Contents

Section I

Special Issue

Ethics, Social Responsibility and Sustainability in Engineering Education

Guest Editors

Marc Alier Forment – Universidad Politécnica de Cataluña, Spain Miguel Ángel Conde – Escuelas de Ingenierías Industrial e Informática, University of León, Spain

Editorial Ahmad Ibrahim	583
Guest Editorial Marc Alier Forment and Miguel Ángel Conde	584–588
Experimental Education of Collaborative Design. The Case of an Inclusive Bus Stop for a Tourist Transportation Hub Manuela Pires Rosa	589–599
Teaching Essential Competencies for Social and Sustainable Engineering Design – Case Study of a Research-Oriented Master's Seminar Ann-Kristin Winkens and Carmen Leicht-Scholten	600–610
Engineering Faculty Views on Sustainability and Education Research: Survey Results and Analyses Paul Gannon, Ryan Anderson, Carolyn Plumb, Douglas Hacker and Kerry Shephard	611–620
Assessment of Ethical, Environmental and Professional Responsibility Training of Civil Engineers Ester Gimenez-Carbo, M. Esther Gómez-Martín and Ignacio Andrés-Doménech	621–630
Embedding Ethics Throughout a Master's in Integrated Engineering Curriculum Sarah Jayne Hitt	631–642
Teaching Topics of Responsibility and Sustainability in Large Engineering Classes Marie Decker, Ann-Kristin Winkens and Carmen Leicht-Scholten	643–655
Integration of Ethics, Sustainability, and Social Responsibility Components in an Undergraduate Engineering Course on Finite Element Analysis Gaganpreet Sidhu and Seshasai Srinivasan	656–662
A Case Study in Brazil and Spain about the Students' Perception of the Gender Gap in Computing Alicia García-Holgado, Carina S. González-González, Ismar Frango Silveira and Francisco J. García-Peñalvo	663–672
Analytical Framework to Investigate Ethics, Social Responsibility and Sustainability in Engineering Project Management Laura Fernández-Robles, Manuel Castejón-Limas, Alexis Gutiérrez-Fernández, Francisco J. Rodríguez Lera and Camino Fernández-Llamas	673–683
Team-Based Learning to Improve Diversity and Inclusion of Environmental Engineering Students: A Mixed Methods Case Study Hong Yang	684–694
Exploring the Relationship between Students' Trait Empathy, their Attitudes Towards Sustainability, and their Reflections on a Workshop on Sustainable Design Rohan Prabhu, Elizabeth Starkey and Mohammad Alsager Alzayed	695–708
Imagination and Moral Deliberation: A Case Study of an Ethics Discussion Session Yousef Jalali, Christian Matheis and Vinod Lohani	709–718
Stereotype Threat and Faultlines Based on Cultural Diversity in Engineering Education in Germany Edwin Semke, Wanda Theobald and Petia Genkova	719–726
Integrating Inclusivity and Sustainability in Civil Engineering Courses Kauser Jahan, Stephanie Farrell, Harriet Hartman and Tiago Forin	727–741
Leveraging Sustainability to Teach About Social Justice in Civil Engineering Curricula Tom Siller, Rebecca A. Atadero, A. M. Aramati Casper and Christina H. Paguyo	742–755

Section II

Contributions in: STEM, Teamwork, Psychological Safety, PBL, Big Data, Gender, Identity, Industry Skill Gap, Apprenticeship, Competencies Progress, Learning Modules, Computer Science, Manufacturing Engineering, Fluid Mechanics

Vytautas Štuikys, Renata Burbaitė, Giedrius Ziberkas and Ramūnas Kubiliūnas	156-113
Dynamics of Mixed-Gender Teams in Engineering Education Behzad Beigpourian and Matthew W Ohland	774–785
Big Data + Business Administration: Applying Problem-Based Learning to Enrich the Design of Interdisciplinary Education Lanxia Zhang, Chunfang Zhou and Xinbo Sun	786–798
How Engineering Identity of First-Year Female and Male Engineering Majors is Predicted by Their Physics Self-Efficacy and Identity Yangqiuting Li and Chandralekha Singh	799–813
Integrating Hands-on Continuous Process Improvement Practices with Traditional Manufacturing Processes Lab Truc T. Ngo, Paul J. Wield and Troy T. Bui	814-824
Comparison Between Apprenticeship Learning and Traditional Learning in Students of Mechanical Engineering Vocational Education: A Case Study in Slovenia Martin Pivk and Boris Aberšek	825–835
Progress of Student Competencies from Cornerstone to Capstone Design: A Longitudinal Study John Crepeau, Michael Maughan, Steven Beyerlein, Dan Cordon, Matthew Swenson, Daniel Robertson and Sean Quallen	836–848
Effectiveness of Hands-on Desktop Learning Modules to Improve Student Learning in Fluid Mechanics and Heat Transfer across Institutions and Program Types Aminul Islam Khan, Negar Beheshti Pour, Kristin Bryant, David B. Thiessen, Olusola Adesope, Bernard J. Van Wie and Prashanta Dutta	849–872
Guide for Authors	873