

Annual Report

1997. 1. 8

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FOREWORD

To the readers:

The year ninety-hundred and ninety-six marked another year of continued progress in education and research in Industrial Engineering at POSTECH and our endeavor to bring our IE program to the world-class levels. The curriculum is aimed at providing the basic tools and knowledge to help the elite students continue his/her career as an industrial engineer of the 21st century. All spectrum of industrial systems such as product design, process planning, automation, manufacturing process, ergonomics, quality engineering, work measurements and management information system are included in the curriculum. Mathematics and Computer software is strongly emphasized as the essential component of industrial engineering.

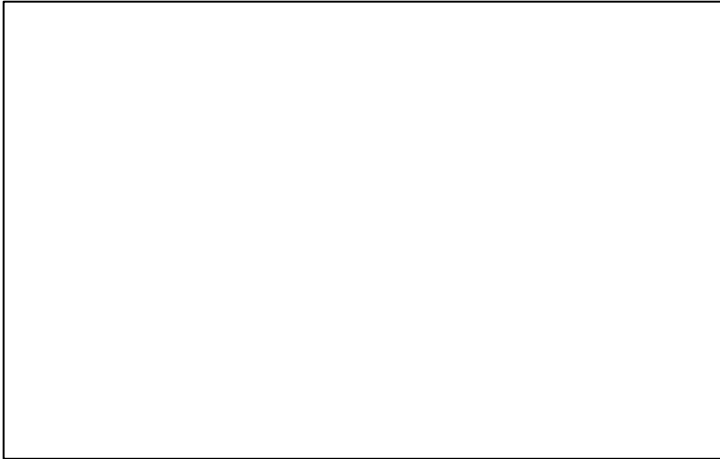
Undergraduates in industrial engineering receive a broad training in mathematics, statistics, engineering and social sciences. Specialized courses that reflect the recent development in industrial engineering such as CAD/CAM, CIM, and management information systems(MIS) are also covered. There is a growing trend on the part of industry to select people from engineering background for managerial/executive positions. It is one of the mission of the program to enable the industrial engineers to accept and succeed in these opportunities, and to cultivate an engineer well grounded in the fundamentals, well-trained in the principles, and thus well-prepared to practice the profession. The degree programs leading to M.S and Ph.D provide advanced solutions of complex problems. Students are free to access to the state-of-the-art software and lab equipment during their course work and research. As a research-oriented university, Industrial Engineering program places a heavy emphasis on graduate studies and field research.

At present, we have 14 full-time faculty, two adjunct professors, 7 research staffs and 7 technical and clerical staffs in the department. The faculty published 27 papers in international journals, 18 in domestic journals, 68 conference papers in 1996. In particular, some research works of the faculty were internationally recognized: Professors Eui S. Jung and Min K. Chung received the Liberty Mutual Insurance Company Best Paper Award in recognition of the paper published in the International Journal of Industrial Ergonomics; and Professor Hyunbo Cho was selected as one of 1997 Outstanding Young Manufacturing Engineers awarded by the Society of Manufacturing Engineers.

POSTECH IE's research is very well-received by the government, industry and academia. The overall research effort in 1996 involved expenditures of about \$5 million. We initiated 38 new projects in 1996, which amounts to 2.7 projects per faculty. We emphasized joint research efforts among the faculty in diverse fields. We developed a prototype of VR standard factory and VR assembly planning system, a proposed global CIM model to Samsung Semi-conductor with UC Berkeley, and a designed production scheduling system for Pohang Iron and Steel Company. An official research information center in the fields of industrial engineering was established within the Department, which is sponsored by the Korea Science and Engineering Foundation.

Min K. Chung
Professor and Head

I. MAJOR EVENTS IN 1996



The freshmen got together after the Matriculation Ceremony.
March 4th, 1996

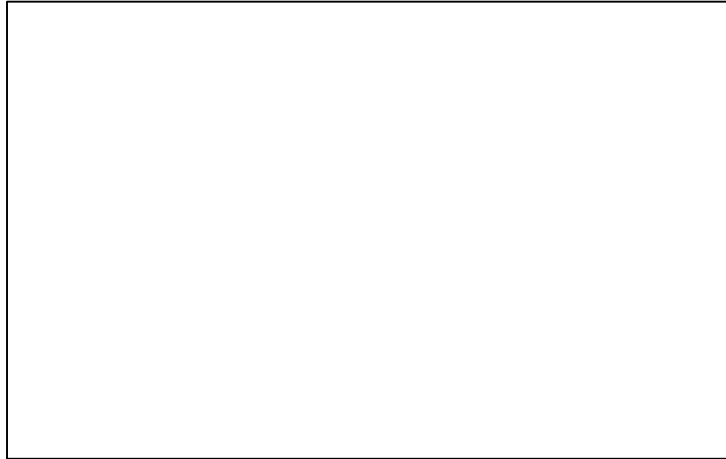


The IE family went for a picnic with Dr. Inyong Ham who was a visiting professor.
June, 1996



The 8th IE/MS athletics meeting was held: IE Team from POSCO, MS Team from POSRI, and IE Faculty and Students from POSTECH jointly participated in the meeting.
June, 1996

The undergraduates went for a picnic at Milyang.
September, 1996



Professors Eui S. Jung and Min K. Chung received Liberty Mutual Insurance Company Best Paper Award.
November, 1996

Professor Hyunbo Cho was selected as one of SME's Outstanding Young Manufacturing Engineers Award.
November, 1996



II. PERSONNEL

1. FACULTY

PROFESSORS

Min K. Chung

Ph.D., University of Michigan, 1984

Specialties : Ergonomic Workplace Design, Ergonomics Considerations in Safety, Rehabilitation Engineering

Moo Young Jung

Ph.D., Kansas State University, 1984

Specialties : CIM, CAPP, Intelligent Manufacturing

ASSOCIATE PROFESSORS

Soo Y. Chang

Ph.D., University of Michigan, 1988

Specialties : Mathematical Programming, Scheduling, Parallel Algorithm

In Jun Choi

Ph.D., University of Texas at Austin, 1991

Specialties : Database, Object-oriented Modeling, MIS

Sung H. Han

Ph.D., Virginia Polytechnic Institute & State University, 1991

Specialties : Human Factors Engineering, Human-Computer Interface, Consumer Product Design and Evaluation

Yushin Hong

Ph.D., University of California at Berkeley, 1986

Specialties : Production Planning, Scheduling, and Control, Manufacturing Systems Analysis, OR Applications

