# International Joint Symposium on Logistics Information Technologies

## Universität Bremen and Pusan National University

### 27–28 November 2007
### Pusan National University, Busan, Korea

## Aims and Purpose

The International Joint Research Symposium between LogDynamics (Bremen Research Cluster for Dynamics in Logistics) of Universität Bremen and LIT (Institute of Logistics and Information Technology) of Pusan National University aims to bring together logistics researchers to exchange their views and research outputs on the Port and Logistics. It serves as an international cooperation and collaboration channel for promoting joint research and dual degree program. One of the goals of the symposium is to establish several joint research teams to be funded by Germany Research Foundation and Korean Science and Engineering Foundation. The Symposium consists of a number of specialized sessions.

## Location

Room 201, Science & Technology Building, Pusan National University, Busan, Korea

## Hosted by

**Institute of Logistics and Information Technology (LIT)**
LIT is organized within the Pusan National University for doing the national research projects to develop the next generation of logistics information technology in Korea since 2004. The activities of LIT are dedicated to research and development for ports and logistics. Currently LIT has become one of the nation's leading institutes.

**Research Institute of Logistics Innovation and Networking (LIN)**
The aim of LIN is to build a knowledge-sharing network among various logistics' parties worldwide. Based on the network, LIN explores logistics problems at issue and provides innovative solutions for improving the level of global logistics services by investigating advanced policies and technologies related to logistics systems.

# Symposium Program

## Tuesday 27 Nov. 2007 – Symposium of LogDynamics and LIT (Day 1)

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| | *Morning Coffee* |
| 10:30 – 10:40 | Welcome Address |
| 10:40 – 12:00 | Opening Session (Chair: Prof. Keunhyuk Yeom) |
| | *Lunch* |
| 13:30 – 15:00 | Demonstration Session I – Software |
| | *Coffee Break* |
| 15:20 – 16:20 | Parallel Session 1a – IT Technologies I<br>Parallel Session 2a – Logistics and Auto. Control Technologies I |
| | *Coffee Break* |
| 16:40 – 18:00 | Parallel Session 1b – IT Technologies I<br>Parallel Session 2b – Logistics and Auto. Control Technologies I |
| | *Banquet* |

## Wednesday 28 Nov. – Symposium of LogDynamics and LIT (Day 2)

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| | *Morning Coffee* |
| 09:40 – 10:40 | Parallel Session 3a (Chair: Prof. Yunju Baek)<br>Parallel Session 4a (Chair: Prof. Keum-Shik Hong) |
| | *Coffee Break* |
| 11:00 – 12:00 | Parallel Session 3b (Chair: Prof. Sang-Hwa Chung)<br>Parallel Session 4b (Chair: Prof. Won Young Yun) |
| | *Lunch* |
| 13:30 – 15:00 | Demonstration Session II – Hardware |
| | *Coffee Break* |
| 15:20 – 16:40 | Wrap-up Session (Chair: Prof. Kap Hwan Kim) |
| 16:40 – 17:40 | Open Discussions |
| | *Dinner* |

# Program Details

## Tuesday 27 Nov. 2007 – Symposium of LogDynamics and LIT (Day 1)

10:10 – 10:30 Morning Coffee

10:30 – 10:40 "*Welcome Address*," M.D. Ph.D. Kim Inn Se, President of PNU

10:40 – 12:00 **Opening Session** (Chair: Prof. Keunhyuk Yeom)

"*Globalization of University and Program for International Exchange & Cooperation*," Prof. Ill Jae Joe, Dean of Institute of International Exchange and Education, PNU

"*Introduction of the College of Engineering, PNU*," Prof. Ikmin Park, Dean of College of Engineering, PNU

"*Sciences in the State of Bremen*," Dr. Volker Sass, State of Bremen

"*Research Activities of LIT*," Prof. Bonghee Hong, Director of LIT

"*Plan of Collaboration and Exchange for Logistics Innovation and Networking*," Prof. Kap Hwan Kim, Director of LIN

"*Research Activities of LogDynamics Research Cluster (inclusive BIBA and ISL)*," Prof. Bernd Scholz-Reiter, Speaker of LogDynamics

12:00 – 13:30 Lunch

13:30 – 15:00 **Demonstration Session I – Software**

"*Introduction of Busan RFID/EPC Performance Test Center*," Prof. Yunju Baek

"*RFID/RTLS/Sensor Middleware*," Prof. Bonghee Hong

"*Business-Aware Framework for RFID Applications*," Prof. Keunhyuk Yeom

"*Container Terminal Design System*," Prof. Kap Hwan Kim

"*Container Terminal Simulator*," Prof. Byung-Hyun Ha

"*Distributed and Adaptive Logistic Control System*," Prof. Kwang-Ryel Ryu

"*Logistics Network Design and Operation System*," Prof. Il-Kyeong Moon

"*Transportation Network Planning System*," Prof. Hyung Rim Choi

15:00 – 15:20 Coffee Break

**Parallel Session 1 – IT Technologies I**

15:20 – 16:20 **Parallel Session 1a** (Chair: Prof. Keunhyuk Yeom)

