Leaders of Industrial Engineering

Production and Logistics Information
1 About PLI Laboratory

Laboratory Overview
Professor
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Research Areas
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### About PLI Laboratory

**Laboratory Overview**

#### Dedicated in the activities contributetosociety which are related to Industry Engineering

<table>
<thead>
<tr>
<th>Production &amp; Logistics Information</th>
<th>Research focused on Industrial Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Institutions</td>
<td>Established in September, 2003</td>
</tr>
<tr>
<td>Graduates activated in different society sectors</td>
<td>3 Graduated PHDs, 33 graduated masters</td>
</tr>
<tr>
<td></td>
<td>Current: 4 PHDs and 2 masters</td>
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<tr>
<td></td>
<td>Research Area:</td>
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<tr>
<td></td>
<td>Design and Operation of Production/Service Systems</td>
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<tr>
<td></td>
<td>Environmentally Conscious Design &amp; Manufacturing</td>
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<tr>
<td></td>
<td>Forward &amp; Reverse Logistics Management, etc.</td>
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<tr>
<td>Auto industry</td>
<td>Electronic Field: LG Display, Samsung Electronics, Samsung SDI, LG Electronics, LS Industrial Systems</td>
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<tr>
<td>Mechanical/infrastructure: Doosan Machine Tools, Hansol Seentec</td>
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<tr>
<td>Food Industry: Coca Cola, Sajo-Haepyo, CJ foodville</td>
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<tr>
<td>Consultant: Korea Management Association Consultant, Korea Institute for Defence Analysis</td>
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<tr>
<td>SI: Hyundae Autoever, Samsung SDS, etc.</td>
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<tr>
<td>Paper: International 74+, Domestic 19</td>
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<tr>
<td>Conference: International 55, Domestic 58</td>
<td></td>
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<tr>
<td>Project: 27 finished, 1 ongoing.</td>
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Rich research activities
About PLI Laboratory

Professor

Professor:
Dong-Ho Lee, Ph.D.

He has been a pioneer in your research activities with accumulated knowledge and experience for over 20 years.

B.S. in Industrial Engineering, Seoul National University, Seoul, South Korea
M.S. in Industrial Engineering, Korea Advanced Institute of Science and Technology (KAIST)
Ph.D. in Industrial Engineering, Korea Advanced Institute of Science and Technology (KAIST)
Research Fellow, Department of Mechanical Engineering, Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland

Current:
Full Professor, Department of Industrial Engineering, Hanyang University

Former Organizer, OTA(Optimization, Theory and Application) in ICCSA
Current:
Member of The Korean Institute of Industrial Engineers
Member of The Korean Society of Supply Chain Management
Member of The Society of Korea Industrial and Systems
Member of Engineering The Korea Society for Simulation
In the family of PLI
Diverse studies and researches are in progress …

<table>
<thead>
<tr>
<th></th>
<th>PHD</th>
<th>Master</th>
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<tbody>
<tr>
<td>Dho, Hyoung-Ho</td>
<td>4</td>
<td>2</td>
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<tr>
<td>Yu, Jae-Min</td>
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<td>Shin, Jeong-Hoon</td>
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<td>Kim, Hyung-Won</td>
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<td>ISSA BZ</td>
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<tr>
<td>Lee, Dong-Kyu</td>
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</tr>
</tbody>
</table>

Dho, Hyoung-Ho  
PHD candidate  
- Remanufacturing Planning

Yu, Jae-Min  
PHD candidate  
- Remanufacturing Scheduling

Shin, Jeong-Hoon  
PHD candidate  
- FMS Scheduling

Kim, Hyung-Won  
PHD candidate  
- Selective Disassembly Sequencing

ISSA BZ  
Master Course  
- FMS Planning

Lee, Dong-Kyu  
Master Course  
- FMS Scheduling
About PLI Laboratory

Research Areas

**Theoretical background**
- Mathematical Background
  - LP, IP, Network, Optimization
  - Probability & Statistics
- Industrial Background
  - Operations Management

**Technical background**
- Algorithm technique
  - Exact(Optimal) approach
  - Heuristics
  - AI technique, Big-data
- Simulation, Statistics tools

**Planning**
- Forecasting
- Inventory Control
- Production planning
- Process planning
- Capacity & resource planning

**Scheduling**
- Batch scheduling
- Shop scheduling
- FMS scheduling
- Operator & worker scheduling
- Service scheduling
- MRP, APS...

