Evaluation of a Model to Assess Engineering Ethical Reasoning and Decision Making
Mohamed Sharaf, Abdullah Alsadaawi, Mohamed Elmadany, Saeed Al-Zahrani and Abdelhamid Ajbar	967–973	Identification of Top Competencies Required from Engineering Graduates: A Case Study of Saudi Arabia
Desmond Adair and Martin Jaeger	974–985	A Scoring Method Based on Simple Probability Theory that Considers Partial Knowledge and Omission of Answers in Multiple-Choice Testing

Carme Martín, Toni Urpí, M. José Casany, Xavier Burgués, Carme Quer, M. Elena Rodríguez and Alberto Abelló	986–997	Improving Learning in a Database Course using Collaborative Learning Techniques
Boris Blototsky, Elia Efraim and Yuri Ribakov	998–1012	Virtual Laboratory for Studying Seismic Response of Base Isolated Bridges
Dragoljub Novaković, Neda Milić and Branko Milosavljević	1013–1023	Animated vs. Illustrated Software Tutorials: Screencasts for Acquisition and Screenshots for Recalling
Jer-Vui Lee, Zahari Taha, Hwa-Jen Yap and Azeddien Kinsheel	1024–1036	Constructivist Game-based Robotics Simulator in Engineering Education
Sherif El-Fiki	1037–1046	Towards a Process-based Model for Teaching Architectural Design, with Reference to Design Studio One
Aharon Gero	1047–1054	Interdisciplinary Program on Aviation Weapon Systems as a Means of Improving High School Students' Attitudes towards Physics and Engineering
	1055	Guide for Authors