Chi-Hyuck Jun

Ph.D., University of California at Berkeley, 1986

Specialties : Probability Modeling, Quality/Reliability, ATM Performance Analysis

Eui S. Jung

Ph.D., Pennsylvania State University, 1989

Specialties : Ergonomics/Biomechanical Modeling, Human Modeling, Concurrent Engineering

Kwangsoo Kim

Ph.D., University of Central Florida, 1985

Specialties : CAD/CAM

Soo-Young Kim

Ph.D., University of California at Berkeley, 1988

Specialties : Production Management, Management Engineering, Process Optimization

Eui Ho Suh

Ph.D., University of Illinois at Urbana-Champaign, 1987

Specialties : MIS, EIS/DSS, Management Strategy

Suk-Hwan Suh

Ph.D., Ohio State University, 1986

Specialties : CAD/CAM/CIM, CNC Machining, Robotics

ASSISTANT PROFESSORS

Hyunbo Cho

Ph.D., Texas A&M University, 1993

Specialties : Shop Floor Control, CAPP, Manufacturing Systems Design and Analysis

Myung Hwan Yun

Ph.D., Pennsylvania State University, 1994

Specialties : Industrial Ergonomics, Biomechanics, Product Design

ADJUNCT PROFESSORS

Sungzoon Cho, Assistant Professor in Computer Science

Ph.D., University of Maryland, 1992

Specialties : Neural Network Learning, Cortical Modeling, Pattern Recognition Applications

Eung Suk Lee, Research Scientist at RIST

Ph.D., UMIST, 1993

Specialties : Metrology, Precision Measurement and Manufacturing, Measuring System Engineering

VISITING PROFESSORS

Inyong Ham, Distinguished Professor, Pennsylvania State University

Ph.D., University of Wisconsin, 1958

Specialties : Manufacturing Systems, Group Technology

2. STAFFS

RESEARCH STAFFS

Sook-Young Cho

B.S., Hongik University, 1996

Supervisor : Min K. Chung

Hyeseon Lee

M.S., Cornell University, 1993

Supervisor : Min K. Chung and Chi-Hyuck Jun

Hyun-Jung Lee

M.A., Kyungbook National University, 1996

Supervisor : Min K. Chung

Jung Hee Lee

B.S., Youngnam University, 1994

Supervisor : Soo-Young Kim

Moon-Jeoung Park

B.S., Pohang University of Science and Technology, 1994

Supervisor : Min K. Chung

Chang-Ho Shin

M.S., Pohang University of Science and Technology, 1995

Supervisor : Suk-Hwan Suh

Young Jun Son

B.S., Pohang University of Science and Technology, 1996

Supervisor : Min K. Chung

TECHNICAL STAFFS

Seoung Que Lee

B.S., Kyungil University, 1987

Specialties : Mechanical Engineering

Young-Hun Lee

B.S., Kyungil University, 1993

Specialties : Electronic Engineering

CLERICAL STAFFS

Soo Jung Chang

Kyung Nam Cha

Eun Kyoung Song

Myung-Ok Jun

Soo Hyun Jeong

Sun-Hwa Kim

Yun-Kyung Lee

III. TEACHING

1. COURSES TAUGHT IN SPRING 1996

Course No.	Course Title	Instructor	Credits
IE 100	Introduction to Industrial Engineering	Min K. Chung	1
IE 201	Engineering Economy	Hyunbo Cho	2
IE 281	Computer Applications in Industrial Engineering	Moo Young Jung	2
IE 325	Computer Graphics Application	Kwangsoo Kim	3
IE 343	Ergonomics and Human Factors Engineering	Eui S. Jung	3
IE 361	Operations Research ¥ °	Yushin Hong	3
IE 381	Management Information System	Eui Ho Suh	3
IE 423	CAM/CIM	Hyunbo Cho	3
IE 443	Design and Evaluation of Man-Machine Systems	Sung H. Han	3
IE 472	Applied Statistics in Industrial Engineering	Jun / Hong	3
IE 476	Production Planning and Control	Yushin Hong	3
IE 481	Simulation	Soo-Young Kim	3
IE 484	System Analysis and Design	In Jun Choi	3
IE 521	Manufacturing Systems Engineering	Moo Young Jung	3
IE 542	Design and Analysis of Experiments	Min K. Chung	3
IE 553	Human Performance	Sung H. Han	3
IE 628	Engineering Metrology	Eung Suk Lee	3
IE 643	Biomechanics	Eui S. Jung	3
IE 666	Applied Stochastic Processes	Chi-Hyuck Jun	3
IE 676	Advanced Production and Inventory Control	Soo-Young Kim	3
IE 685	Advanced Topics in Database Systems	In Jun Choi	3
IE 780	Advanced Topics in MIS	Eui Ho Suh	3
IE 821A	Special Topics in Manufacturing Engineering	Kwangsoo Kim	3
IE 801	IE Seminar ¥ °	Sung H. Han	1
IE 802	IE Seminar ¥ ±	Sung H. Han	1
IE 821B/D	Special Topics in Manufacturing Engineering		3
IE 841A/D	Special Topics in Human Factors Engineering		3
IE 861A/D	Special Topics in Operations Research		3
IE 881A/D	Special Topics in Information Systems		3
IE 899	Doctoral Dissertation Research		

2. COURSES TAUGHT IN FALL 1996

Course No.	Course Title	Instructor	Credits
IE 241	Work Measurement and Design	Myung Hwan Yun	3
IE 322	Manufacturing Engineering	Suk-Hwan Suh	3
IE 366	Operations Research II	Chi-Hyuck Jun	3
IE 371	Quality Control	Soo-Young Kim	3
IE 382	Introduction to Database	Eui Ho Suh	3
IE 422	Plant Design and Analysis	Hyunbo Cho	3
IE 461	Mathematical Programming	Soo Y. Chang	3
IE 491A	Special Topics in Industrial Engineering	Eui Ho Suh	3
IE 561	Advanced Linear Programming	Soo Y. Chang	3
IE 577	Dynamic Systems	Yushin Hong	3
IE 580	Decision Support Systems	Eui Ho Suh	3
IE 584	Expert Systems	In Jun Choi	3
IE 623	Manufacturing Systems and Automation	Hyunbo Cho	3
IE 625	Numerical Control	Suk-Hwan Suh	3
IE 647	Bioengineering	Myung Hwan Yun	3
IE 653	Human-Computer Interface	Sung H. Han	3
IE 661	Advanced Linear Programming	Soo Y. Chang	3
IE 672	Time-Series Analysis	Chi-Hyuck Jun	3
IE 681	Engineering System Design and Analysis	In Jun Choi	3
IE 722	Geometric Modeling $\forall \pm$	Kwangsoo Kim	3
IE 800	Special Topics in Advanced IE	Min K. Chung	3
IE 801	IE Seminar $\forall \circ$	Sung H. Han	1
IE 802	IE Seminar $\forall \pm$	Sung H. Han	1
IE 821A	Special Topics in Manufacturing Engineering	Eung Suk Lee	3
IE 821B/D	Special Topics in Manufacturing Engineering		3
IE 841A/D	Special Topics in Human Factors Engineering		3
IE 861A/D	Special Topics in Operations Research		3
IE 881A/D	Special Topics in Information Systems		3
IE 899	Doctoral Dissertation Research		