**Design**
- Network design
- Facility layout
- Logistics design
- Supply Chain Management
- Information system design

**ECD&M**
- Reverse logistics
- Remanufacturing system
- Disassembly planning & scheduling
- Design for environment

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P&LI Lab.
Various applications of our researches

- Bi-direction supply chain
- Flexible Manufacturing System (FMS)
- Supply Chain Management (SCM)
- Network design & operation
- Advanced Planning & Scheduling (APS)
- Smart Factory
1st semester
Be a researcher
Get to know as a freshman

2nd semester
Find the topic
Choose the research topic by yourself

3rd semester
Define the problem
Which you can do

3rd cont...
Develop the method
Invent the novel algorithm

4th semester
Write the dissertation
Finalize your graduate school

For the future, all you can learn!
If you are interested, please feel free to contact us!

[URL] http://pli.hanyang.ac.kr
[TEL] 02-2297-0475
[e-mail] tenaper@gmail.com
Research Activities
Research Papers

- **Journals**
  - ✔ 74 international conference papers
  - ✔ 19 domestic conference papers

- **Conferences**
  - ✔ 55 international conference papers
  - ✔ 58 domestic conference papers

http://pli.hanyang.ac.kr/papers.php
Projects (Since 2003)

- Finished

- Selective Disassembly Sequencing Algorithms for Recovering End-of-Use/Life Products (National Research foundation of Korea, NRF)
- A New Dispatching Rule for Single Machine Sequencing to Minimize the Total Weighted Tardiness (Hanyang University)
- An Integrated Collection Network Design and Vehicle Routing Model in Reverse Logistics (Jeongseok Logistics Foundation)
- Planning and Scheduling for Remanufacturing Systems : Conceptual Framework and Solution (National Research foundation of Korea, NRF)
- Development of Autonomous Production Management Technology for Real-Time Flexible Production Systems (Ministry of Knowledge Economy, Korean Government)
- Research Team for Bi-directional Eco-logistics (2nd stage of Brain Korea 21, BK21, Ministry of Education and Human Resource Development)
- Common Due Date Assignment and Scheduling in Single and Parallel Machines (Korea Research Foundation, KRF)
Projects (Since 2003)

- **Finished**
  - Scheduling algorithm for reentrant hybrid flow shops, Samsung SDS (Samsung SDS, Co. Ltd)
  - The proactive design and operation of the closed-loop supply chain (Korea Research Foundation, KRF)
  - Scheduling algorithms for hybrid flow shops: minimizing the number of tardy jobs (Korea Research Foundation, KRF)
  - Scheduling Algorithms for Disassembly Systems considering Capacity Constraints (Korea Research Foundation, KRF)
  - Designing Refuse Collection Networks in Reverse Logistics (Ministry of Education, Science and Technology, Korean Government)
  - A Dynamic Lot Sizing Model for Remanufacturing Systems in Reverse Logistics (Asia Pacific School of Logistics, Inha University)

[http://pli.hanyang.ac.kr/project.php](http://pli.hanyang.ac.kr/project.php)
Projects (Since 2003)

- **In Process**

  ✓ Development of a Jig-Center Class 5-axis Horizontal Machining System Capable of Over 24 Hours Continuous Operation
  (Ministry of Trade, Industry & Energy, Korean Government, 2015.06 ~ 2019.05)
PLI Alumni
PhD.

