Proposal for Special Session at IEEE CASE 2022

Goal:

A great deal of attention is being paid today to the development of effective scientific and engineering solutions for achieving sustainable manufacturing. The driving factors are not only rising energy costs and growing shortage of natural resources but also green behavior for EU directives and ISO 14001 certification. This interest has received the wide concerns in industries, governments and academia to the sustainable development. This invited session aims at presenting the advanced theoretical development and applications in this area, and bringing academy and industry practitioners to discuss promising problems with international concerns.

Session Title: Advance in Sustainable Manufacturing Automation

Organizers:

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Contributions:

1. “An intelligent design method for remanufacturing process considering carbon emission” by Chao Ke, Zhigang Jiang, Shuo Zhu, Yan Wang.

2. “A multi-objective integrated optimization method for low-carbon production planning and scheduling based on hyper-heuristic rules” by Xin Chen, Zhigang Jiang, Shuo Zhu, Wei Yan.

3.“Data-driven functional upgrade design method for used mechanical and electronic products remanufacturing based on technological life assessment” by Jie Yang, Zhigang Jiang, Shuo Zhu, Hua Zhang.

4. “Parallel workstation-based collaborative reconfiguration of multi-stage automobile engine flow shop considering performance deterioration” by Miao Yang, Congbo Li, Maokun Xiong, Hewang Zhai.

5. “Degradation trend prediction for centrifugal blowers based on multi-sensor information fusion” by You Zhang, Congbo Li, Xikun Zhao, Miao Yang.

6.“Energy saving design optimization of a hobbing machine tool” by Wei Li, Congbo Li.

7.“Energy efficient parameter optimization for a multi-pass hobbing process” by Zhaolong Li, Xingzheng Chen, Congbo Li, Li Li.

8.“Integrating machine learning and mathematical optimization for job shop scheduling” by Anbang Liu, Peter B. Luh, Kailai Sun, Mikhail A. Bragin, and Bing Yan.

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