IV. PUBLICATIONS

1. INTERNATIONAL JOURNAL

Ahn, K. G., H. J. Pahk, **Moo Young Jung**, and D. W. Cho, "A Hybrid-type Active Vibration Isolation System Using Neural Networks," *Journal of Sound and Vibration*, Vol. 192, No. 4, pp. 793-805, 1996.

Byun, D. H. and **Eui Ho Suh**, "A Methodology for Evaluating EIS Software Packages," *Journal of End User Computing*, Vol. 8, No. 2, pp. 21-31, 1996.

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Cho, Hyunbo, Moo Young Jung, and M. Kim, "Enabling Technologies of Agile Manufacturing and Its Related Activities in Korea," *Computers and Industrial Engineering*, Vol. 30, No. 3, pp. 323-334, 1996.

Choi, W. Y. and **Chi-Hyuck Jun**, "Analysis of a Discrete Time Queuing System with Markov Modulated Input Process and Constant Service Rate," *Probability in the Engineering and Informational Sciences*, Vol. 10, No. 3, pp. 429-441, 1996.

Chung, Min K. and S. H. Kim, "Effects of Posture, Weight and Frequency on Duration-dependent Muscle Strengths during Dynamic Materials Handling Tasks," *International Journal of Industrial Ergonomics*, Vol. 18, pp. 153-159, 1996.

Do, N. C. and **In Jun Choi**, "Implementing Integrity Constraints of EXPRESS in an Active Object-oriented Database," *International Journal of Computer Integrated Manufacturing*, Vol. 9, No. 4, pp. 311-326, 1996.

Ha, J., S. Choi, S. Shin, K. Chwa, and **Soo Y. Chang**, "On Deciding 3D Part Disassemblability and Surface Machinability," *IIE Transactions*, Vol. 28, pp. 847-854, 1996.

Han, Sung H., Sungzoon Cho, J. Kwahk, M. Kim, and K. Cho, "Design Guidelines on Character Rejection and Substitution for Off-line Document Processing Systems," *International Journal of Industrial Ergonomics*, Vol. 18, pp. 161-171, 1996.

Jung, Eui S. and D. Kee, "A Man-machine Interface Model With Improved Visibility and Reach Function," *Computers and Industrial Engineering*, Vol. 30, No. 3, pp. 475-486, 1996.

Jung, Eui S. and J. Choi, "Human Reach Posture Prediction Based on Psychophysical Discomfort," *International Journal of Industrial Ergonomics*, Vol. 18, pp. 173-179, 1996.

- Jung, Eui S.** and S. Park, "Comfortable Working Area of Seated Operators," *The Japanese Journal of Ergonomics*, Vol. 32, No. 6, 1996.
- Jung, Moo Young** and K. H. Lee, "A CAD/CAPP Interface for Complex Rotationally Symmetric Parts," *International Journal of Production Research*, Vol. 34, No. 1, pp. 227-252, 1996.
- Jung, Moo Young, Min K. Chung,** and **Hyunbo Cho,** "Architectural Requirements for Rapid Development of Agile Manufacturing Systems," *Computers and Industrial Engineering*, Vol. 31, No.3/4, pp. 551-554, 1996.
- Kee, D. H. and **Min K. Chung,** "Comparison of Prediction Models for the Compression Force on the Lumbosacral Disc," *Ergonomics*, Vol. 39, No. 12, pp. 1419-1429, 1996.
- Kim, J. Y., **Myung Hwan Yun,** and M. W. Lee, "Design of Optimum Grip and Control Area for One-handed Manual Control Devices," *Computers and Industrial Engineering*, Vol. 31, No. 3/4, pp. 661-664, 1996.
- Kim, Kwangsoo** and J. Jeong, "Finding Tool Approach Directions for Sculptured Surface Manufacture," *IIE Transactions on Design and Manufacturing*, Vol. 28, No. 10, pp. 829-836, 1996.
- Lee, J. Y. and **Kwangsoo Kim,** "Geometric Reasoning for Knowledge-based Parametric Design Using Graph Representation," *Computer Aided Design*, Vol. 28, No. 10, pp. 831-841, 1996.
- Lee, M. W., J. S. Lee, C. R. Koo, and **Myung Hwan Yun,** "A Model for Estimating the Potential Demand of High Touch Product," *Computers and Industrial Engineering*, Vol. 31, No. 3/4, pp. 653-656, 1996.
- Lee, N. S., K. S. Lee, and **Min K. Chung,** "Analysis of Job-related Low Back Pains in a Korean Industrial Complex," *The Japanese Journal of Ergonomics*, Vol. 32, No. 6, pp. 283-285, 1996.
- Park, D. and **Myung Hwan Yun,** "An Application of Psychophysical Ratings to External Force Estimation," *Computers and Industrial Engineering*, Vol. 31, No.3/4, pp. 675-680, 1996.
- Park, H. and **Kwangsoo Kim,** "Smooth Surface Approximation to Serial Cross-sections," *Computer Aided Design*, Vol. 28, No. 12, pp. 995-1005, 1996.
- Suh, J. J., C. M. Han, and **Chi-Hyuck Jun,** "System Reliability Estimation Using Simulation Combined with Network Reductions," *Microelectronics and Reliability*, Vol. 36, No. 9, pp. 1263-1267, 1996.
- Suh, Suk-Hwan** and J. H. Cho, "Incorporation of Tool Deflection in Tool Path Computation," *Journal of Manufacturing Systems*, Vol. 15, pp. 5, pp. 190-199, 1996.

Suh, Suk-Hwan and S. K. Lee, "Compensating Probe Radius in Free Surface Modeling with CMM: Simulation and Analysis," *International Journal of Production Research*, Vol. 34, No. 2, pp. 507-523, 1996.