- **2009.02**
  - Kim, Jun-Gyu (LG-Display)
  - Choi, Hyun-Seon (LG-Display)

- **2014.03**
  - Kim, Ji-Su (Post Doc.)

Masters

- **2006.02**
  - Jeon, Hyong-Bae (Korea Institute of Machinery & Materials)
  - Kim, Sang-Ill (Samsung Electronics)
  - Park, Sang-Hyun (Samsung SDI)

- **2007.02**
  - Kim, Jae-Dong (Korea Institute for Defence Analysis)
  - Cho, Byeong-Min (Korea Management Association Consultant)
  - Kwon, Yong-Ju (PHD Course)
Masters

- 2008.02
  ✓ Lee, Kwang-Bok (SajoHaepyo)

- 2009.02
  ✓ Doh, Hyung-Ho (PHD course)
  ✓ Yu, Jae-Min (PHD course)

- 2010.02
  ✓ Sim, Ik-Su (CJ Foodville)
  ✓ Ahn, Hyoung-Dae (Hankook Tire)
  ✓ Ha, Kyoung-woon (Republic of Korea Army)

- 2011.02
  ✓ Kang, Gyung-Wan (LS Industrial Systems)
  ✓ Lee, Jae-Ho (Hyundai MOBIS)

- 2008.08
  ✓ Kim, Hyung-Won (PHD course)
  ✓ Kim, Hyeok-Chol (ZIONEX)

- 2009.08
  ✓ Ma, Yeon-Seok (LG Electronics)

- 2011.08
  ✓ Ko, Hoon (Korean Register of Shipping)
### Masters

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Company/Position</th>
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<tr>
<td>2012.02</td>
<td>Choi, Young-Jae</td>
<td>LG Household &amp; Health Care</td>
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<tr>
<td></td>
<td>Han, Hee-Jong</td>
<td>Doosan Machine Tools</td>
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<tr>
<td></td>
<td>Kim, Dong-Hyun</td>
<td>Doosan Machine Tools</td>
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<tr>
<td>2013.02</td>
<td>Park, Jung-hyun</td>
<td>HyunDae Autoever</td>
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<td></td>
<td>Kim, Min-geun</td>
<td>Hansol Seentec</td>
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<td>Lee, Chul-won</td>
<td>Samsung SDS ICT Development</td>
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<td>2013.08</td>
<td>Yu, Zhou-Jing</td>
<td>Samsung SDI</td>
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<td>2014.08</td>
<td>Cho, Young-Hye</td>
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<td></td>
<td>Cuche, Daniel</td>
<td>Hyundai Autoever</td>
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<tr>
<td>2016.02</td>
<td>Huang, Rong</td>
<td>Hewlett Packard</td>
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<td>2016.08</td>
<td>Kim, Jong-Min</td>
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<td>Akmal Ulgov</td>
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<td>Joo, Ga-Hyeon</td>
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<tr>
<td>2017.08</td>
<td>Zhou, Yi-Dong</td>
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</tbody>
</table>
Appendix
Undergraduate Courses

- 2nd grade: Production System
- 3rd grade: Operations Management 1 and 2
- 4th grade: Computer Integrated Manufacturing Systems
- Some Others

Graduate Courses

- Production Planning and Control
- Environmentally Conscious Design and Manufacturing
- Design and Operation of Flexible Manufacturing Systems
- Scheduling Theory

Others

- Management of Technology: Innovation in Manufacturing Technology
- Engineering Graduate: Manufacturing system
  Operations Research
Scholarships

- Research Assistance (Project)
- Teaching Assistance
- Laboratory Secretary
- Dormitory

- Hanyang Scholarships (For International Students)
  - Hanyang International Scholarship Program (HISP)
  - Hanyang International Excellence Awards (HIEA)
  - Hanyang Scholarship for Excellence in Language Proficiency
  - Hanyang Scholarship for Engineering and Science Students
  - GIGS Scholarship for International Students
  - Combined Master’s and Doctoral program
Thank you!!

The future lies on your shoulder!