
IJAL overview

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Biographical notes: Jason Gu is a Full Professor in the Department of Electrical and Computer Engineering at Dalhousie University. He is also a cross appointed Professor in the School of Biomedical Engineering at Dalhousie University. He has published over 160 journal and conference papers, six book chapters and numerous other technical publications. He serves as a member of Natural Sciences and Engineering Research Council of Canada (NSERC) Grant Selection Committee. He is a senior member of the Institute of Electrical and Electronics Engineers (IEEE), and a CSME and ASME member. He serves as an Associate Editor for numerous journals, including *Journal of Control and Intelligent Systems*, *Transactions on CSME*, *IEEE Transaction on Mechatronics*, *International Journal of Robotics and Automation*, *Unmanned Systems*, *IEEE Access*, and *International Journal of Advanced Robotic Systems*.

Development and progress in logistics has greatly influenced the industry and has also improved the quality of life of human beings in the new century. However, researchers in academia and industry are facing new challenges, including the power and cost reduction in manufacturing, supply chain optimisation and automation, transfer time minimisation in transportation, logistics optimisation, process automation, efficiency and emission reduction in auto industry, and etc. Green and higher efficiency logistics is the trend in world industry. Automation integrated logistics will result in lower cost, higher profit and is environmentally and socially friendly, in addition to economically functional.

The *International Journal of Automation and Logistics (IJAL)* is launched as an active forum for both research academia and industries and government agencies. *IJAL* will foster and facilitate communication and networking among researchers in the area of automation and logistics and will stimulate integration of automation and logistics to yield high-quality theoretical papers with practical application potential.

This inaugural issue collected six papers that represent a sample of current developments in automation and logistics. Two papers are in the area of intelligent transportation, one paper is in intelligent manufacturing, three papers are in the area of green energy and monitoring.

The first paper presents a coordination method for subway lines through computational experiments of passenger transfer time in transfer stations. The study is to minimise passengers' transfer time by tuning train arrival schedule in the transfer station. The second paper develops a centralised optimal charging scheduling model with a mixed integer non-linear programme to mitigate the negative impact of extra load from EVs on the power grid. The objective of the research work is to minimise the energy cost of the

entire system, which essentially levels the load of the entire power grid throughout a day under the dynamic pricing environment. The third paper studies the impact of the topology errors on the convergence property of WLS state estimation under load increment. The objective of the paper is to improve the state estimation in real time power system monitoring, control, and automation. The fourth paper proposes a unified decision support system. It uses real-time energy measurements and process operational states to make effective decisions, enabling high performance manufacturing. The fifth paper proposes a mixed integer programming model that can be applied to design the rule base matrix of a discrete event controller in order to optimise energy consumption of the resources while adhering to meet budget and completion time constraints. The sixth paper develops a quick and approximate way to address the fleet sizing problem for transporters with non-stationary demands and uncertain trip times.

This inaugural issue covers novel intelligent transportation design concepts, green power estimation and monitoring theories and methodologies, together with an application in manufacturing.

IJAL invites manuscript with innovative theories and intelligent application in following areas:

- modelling, identification and simulation
- evaluation and optimisation
- planning, scheduling and coordination
- strategy and planning on logistics
- supply chain network optimisation
- intelligent transportation system theory and application
- intelligent distribution systems
- advanced vehicle routing planning
- management information systems on logistics
- technology and equipments on logistics
- logistics optimisation
- automatic control with application in logistics
- intelligent control and automation
- process automation
- nano-scale automation and assembly.

IJAL will become the active world forum and attract and disseminate original, theoretically advanced and practically advantaged papers pertinent to automation and logistics.