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Yum, B. J. and **Chi-Hyuck Jun**, "IE in Korea: Foreword," *Computers and Industrial Engineering*, Vol. 30, No. 3, pp. 321-322, 1996.

2. DOMESTIC JOURNAL

Byun, D. H. and **Eui Ho Suh**, "Use of Managerial Decision Categories for Selecting KA/KR Techniques in HRM Problem Domains," *Journal of the Korean Management Society*, Vol. 21, No. 2, pp. 71-93, 1996.

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Chun, K. W. and **Yushin Hong**, "Batch Sizing Heuristic for Batch Processing Workstations in Semiconductor Manufacturing," *Journal of the Korean Institute of Industrial Engineers*, Vol. 22, No. 2, pp. 231-245, 1996. (in Korean)

Chung, Min K., S. H. Kim, and K. I. Choi, "Development of a Gait Analysis System," *The Proceedings of the Korean Institute of Electrical Engineers*, Vol. 45, No. 8, pp. 18-24, 1996. (in Korean)

Han, Sung H., M. Kim, and J. Kwahk, "Human Factors Guidelines for Design Anchors in the Moving Pictures on Multimedia Systems," *Journal of the Korean Institute of Industrial Engineers*, Vol. 22, No. 2, pp. 265-276, 1996. (in Korean)

Han, Sung H., S. Yoo, and J. Kwahk, "Design of the Menu on a Multi-line Display," *Journal of the Ergonomics Society of Korea*, Vol. 15, No. 1, pp. 1-14, 1996. (in Korean)

Kim, C. H. and **Yushin Hong**, "An Optimal Production Run Length in a Deteriorating Machine," *Journal of the Korean Institute of Industrial Engineers*, Vol. 22, No. 3, pp. 351-364, 1996. (in Korean)

Kim, C. H., **Yushin Hong**, and **Soo Young Kim**, "An EMQ Model in an Unreliable Machine (II)," *Journal of the Korean Institute of Industrial Engineers*, Vol. 22, No. 1, pp. 37-50, 1996. (in Korean)

Kim, H., **Hyunbo Cho**, and **Moo Young Jung**, "Development of a Planner of Processing Equipment for Heterarchical SFCS," *Journal of the Korean Institute of Industrial Engineers*, Vol. 22, No. 4, pp. 719-739, 1996. (in Korean)

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Kwahk, J. and **Sung H. Han**, "Human Performance Models Using Neural Network," *Journal of the Ergonomics Society of Korea*, Vol. 15, No. 2, pp. 157-163, 1996.

Lee, C., **Hyunbo Cho**, and **Moo Young Jung**, "Assembly Sequence Determination from Design Data Using Voxelization," *Journal of the Korean Society of Precision Engineering*, Vol. 13, No. 6, pp. 90-101, 1996. (in Korean)

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Lee, Y. K., S. D. Baek, S. M. Bae, **Chi-Hyuck Jun**, **Soo Y. Chang**, and **In Jun Choi**, "Constraint Description Language and Automatic Code Generator for Single-machine Job Sequencing Problems," *Journal of the Korean Institute of Industrial Engineers*, Vol. 22, No. 2, pp. 209-229, 1996. (in Korean)

Suh, Eui-Ho, D. Byun, and S. Shin, "Comparative Study of SDLC and Prototyping for EIS," *Journal of MIS Research*, Vol. 4, pp. 53-73, 1996. (in Korean)

Yee, S., **Hyunbo Cho**, **Moo Young Jung**, and G. Wang, "Implementation of Agile Manufacturing Using Information Super Highway," *IE Interface*, Vol. 9, No. 3, pp. 214-224, 1996. (in Korean)

Yun, Myung Hwan, "An Instrumented Glove for Grasp Specification in Virtual Reality Based Point-and-direct Telerobotics," *Journal of the Ergonomics Society of Korea*, Vol. 15, No. 2, pp. 165-176, 1996.

3. INTERNATIONAL CONFERENCE PROCEEDINGS

Chang, Soo Y. and H. C. Hwang, "Deterministic Multiple Machine Scheduling under Machine Eligibility Constraints," *International Conference on Management Science and Economic Development of China*, pp. 63-71, Hong Kong University of Science and Technology, Hong Kong, July 16, 1996.

Chang, Soo Y., H. C. Hwang, and Katta Murty, "Combinatorial Optimization in Modern Manufacturing," *International Conference on Management Science and Economic Development of China*, pp. 104-114, Hong Kong University of Science and Technology, Hong Kong, July 16, 1996.

Cho, C. K., J. Lee, **Myung Hwan Yun**, and M. W. Lee, "An Ergonomic Study on Optimal Gear Ratio for a Multi-speed Bicycle (winner, best student paper)," *Proceedings of the 20th International Conference on Computers and Industrial Engineering*, pp. 905-908, Kyungju, Korea, October 6-9, 1996.

Cho, J. H. and **Suk-Hwan Suh**, "Experimental Verification for Path Modification Scheme Toward Net Shape Machining," *Pacific Conference on Manufacturing 96*, Vol. 1, pp. 31-36, Seoul, Korea, October 29-31, 1996.

Choi, In Jun, N. C. Do, and S. M. Bae, "A Framework for Constraint Management of Engineering Database," *Proceedings of 5th International Conference on Human Aspects of Advanced Manufacturing: Agility and Hybrid Automation*, Hawaii, USA, August 6-9, 1996.

Choi, W. Y. and **Chi-Hyuck Jun**, "Long-run Behavior of an ATM Multiplexer with Homogeneous Discrete-time On-off Sources," *Proceedings of the GLOBECOM'96*, pp. 2104-2107, London, U.K., November 18-22, 1996.

Choi, W. Y., **Soo Y. Chang**, and **Chi-Hyuck Jun**, "Determination of Feasible Region Existence in Convex Nonlinear Programming," *Proceedings of the 20th International Conference on Computers and Industrial Engineering*, pp. 469-472, Kyungju, Korea, October 6-9, 1996.

Chung, Min K. and K.I. Choi, "Ergonomic Analysis of Musculoskeletal Discomforts among Conversational VDT Operators," *Proceedings of the 20th International Conference on Computers and Industrial Engineering*, pp. 913-916, Kyungju, Korea, October 6-9, 1996.

Chung, Min K., **Sung H. Han**, and D. Kee, "Applications of the Revised NIOSH Equations to Lifting Tasks Frequently Performed in a Refractories Manufacturing Industry," *Proceedings of the Occupational Ergonomics and Safety Conference*, pp. 345-350, Zurich, Switzerland, July 8-12, 1996.

