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Preface

2nd Issue on Process Control Visual Symposium (PCVS 2024) – Regular Papers.

Journal Editor

The practice of engineering related to process systems engineering is undergoing various major changes in dealing with the needs and requirements of advancing the IR 4.0 concepts. These changes require a collaborate and multidisciplinary approach, which will definitely influence highly the direction of teaching and research in the academic institutions in the future in this region and globally at large. This in mind, the Malaysian Process Control Society (MyPCS) hosted the 2nd Process Control Virtual Symposium (PCVS 2024) on the 4 – 5th September 2024 with the theme "Navigating Industry Towards Sustainability Through Process System Engineering". The program included Keynote Speeches by academic and Industrial Experts, various technical presentations and a MATLAB Project Competition in various research topics. This 2nd issue a follow up of the 1st issue published in 2024, incorporates abstract of 1 keynote speaker, 5 full papers of the oral presentation in the symposium and 1 regular paper. These papers cover a wide spectrum of topics in the field of Systems Engineering, either directly related to the I.R 4.0 concepts or fundamental studies revolving around these concepts.
The first paper is the abstract of one of the keynote speech on "To Control, or Not to Control, that is the Question, Why and How?" by Prof. I.M Mujtaba which emphasized on the critical role of control system in ensuring productivity, quality and profitability in industrial process.

All other papers are from the Symposium. The second paper is on "Tracking-error passivity-based control approach for the stabilization of chemical reaction systems using partially decoupled dynamics" by Thanh Sang Nguyen et. al. which discusses on a passivity-based control method for a non-isothermal homogenous reaction system by integrating its partially decoupled dynamics based on the concept of reaction variants in the port-Hamilton representation.

The third paper is "Metaheuristic Inspired Algorithm for Supervisory Fuzzy Controller for Plant Wide" by Khalid Abdirashid Sulaiman et. al. which investigate tuning algorithm performance for multiple loop control system through metaheuristic inspired approach in plant wide application. The fourth paper on "Fault Detection and Classification in Steam Methane Reforming Process Using Long Short-Term Memory Model" by Nabilla Wahyu Hasanah et. al. which discusses the use of the long short-term memory model with deep learning approach for enhancing the reliability and efficiency of Steam Methane Reforming processes. The fifth paper on "Aqueous Mineral Carbonation of Red Mud for CO_2 Permanent Sequester" by Aulia Azzahra et. al. discusses on a method to neutralize red mud and provides sustainable CO_2 sequestration. The sixth paper is on "A Graphical User Interface for Determining the Safe Consumption of Food based on the Concentration of SD, BA, and SA" by Nidhi Rajesh Mavani et. al. discusses on a GUI-based tool to determine the concentration of preservatives in food item.

Finally, on behalf of the Malaysian Process Control Society (MyPCS) we would like to thank all the participants, authors, reviewers and the editorial office bearers for their support and contributions in making this issue possible.

Thank you,

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