

International Journal of Industrial Engineering: Theory, Applications and Practice

Special Issue on

The Roles of Industrial Engineers in the Semiconductor Industry

Aims of the Special Issue:

The semiconductor industry has been continuously growing with the various applications including medical electronics, green energy, car electronics, computers, communication, and consumer electronics. Semiconductor manufacturing is an extensively complex process comprising tightly constrained production processes, reentrant process flows, expensive sophisticated equipment, uncertain demand, and variable supply. Industrial engineers have been contributing knowledge of enabling business and operations decision excellence. With the emergence of larger-scale automated factories and even more complex manufacturing owing to higher technology advancement, there is a compelling trend to extend the industrial engineering scope to integrate with advanced decision technologies for higher decision quality. This special issue of the *International Journal of Industrial Engineering: Theory, Applications and Practice (IJIETAP)* aims to review the roles of industrial engineers involved on recent progress in the semiconductor industry and to point out the research trend toward the enhancement of the semiconductor industry.

Scope of the Special Issue:

A main source of the manuscripts in this special issue will be invited from those high quality papers and empirical research papers presented in **The 2014 International Symposium on Manufacturing Intelligence (ISMI2014), Taipei, Taiwan, August 16 – August 18, 2014**, while other papers describing scientific technologies and methodologies that improve the quality of business and operations decisions of the semiconductor industry can also be directly submitted, for regular review and potential publication in this special issue. Special attention will be paid to papers focusing on reviewing the roles of industrial engineers in the semiconductor industry. Submissions of comprehensive reviews and tutorial survey from experts in academia and the semiconductor industry worldwide are strongly encouraged. Topics to be covered include, but are not limited to:

- Industry ecosystem and supply chains
- Integration and virtual integration
- Business models
- Decision technologies and methodologies
- Fault diagnosis and predictive maintenance
- Design for manufacturing (DFM)

- Factory modeling, analysis and performance evaluation
- Capacity and inventory management
- Planning, scheduling, and coordination
- Job release and dispatch policies
- Automated/Manual material handling systems (AMHS/MMHS)
- Factory/cell/equipment-level controller design
- Manufacturing execution systems (MES)
- Advanced process control (APC)
- Decision support systems (DSS)
- Transportations and logistics
- Human resource management
- Human factors and ergonomics
- Productivity improvement
- Yield enhancement systems and e-Diagnosis
- Equipment engineering systems (EES)
- Automation and remote control
- Cloud, mobile and wireless applications
- Agent based intelligent systems

Submission Guidelines:

All papers must be original and not published, submitted and/or currently under review elsewhere. All manuscripts should be submitted through the **IJIETAP** online system at <http://journals.sfu.ca/ijietap/index.php/ijie/about/submissions#onlineSubmissions>. Please choose “**ISMI2014**” when assigning the Journal Section. In preparing their manuscript, authors are asked to closely follow the online “Author Guidelines”. Submissions will be refereed according to the **IJIETAP** standards and requirement. Each paper submitted will be subject to a blind peer-reviewed by at least two referees, in accordance with usual **IJIETAP** procedures. If accepted, a Word file of the final paper must be emailed to the corresponding guest editor. Papers accepted become the property of **IJIETAP** publisher.

Publication Schedule (tentative):

Deadline for manuscript submission:	2014/09/30
Review report:	2014/12/31
Revised paper submission deadline:	2015/03/31
Notification of final acceptance:	2015/04/30
Approximation publication date:	2015/12

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