Chung, Min K., Y. W. Song, and K. I. Choi, "A New Optimization Model for Trunk Muscle Force Predictions during Asymmetric Lifting Tasks," *Proceedings of the 4th Pan-Pacific Conference on Occupational Ergonomics*, pp.639-642, Taipei, Taiwan, November 11-13, 1996.

Do, N. C., S. M. Bae, and **In Jun Choi**, "Constraint Maintenance in Engineering Design System: An Active Object-oriented Approach," *Proceedings of the 20th International Conference on Computers and Industrial Engineering*, pp. 861-864, Kyungju, Korea, October 6-9, 1996.

Eoh, H., J. Kwahk, B. Kim, and **Sung H. Han**, "Development of a VDT-based Prototype of the Operator Interface for the Main Control Room of a Nuclear Power Plant," *Proceedings of the 20th International Conference on Computers and Industrial Engineering*, pp. 571-574, Kyungju, Korea, October 6-9, 1996.

Han, Sung H., Min K. Chung, J. Kwahk, and **Eui S. Jung**, "Classification of Information and Controls for Designing the VDT-based Operator Interface of a Process Control Room," *Proceedings of Manufacturing Agility and Hybrid Automation*, pp. 179-182, Maui, U.S.A., August 6-9, 1996.

Hong, S., **Hyunbo Cho, Moo Young Jung**, S. Cha, and H. Kim, "Real-time Shop Floor Control under Heterarchical Architecture," *Pacific Conference on Manufacturing 96*, Vol. 1, pp. 372-376, Seoul, Korea, October 29-31, 1996.

Jeong, K. Y. and **Hyunbo Cho**, "An Analysis of Fast Simulation Approach Combined with Infinitesimal Perturbation Analysis in a Tandem Queuing System," *Pacific Conference on Manufacturing 96*, Vol. 1, pp. 525-530, Seoul, Korea, October 29-31, 1996.

Joo, J., **Hyunbo Cho**, and W. Yun, "Efficient Feature-based Process Planning for Sculptured Pocket Machining," *Proceedings of the 20th International Conference on Computers and Industrial Engineering*, pp. 173-176, Kyungju, Korea, October 6-9, 1996.

Jung, Eui S., Sung H. Han, Moo Young Jung, and J. Choe, "Coach Design for the Korean High-speed Train: A Systematic Approach to Seat Design and Layout," *1st International Conference on Applied Ergonomics (ICAE96)*, pp. 576-579, Istanbul, Turkey, May 21, 1996.

Jung, Eui S. and S. Park, "Comfortable Working Area of Seated Operators," *The 37th Japanese Ergonomics Research Society Annual Conference*, pp. 275-278, Tokyo, Japan, May 19, 1996.

Kim, B., K. Nam, J. Park, S. Han, and **Sung H. Han**, "Presenting Map Information on a Global Positioning System," *Proceedings of the 20th International Conference on Computers and Industrial Engineering*, pp. 685-688, Kyungju, Korea, October 6-9, 1996.

Kim, J. Y., S. Song, C. K. Cho, **Myung Hwan Yun**, and M. W. Lee, "The Effect of Tool Weight and Hand Posture on the Postural Tremor of the Upper Arm," *Proceedings of the 4th Pan-Pacific Conference on Occupational Ergonomics*, pp. 64-67, Taipei, Taiwan, November 11-13, 1996.

Kwahk, J. and **Sung H. Han**, "Building a Human Performance Model Using Neural Network," *Proceedings of the 4th Pan Pacific Conference on Occupational Ergonomics*, pp. 286-289, Taipei, Taiwan, November 11-13, 1996.

Lee, E. S., Sohn, J. W., **Suk-Hwan Suh**, and S. Y. Jung, "On-machine Inspection and Repetitive Machining with Position Error Compensation," *Proceedings of the 96 International Conference on Automation Technology*, pp. 759-765, Hsin Chu, Taiwan, July 8-11, 1996.

Lee, H. M., C. K. Cho, **Myung Hwan Yun**, and M. W. Lee, "Development of a Temperature Control Procedure for a Room Air-conditioner Using the Concept of Just Noticeable Difference (JND) on Thermal Sensation," *Proceedings of the Human Factors and Ergonomics Society 40th Annual Meeting*, pp. 473-477, Philadelphia, PA, U.S.A., September 2-6, 1996.

Lee, I., K. Y. Jeong, J. Joo, **Hyunbo Cho**, and J. Lee, "A Systematic Approach to Developing Automaticity Indicator," *Pacific Conference on Manufacturing 96*, Vol. 1, pp. 437-442, Seoul, Korea, October 29-31, 1996.

Lee, J. J. and **Suk-Hwan Suh**, "Flank Milling of Ruled Surface with Additionally-five-axis Machining," *International Conference on Integrated Design and Manufacturing in Mechanical Engineering*, pp. 375-384, Nantes, France, April 15-17, 1996.

Lee, M. W., **Myung Hwan Yun**, and J. Lee, "High Touch : Human Factors in New Product Design," *Proceedings of the Human Factors and Ergonomics Society 40th Annual Meeting*, pp. 401-405, Philadelphia, PA, U.S.A., September 2-6, 1996.

Lee, S., **Hyunbo Cho**, and **Moo Young Jung**, "Automatic Generation of Simulation Model for Shop Floor Control," *Proceedings of the 20th International Conference on Computers and Industrial Engineering*, pp. 1227-1230, Kyungju, Korea, October 6-9, 1996.

Lee, Y., **Soo-Young Kim**, S. Yea, and B. Kim, "Production Planning in Semiconductor Wafer Fab Considering Variable Cycle Times," *Proceedings of the 20th International Conference on Computers and Industrial Engineering*, Kyungju, Korea, October 6-9, 1996.

Sohn, J. W., **Suk-Hwan Suh**, and E. S. Lee, "A General Method for Improving the Volumetric Positioning Accuracy of CNC Machine Tools," *Proceedings of Internal Conference on Integrated Design and Manufacturing in Mechanical Engineering*, pp. 385-394, Nantes, France, April 15-17, 1996.

Yun, Myung Hwan, Cannon D. J., and Freivalds A., "An Instrumented Glove for Grasp Specification in Virtual Reality Based Point-and-direct Tele-robotics," *Proceedings of the 4th Pan-Pacific Conference on Occupational Ergonomics*, pp. 524-528, Taipei, Taiwan, November 11-13, 1996.

