Editorial

WELCOME to the third issue of 2018. I would like to update you on the progress we are making in expanding the reach of our journal and provide an insight into the papers in this issue.

We have kicked off several initiatives targeting to capture the emerging research in technology and engineering management.

We now have 15 calls for special issues/sections. I am hoping that we will be able capture emerging research in these areas through these special issues and continue getting papers in these topics for regular issues in the future. The calls are posted on the IEEE-Technology and Engineering Management Society (TEMS) website (http://www.ieee-tems.org) and are listed below.

1) Incubators and accelerators: Integrating evolving incubator models and learning from the past led by Brendan Galbraith, Rodney McAdam, and Stephen Cross.
2) Strategic foresight in organizational theory and innovation management led by Daniel Ehls, Adam Vigdor Gordon, Cornelius Herstatt, and Rene Rohrbeck.
3) Cyber-attacks, strategic cyber-foresight, and security led by David Sarpong, Dirk Meissner, and Richard Nyuur.
4) Data analytics for energy, water, and environment led by Tao Hong.
5) Design science in IS/IT led by Samir Chatterjee, R.P. Sundarraj, and Kaushik Dutta.
6) Technology mining led by Alan Porter, Yi Zhang, and Denise Chiavetta.
7) Technology roadmapping led by Rob Phaal and Clive Kerr.
8) Innovation in design processes led by Claudia Eckert and Jianxi Luo.
9) Blockchain ecosystem: Technological and management challenges and opportunities led by Kim-Kwang Raymond Choo, Sercan Ozcan, Ali Dehghantanha, and Reza Parizi.
10) Building entrepreneurial ecosystems: Exploring ambidexterity in technology and engineering management led by Elias Carayannis, Manlio Del Giudice, Shlomo Tarba, and Pedro Soto-Acosta.
11) Resource constrained product development and frugal engineering led by Rian Beise-Zee, Cornelius Herstatt, and Rajnish Tiwari.
12) Smart services and software platforms led by Christian Bartelt, Marc Konig, Alexander Madche, Andreas Rausch, and Konrad Zehr.
13) Modeling and simulation in disaster & emergency management: Planning, strategy formulation, decision making, and training led by Adriano Solis, Leorey Marquez, and Agostino Bruzzone.
14) Technology and engineering management in China led by Fei Yuan, Xin Li, Lucheng Huang, Yuan Zhou, and Lan Xue.
15) Open innovation and social product development led by Richard Evans and Dirk Schaefer.

Many journals recently launched programs to emphasize prior published papers in bundles under the title of virtual special issues. The idea is to provide a source for colleagues in the academia, industry, and government to go to when they need a collection of articles on a very relevant topic. We created three on Project Management already:

1) http://www.ieee-tems.org/project-management-recent-advances/;
2) http://www.ieee-tems.org/project-management-classics/;
3) http://www.ieee-tems.org/project-management-masters/.

We added three new department editors to our team to help in areas where we are falling short in terms of team members. One of these areas is Project Management. Historically, we have received the highest number of papers in this topic. A social network analysis of the keywords of papers ever published in the IEEE TEM is presented below.

The other area of growing submissions is advanced analytics, which is heavily used for decision making. Decision making has been second most popular topic after Project Management in the IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT (TEM).

Young Hoon Kwak from the Department of Decision Sciences in School of Business at The George Washington University joins us. He is currently the Editor-in-Chief for the *Journal of Management in Engineering* published by ASCE. He will help us with the Project Management submissions.

Tao Hong from the Systems Engineering and Engineering Management Department at University of North Carolina Charlotte joins us. He will help us with the advanced analytics submissions

Gulgun Kayakutlu from the Energy Institute at Istanbul Technical University joins us. She will help us with advanced analytics submissions as well.

We initiated a new submission type: Technology Management Research Perspectives. These are short articles by our colleagues to provide insight into the emerging topics in our field.

Several of us will be attending conferences through this summer and fall. I will be at editors panels at the following conferences.

1) ICE/IEEE ITMC June (Stuttgart, Germany) – http://www.ice-conference.org/.
2) TEMSCON June/July (Chicago, IL, USA) – http://www.temscon.org/.

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3) PICMET August (Hawaii, USA) – https://www.picmet.org/main/.
4) INFORMS November (Phoenix, AZ, USA) – http://meetings2.informs.org/wordpress/phoenix2018/.
5) ICTMOD November (Marrakesch, Morocco)– http://www.ciems.ma/conference/en/.

Please come and find me if you are coming to any one of them to discuss your ideas about papers, special issues, and other journal related topics.

This issue presents 12 papers. The first two papers provided frameworks for technology and engineering organizations for use to improve organizational and productivity. The first paper by Burnard *et al.* explored the impacts of disruptions in three engineering firms and provided key recommendations on how to build a better resilient organization. Authors collected data through interviews in three organizations targeted as cases. The second paper by Herrera-Restrepo and Triantis provided a systemic review of literature on factors important for design. Their results can be leveraged by engineering organizations seeking metrics measuring their efficiency.

The next four papers explored different types of organizations to identify successful strategies leading successful innovations in various forms. The third paper is in the area of national research and development strategies. Sun *et al.* explored the role of government entities in China on influencing corporate research and development investments. The fourth paper investigated how different types of competitive forces shape environmental innovations in third party logistics providers. Chu *et al.* found that customer pressure had significant impact. The fifth paper by Marion and Meyer studied the relationship between organization and development of architecture-enabled modularity. They found that using separate architecture teams was not enough to achieve modular product architecture. The sixth paper focused on an interesting topic: defining and quantifying organization capital. Juneja and Amar studied software companies in an attempt to understand the implications of their organizational capital decisions.

The next six papers provided methodological advancements in different technology and engineering fields. The seventh paper by Smith and Pate-Cornell demonstrated an approach to improve the cyber security of the smart electric grid. Their approach was based on bayes-adaptive Markov decision process. Kauppinen *et al.* provided a method to evaluate project investments in the eighth paper of this issue. Their study was based on real option theory. The ninth paper by Moheb-Alizadeh and Handfield explored materials price volatility and provided a mathematical programming model to optimize cost of goods sold. The tenth paper by Wang *et al.* addressed a similar issue and targeted to optimize average production cost. Zhang and Wang studied the flexible assembly job shop scheduling leveraging mixed-integer linear programming in the eleventh paper. Final paper by Osman and Baki introduced a cuckoo algorithm to address line balancing in the auto industry.

T. U. DAIM
Ph.D. and PICMET Fellow
Professor and Director
Technology Management Doctoral Program
Department of Engineering and Technology Management
Maseeh College of Engineering and Computer Science
Portland, OR 97201 USA
tugrul.u.daim@pdx.edu