Chanin Panjapornpon

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Education

Ph.D. in Chemical Engineering	Drexel University, USA, 2005
MS. in Chemical Engineering	Drexel University, USA, 2002
B.Sc. (2nd Honor) in Chemical Engineering	Chulalongkorn University, Thailand, 1995

Experience

2023-March 2025 **Head of Department of Chemical Engineering**

2020-2021 **Chair, Graduate Program in Safety Engineering**

2017-2021, 2011-2015 **Deputy Head of Department of Chemical Engineering**

2005-Current **Dept. of Chemical Engineering, Faculty of Engineering, Kasetsart University**

- Associate Professor
- Assistant Professor
- Lecturer

1995-2000 **Vinylthai Public Co. Ltd.**

Working position

Vinyl Chloride Monomer (VCM) Department

- VCM Quality and Development coordinator
- Assistant Operation Manager
- Shift Superintendent

Research Interests

Neural network applications on process monitoring, Machine learning-based fault detection and diagnosis, Energy efficiency analysis by deep learning techniques, Intelligent process control

Publications Record Site

1. Google scholar: https://scholar.google.com/citations?hl=th&user=03Aa5FMAAAAJ

2. Scopus: https://www.scopus.com/authid/detail.uri?authorId=6506622312

Recent Publications

1. Bardeeniz, S., Panjapornpon, C., Chomchai, P., & Hussain, M. A. (2025). Fouling-characteristic transfer learning for improving remaining useful lifetime prediction in heat exchange unit. Reliability Engineering & System Safety, 262, 111250.
2. Tawai, A., Bardeeniz, S., Rochpuang, C., Amornraksa, S., Hussain, M. A., & Panjapornpon, C. (2025). Self-driving surrogate modeling for optimizing targeted bio-oil yield and heating value in waste biomass-plastic co-pyrolysis. Journal of Analytical and Applied Pyrolysis, 190, 107158.
3. Bardeeniz, S., Panjapornpon, C., Hounkim, W., Dechakupt, T., & Tawai, A. (2025). Artificial intelligence-driven control for enhancing carbon dioxide-based wastewater pH regulation in tubular reactor. Computers & Chemical Engineering, 192, 108880.
4. Bardeeniz, S., Panjapornpon, C., & Lee, M. (2025). Law of conservation-guided neural network with gradient aggregation for improved energy efficiency optimization in industrial processes. Energy and AI, 20, 100475.
5. Amornraksa, S., Panjapornpon, C., Maity, S. K., Sriariyanun, M., & Tawai, A. (2024). AOPC-based control for efficient uncertainty mitigation in UASB wastewater treatment with multiple manipulated variables and distributed biomass integration. Computers & Chemical Engineering, 187, 108735.
6. Bardeeniz, S., Panjapornpon, C., Fongsamut, C., Ngaotrakanwiwat, P., & Azlan Hussain, M. (2024). Digital twin-aided transfer learning for energy efficiency optimization of thermal spray dryers: Leveraging shared drying characteristics across chemicals with limited data. Applied Thermal Engineering, 242, 122431. https://doi.org/10.1016/j.applthermaleng.2024.122431
7. Bardeeniz, S., Panjapornpon, C., Fongsamut, C., Ngaotrakanwiwat, P., & Hussain, M. A. (2024). Energy efficiency characteristics analysis for process diagnosis under anomaly using self-adaptive-based SHAP guided optimization. Energy, 309, 133074.Bardeeniz, S., Panjapornpon, C., Hussain, M. A., Varabuntoonvit, V., & Jitapunkul, K. (2024). Enhancing industrial sustainability in complex production systems through energy hotspot identification: A multi-task learning with layer-wise relevance propagation approach. Results in Engineering, 23, 102818.
8. Jitchaiyapoom, T., Panjapornpon, C., Bardeeniz, S., & Hussain, M. A. (2024). Production capacity prediction and optimization in the glycerin purification process: A simulation-assisted few-shot learning approach. Processes, 12(4), 661.
9. Panjapornpon, C., Chinchalongporn, P., Bardeeniz, S., Jitapunkul, K., Hussain, M. A., & Satjeenphong, T. (2024). Development of physics-guided neural network framework for acid-base treatment prediction using carbon dioxide-based tubular reactor. Engineering Applications of Artificial Intelligence, 138, 109500.
10. Panjapornpon, C., Rochpuang, C., Bardeeniz, S., & Hussain, M. A. (2024). Machine learning approach with a posteriori-based feature to predict service life of a thermal cracking furnace with coking deposition. Results in Engineering, 22, 102349.
11. Panjapornpon, C., Satjeenphong, T., Bardeeniz, S., & Hussain, M. A. (2024). Enhancing sustainability in palm oil industry: Reinforcement learning for renewable energy management considered climatic variability. Discover Chemical Engineering, 4(1), 25.