4. DOMESTIC CONFERENCE PROCEEDINGS

Bae, D., **Eui-Ho Suh**, J. Lee, and H. Sohn, "Construction and Application of EIS for Decision Supports," *Proceedings of Joint Meeting of KORS and KIIE*, pp 679-682, Chungju, Korea, April 1996. (in Korean)

Byun, D. H., K. Jung, S. Y. Shin, and **Eui-Ho Suh**, "Evaluation of EIS Development Methodologies," *Proceedings of Joint Meeting of KORS and KIIE*, pp 675-678, Chungju, Korea, April 1996. (in Korean)

Cho, Hyunbo, "Process Model-based Simulation System," *Proceedings of the 8th POSCO Technical Conference*, pp. 281-282, Pohang, Korea, August 22-23, 1996. (in Korean)

Cho, J. H. and **Suk-Hwan Suh**, "Information Modeling of Feature Based CNC Controller," *Proceedings of the 4th workshop on Advanced Manufacturing System*, pp. 481-488, Seoul, Korea, September 19-20, 1996. (in Korean)

Choi, J., W. Park, and **Eui S. Jung**, "Comparison of the Biomechanical Cost Functions of Lifting Posture Prediction," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, pp. 147-150, Chungju, Korea, April 26-27, 1996. (in Korean)

Choi, K. I., **Min K. Chung**, and K. R. Min, "Investigation of Job-related Back Injuries Reported in the Pohang Region," *Proceedings of the 1996 Spring Conference of the Ergonomics Society of Korea*, pp. 91-97, Yongpyung, 1996. (in Korean)

Choi, W. Y. and **Chi-Hyuck Jun**, "Asymptotic Cell Loss Decreasing Rate in an ATM Multiplexer Loaded with Heterogeneous On-off Sources," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, pp. 543-546, Chungju, Korea, April 26-27, 1996. (in Korean)

Choi, W. Y. and **Chi-Hyuck Jun**, "A Simple Asymptotic Technique for Upper Bound of Individual Cell Loss Probability of an ATM Multiplexer," *Proceedings of the 1996 Fall KIIE Conference*, pp. 71-74, Seoul, Korea, November 9, 1996. (in Korean)

Eo, H. J., B. S. Kim, **Sung H. Han**, **Min K. Chung**, and I. S. Oh, "Development of a VDT-based Prototype of the Operator Interface for the Main Control Room of a Nuclear Power Plant," *Proceedings of the 1996 Spring Conference of the Ergonomics Society of Korea*, pp. 56-62, Yongpyung, 1996. (in Korean)

Han, Sung H., M. Kim, and J. Kwahk, "Implementing Anchors for Moving Pictures in Hypermedia Systems," *Korea Information Science Society*, pp. 145-149, Pusan, Korea, 1996. (in Korean)

Hyun, S. J. and **In Jun Choi**, "A Decision Framework for Client/Server Architecture," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, p. 429, Chungju, Korea, April 26-27, 1996. (in Korean)

Jeong, J., H. Park, and **Kwangsoo Kim**, "Zigzag Tool Path Generation Using Neural Networks," *Proceedings of SCCE Conference*, pp. 79-84, Seoul, Korea, February 13, 1996. (in Korean)

Jun, Chi-Hyuck, I. J. Choi, W. Y. Choi, S. M. Bae, K. S. Park, and K. M. Yeo, "Algorithms and GUI for Production Scheduling Systems in Process Industries," *Proceedings of 1996 ARC Workshop*, pp. 275-286, Pusan, Korea, July 11-12, 1996. (in Korean)

Jun, Chi-Hyuck, Soo Y. Chang, Yushin Hong, and H. Yang, "Bayesian Prediction of System Failures by Criticalities under Event Trees," *Proceeding of 1996 Korean Institute of Plant Engineering Conference*, pp. 88-93, Suwon, Korea, November 1, 1996. (in Korean)

Jung, S. Y., E. S. Lee, and **Suk-Hwan Suh**, "Error Measurement and Compensation for Rotary Axis," *Proceedings of KSPE Fall Meeting*, pp. 636-642, Seoul, Korea, November 23, 1996. (in Korean)

Kee D., H. Kim, Y. Shin, D. Kang, and **Eui S. Jung**, "Generation of a More Practical Visual Field Considering Background Condition," *Proceedings of the 1996 Fall KIIE Conference*, pp. 443-446, Seoul, Korea, November 9, 1996. (in Korean)

Kee D., Y. Shin, D. Kang, and **Eui S. Jung**, "Measuring Reach Volume and Comparison with Analytical Generation by Inverse Kinematics," *Proceedings of Ergonomic Society of Korea*, pp. 232-237, Suwon, Korea, October 18-19, 1996. (in Korean)

Kim, D., **Hyunbo Cho**, and **Moo Young Jung**, "Process and Resource Modeling for Automated Manufacturing," *Proceedings of the 1996 Fall KIIE Conference*, pp. 463-466, Seoul, Korea, November 9, 1996. (in Korean)

Kim, D., **Hyunbo Cho**, and **Moo Young Jung**, "Process Modeling Tools for Automatic Generation of Simulation Models," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, pp. 627-630, Chungju, Korea, April 26-27, 1996. (in Korean)

Kim, J. Y. and **Chi-Hyuck Jun**, "Estimation of a Product Life Using Field Failure and Laboratory Test Data," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, pp. 262-265, Chungju, Korea, April 26-27, 1996. (in Korean)

Kim, S. H., **Min K. Chung**, J. H. Lim, I. S. Lee, and K. R. Min., "Investigation of Low Back Injuries in the Machine Repair Shop," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, pp. 647-650, Chungju, Korea, April 26-27, 1996. (in Korean)

Kim, S. J. and **In Jun Choi**, "Implementation of Process Management System on an Active Object-oriented Database," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, p.189, Chungju, Korea, April 26-27, 1996. (in Korean)

Kim, S. K. and **Suk-Hwan Suh**, "Five-Axis Emulation with Selective 3/5 Controls," *Proceedings of Korea Society of Precision Engineering*, pp. 683-689, Seoul, Korea, November 23, 1996. (in Korean)