"*Integrated Middleware Technology for Diverse Logistics Information Unit*," Prof. Bonghee Hong

"*Reader Protocol and Management Technology for RFID Middleware*," Prof. Hajoo Song

"*Adaptive Load Balancing Approach for RFID Middleware*," Prof. Heung-Seok Chae

16:20 – 16:40 Coffee Break

16:40 – 17:40 **Parallel Session 1b** (Chair: Prof. Bonghee Hong)

"*Developing a Framework for Business Services*," Prof. Keunhyuk Yeom

"*Business Applications*," Prof. Klaus-Dieter Thoben

"*RFID Applications*," Mr. Dieter Uckelmann

17:40 – 18:00 Discussions

**Parallel Session 2 – Logistics and Autonomous Control Technologies I**

15:20 – 16:20 **Parallel Session 2a** (Chair: Prof. Il-Kyeong Moon)

"*Designing High-Speed Transfer Systems at Container Terminals*," Prof. Kap Hwan Kim

"*Development of a TOS-interoperable Simulator for Container Terminal Operation*," Prof. Byung-Hyun Ha

"*Distributed and Adaptive Logistic Control System for the Next-generation Container Terminals*," Prof. Kwang-Ryel Ryu

16:20 – 16:40 Coffee Break

16:40 – 18:00 **Parallel Session 2b** (Chair: Prof. Kap Hwan Kim)

"*Development of Inter-hub Empty Container Optimization Technology*," Prof. Il-Kyeong Moon

*"Innovative Sea Port Technologies,"* Prof. Bernd Scholz-Reiter

*"Challenges on safety and security in maritime logistics network optimization,"* Prof. Hans-Dietrich Haasis

*"Coupling of Optimization Problems,"* Prof. Herbert Kopfer

*"A Multiagent Systems Approach to Container scheduling",* Prof. Michael Lawo, Project Manager TZI, Bremen

18:00 **Banquet**

## Wednesday 28 Nov. – Symposium of LogDynamics and LIT (Day 2)

09:20 Morning Coffee

**Parallel Session 3 – IT Technologies II**

09:40 – 10:40 **Parallel Session 3a** (Chair: Prof. Yunju Baek)
"*RTLS System for Logistics Environments*," Prof. Yunju Baek
"*RFID Reader and Tag Technology for Ubiquitous Logistics*," Prof. Sang-Hwa Chung
"*Wireless Mesh Network for Ubiquitous Port*," Prof. Jong-Deok Kim

10:40 – 11:00 Coffee Break

11:00 – 12:00 **Parallel Session 3b** (Chair: Prof. Sang-Hwa Chung)
"*Tag-to-Tag Communications*," Prof. Young Hwan Yoo
"*Communication Networks & Logistics*," Prof. Carmelita Görg
*"The Intelligent Container,"* Prof. Walter Lang
"*Intelligent Handling Robot*," Dr. Wolfgang Echelmeyer

**Parallel Session 4 – Logistics and Autonomous Control Technologies II**

09:40 – 10:40 **Parallel Session 4a** (Chair: Prof. Keum-Shik Hong)
"*Development of Intra-Hub Logistics Resource Management System*," Prof. Won Young Yun
"*Development of Car Carriers Maritime Transportation Planning System*," Prof. Hyung Rim Choi
"*Autonomous Navigation Techniques for Unmanned Vehicles for Material Handling*," Prof. Keum-Shik Hong

10:40 – 11:00 Coffee Break

11:00 – 12:00 **Parallel Session 4b** (Chair: Prof. Won Young Yun)
"*Container Crane Simulator*," Prof. Keum-Shik Hong
"*Decentralized and Autonomous Control of Production Systems*," Dr. Michael Freitag
*"Knowledge Management in a highly distributed dynamic logistic environment,"* Prof. Michael Lawo, Project Manager TZI, Bremen
*"Risk Management in a logistic environment,"* Prof. Michael Lawo, Project Manager TZI, Bremen

12:00 – 13:30 Lunch

13:30 – 15:00 **Demonstration Session II – Hardware**
"*Active RFID Readers and Tags*," Prof. Sang-Hwa Chung
"*Real-Time Location System*," Prof. Yunju Baek
"*Container Crane Simulator*," Prof. Youngbong Kim

15:00 – 15:20 Coffee Break

15:20 – 16:40 **Wrap-up Session** (Chair: Prof. Kap Hwan Kim)
"*Dual Ph.D. Degree Program*," Prof. Byung-Hyun Ha
"*LIT's Point of View on Joint Research Topics*," Prof. Bonghee Hong
"*LogDynamics's Point of View on Joint Research Topics*," Prof. Bernd Scholz-Reiter

16:40 – 17:40 **Open Discussions**

18:00 Dinner