- Kwon, S., S. Hong, S. Lee, **Hyunbo Cho**, **Moo Young Jung**, G. Wang, and S. Ryee, "Prototyping of Agile Manufacturing Using Information Super Highway," *Proceedings of the 1996 Fall KIIE Conference*, pp. 356-359, Seoul, Korea, November 9, 1996. (in Korean)
- Lee, J. J. and **Suk-Hwan Suh**, "Interference Free Tool Path Planning for Five-axis NC Machining of Ruled Surfaces," *Proceedings of the 1996 Fall KIIE Conference*, pp. 400-403, Seoul, Korea, November 9, 1996. (in Korean)
- Lee, J. Y. and **Kwangsoo Kim**, "Geometric Reasoning for Parametric Design Using Graph Representation," *Proceedings of SCCE Conference*, pp. 52-58, Seoul, Korea, February 13, 1996.
- Lee, S., **Hyunbo Cho**, and **Moo Young Jung**, "Automatic Generation of Simulation Models for Manufacturing Systems," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, pp. 631-634, Chungju, Korea, April 26-27, 1996. (in Korean)
- Lee, S., **Hyunbo Cho**, and **Moo Young Jung**, "Automatic Generation of Simulation Model Using Object-oriented Method," *Proceedings of the 1996 Fall KIIE Conference*, pp. 467-470, Seoul, Korea, November 9, 1996. (in Korean)
- Lee, Y., **Soo-Young Kim**, and S. Yea, "Production Planning for Semiconductor Manufacturing Considering Cycle Time Reduction," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, Chungju, Korea, April 26-27, 1996. (in Korean)
- Park, H. and **Kwangsoo Kim**, "B-spline Surface Approximation to Serial 2D Contours," *Proceedings of SCCE Conference*, pp. 40-45, Seoul, Korea, February 13, 1996.
- Park, H. W., D. M. Shin, and **Yushin Hong**, "A Lot Sizing in Electric Arc Furnace," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, pp. 566-569, Chungju, Korea, April 26-27, 1996. (in Korean)
- Park, H. W., S. A. Han, S. S. Hwang, **Yushin Hong**, and **Soo Y. Chang**, "A Production Scheduling System for Mini Mill Steel Making Process," *Proceedings of the 1996 Fall KIIE Conference*, pp. 27-31, Seoul, Korea, November 9, 1996. (in Korean)
- Park, W., I. S. Jung, **Eui S. Jung**, and J. Choi, "Weighted Sum of Mechanical Stresses as Cost Function for Posture Prediction of 2-D Load Lifting," *Proceedings of the 1996 Fall KIIE Conference*, pp. 217-220, Seoul, Korea, November 9, 1996. (in Korean)
- Park, W., J. Choi, and **Eui S. Jung**, "Posture Prediction Using Complex Method," *Proceedings of Ergonomic Society of Korea*, pp. 313-319, Yongpyung, Korea, April 19-20, 1996. (in Korean)
- Song, Y. W., **Min K. Chung**, S. H. Kim, K. I. Choi, and M. S. Lee, "Biomechanical and Postural Stress Analysis of the Job in the Machine Repair Shop," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, pp. 651-654, Chungju, Korea, April 26-27, 1996. (in Korean)

Suh, Eui-Ho, "Status and Perspective of Korean Firms' Technology Development for Industry Growth Potential," *Proceedings of the 10th Association of Technology Management and Economy Meeting*, pp. 325-339, Seoul, Korea, December 6, 1996. (in Korean)

Suh, Eui-Ho, and D. Bae, "Research on a Development Methodology for Enterprise-wide EIS System," *Proceedings of EIS/DSS SIG of KMIS Fall Meeting*, pp. 87-102, Seoul, Korea, 1996. (in Korean)

Suh, Eui-Ho, H. Jo, J. Lee, and H. Kim, "Research on Improving the President Information System in POSCO EIS," *Proceedings of Joint Meeting of KORS and KIIE*, pp. 683-686, ChungJu, Korea, April 1996. (in Korean)

Yeo, K. M. and **Chi-Hyuck Jun**, "A Markov Model for Forecasting Future Demands Having On/Off Pattern," *Proceedings of the 1996 Spring KIIE/KORS Joint Conference*, pp. 491-494, Chungju, Korea, April 26-27, 1996. (in Korean)

Yun, Myung Hwan, "Grasp Specification Using a 3-D Glove," *Proceedings of the 1996 Fall KIIE Conference*, pp. 141-146, Seoul, Korea, November 9, 1996. (in Korean)

5. INTERNATIONAL CONFERENCE PRESENTATIONS

Leachman, R. C., Y. H. Lee, and **Soo-Young Kim**, "Cycle Time Reduction in a Semiconductor Manufacturing Company," *INFORMS Conference*, Atlanta, USA, 1996.

6. DOMESTIC CONFERENCE PRESENTATIONS

Cho, Hyunbo, "Simulation for Shop Floor Control," *1995 Conference on Simulation*, Pohang, Korea, May 11, 1996.

Jo, H. and **Eui Ho Suh**, "Design of Active and Intelligent DSS for Evaluating Investments," *Fall Meeting of KORS*, 1996

Jun, Chi-Hyuck, "Maintenance Policy Models Using Markov Decision Processes," *1996 Korean Institute of Plant Engineering Conference*, Ajou University, November 1, 1996.

Lee, J. and **Eui Ho Suh**, "Research on EIS Implementation under Intranet Environment," *Fall Meeting of KORS*, 1996

Sohn, H., J. Lee, **Eui Ho Suh**, and H. Jo, "Research on a DSS for Investment," *POSCO annual meeting for technical reporting*, 1996

7. RESEARCH REPORTS

Cho, Hyunbo and **Moo Young Jung**, Development of a Methodology for Factory Automation Planning and A Case Study on No. 2 CAL, POSCO, July 1996.

Cho, Hyunbo and **Moo Young Jung**, Development of a Process Model-Assisted Simulation System (1st year), POSCO, April 1996.

Cho, Hyunbo, Development of an Integrated Product Model for Agile Manufacturing, Pohang University of Science and Technology, April 1996.

Cho, Hyunbo, **In Jun Choi**, **Sung H. Han**, and **Kwangsoo Kim**, Development of VR Standard Factory/VR Assembly Planning System, Ministry of Information and Communication, December 1996.

Chung, Min K. and **Sung H. Han**, Work Practices Guide for Maintenance Jobs to Prevent Low Back Injuries, POSCO, February 1996.

Chung, Min K., Development of Work Practice Guides for Back Injury Prevention, KOSEF, June 1996.

Han, Sung H. and **Min K. Chung**, Human Factors Evaluation of The Main Control Room of Atomic Power Plants Using Visual Display Terminals, Korea Atomic Energy Research Institute, July 1996.

Han, Sung H., **Myung Hwan Yun**, and **Min K. Chung**, Development of A Usability Evaluation Method for The CFMS User Interface of UCN 3 and 4, Korea Atomic Energy Research Institute, November 1996.

Hong, Yushin and **Soo Y. Chang**, Production Scheduling System for Steel Making in Mini Mill, POSCO, June 1996

Jung, Eui S., Development of a Kamsung Design System for Car Styling and Interior, Samsung Motors, 1996

Suh, Eui Ho, Research on decision support method for POSCO EIS, POSTECH, December 1996

Suh, Eui Ho, Constructing DB and expert system for environmental pollution control, POSTECH, December 1996

Suh, Eui Ho and H. G. Park, "Evaluation Information Infrastructure of Hyundai Group, POSTECH / Sangmyung University, December 1996

Suh, J. and **Eui Ho Suh**, Research on making research environments in basic science for the upcoming 21st century, KOSEF, December 1996

Suh, Suk-Hwan and E. S. Lee, Development of NC Performance Evaluation System for CNC system (NCPES), Research Association of numerical control system, October 1996.

Suh, Suk-Hwan and J. H. Cho, Advanced Algorithm for Intelligent CNC Control: Study on the Feature-based CNC controller, ERC-ACI, Seoul National University, October 1996.

Suh, Suk-Hwan and J. J. Lee, Versatile CAM System for Additional-multi-axis System, KOSEF, March 1996.

Suh, Suk-Hwan, S. K. Kim, and H. W. Kim, Developing Versatile and Shop Floor Monitoring System for CNC and CAM, POSTECH, December 1996.

Youn, Y and **Eui S. Jung**, Development of an Ergonomic Weapon Design System (IV), Agency for Defense Development, December 1996

Yun, Myung Hwan, Biomechanical Analysis of Tool Grasping Tasks, POSTECH, March 1996.

8. INVITED SEMINARS

Cho, Hyunbo, "Manufacturing Systems Modeling," Korea Productivity Center, Seoul, July 18, 1996.

Cho, Hyunbo, "Reference Architecture for Shop Floor Control," Hanyang University, Seoul, July 28, 1996.

Cho, Hyunbo, "Development of a CIM System through Enhanced Material and Information Flows," Hyundai Heavy Industry, Ltd., Ulsan, November 5, 1996.

Hong, Yushin, "Production Management in Steel Making Processes," POSCO, Pohang, March 1996.

Hong, Yushin, "Production Scheduling System in Real World," Pusan National University, Pusan, October 1996.

Jun, Chi-Hyuck and Eui Yong Lee, "Statistics and Quality Control," POSTECH GSIST, Pohang, July 1 ~ August 14, 1996.

Jun, Chi-Hyuck, "Data Analysis for Engineers," Samsung Electronics HITEMS Course, March 28, 1996.

Jun, Chi-Hyuck, "Deming's Quality Management," KEPCO, Ulchin Nuclear Power Division, May 29, 1996.

Jun, Chi-Hyuck, "Introduction to Material Handling," POSCO Education Center, Pohang, June 10~11, 1996.

Jun, Chi-Hyuck, “Quality Management and Quality Engineering,” POSTECH PAMTIP, Pohang, April 1, 1996.

Jun, Chi-Hyuck, “Quality Management,” POSTECH PAMTIP, Pohang, November 4, 1996.

Jun, Chi-Hyuck, “Technical Considerations and Economics in Equipment Investment,” POSCO Education Center, Pohang, July 25, 1996.

Kim, Soo-Young, “Introduction of Intelligent Process Optimization,” POSCO, Pohang, January 15, 1996.

Kim, Soo-Young, “Production Management in Semiconductor,” Samsung Electronics Co., May-December, 1996.

Kim, Soo-Young, “Project Management,” Samsung Heavy Industry, April-December (once for each month) 1996.

Suh, Eui Ho, “Strategic Management,” Doowon Group, Seoul, March 30, 1996.

Suh, Eui Ho, “Strategic Management and Innovation,” Keymyung University, Daegu, April 22, 1996.

Suh, Eui Ho, “New paradigm of Management,” Ulsan University, Ulsan, May 31, 1996.

Suh, Eui Ho, “Economic Development of East-sea Rim Area,” Pohang, June 21, 1996.

Suh, Eui Ho, “Information Age,” POSCO, Pohang, 1996.

Suh, Eui Ho, “Understanding Management Information,” Sinwon Group, Seoul, August 22, 1996.

Suh, Eui Ho, “Information Strategy,” Hyundai Motors, Ulsan, September 2, 9 and 16, 1996.

Suh, Eui Ho, “MIS: What is It?” Hanyang University, Seoul, October 4 and 11, 1996.

Suh, Eui Ho, “Information Strategy,” Samsung Group, Pohang, October 10, 1996.

Suh, Suk-Hwan, “Realization of CIM on Shop Floor in CNC Machining System,” University of New South Wales, Sydney, Australia, June 11, 1996.

Suh, Suk-Hwan, “Science and Technology in Korea, POSTECH, Industrial and Manufacturing Engineering,” University of New South Wales, Sydney, Australia, May 21, 1996.

Suh, Suk-Hwan, “State-of-the-art Research at the Laboratory of Computer Automated Manufacturing in POSTECH,” Hyundai Precision Engineering Co. Ltd., Yongin, October 11, 1996.

9. PATENTS

Jung, Moo Young, K. I. Kang, J. Park, M. H. Yu, S. S. Lee, and Y. W. Jung, “Rotatable Stapler,” May 23, 1996, Korea No. 96-17731. (pending)

Jung, Moo Young, N. J. Kim, H. M. Jeong, B. J. Youm, B. S. Kim, H. H. Kim, and P. Y. Jang, “110V/220V Dual Transformer,” March 20, 1996, Korea No. 96-7595. (pending)

Jung, Moo Young, S. Y. Kim, K. S. Park, S. A. Kim, H. J. Kim, S. K. Lee, and J. H. Cho, “Length-adjustable Wall Outlet Assembly,” May 23, 1996, Korea No. 96-17730. (pending)

Jung, Moo Young, S. P. Kwon, S. H. Yu, D. G. Jang, B. W. Ha, and S. W. Hong, “Apparatus for Displaying a Remainder in a Can-vending Machine,” September 3, 1996, Korea No. 96-38055 (pending)

Jung, Moo Young, T. Y. Kim, M. S. Boo, D. K. Kim, Y. J. Son, and J. H. Shin, “Keyboard Cover,” September 12, 1996, Korea, No. 96-39566. (pending)

Suh, Suk-Hwan, E. S. Lee and J. W. Sohn, “On Machine Inspection and Repetitive Machining,” Korean Patent 96-18745.

V. GRANTS AND PROJECTS

Cho, Hyunbo, A Methodology for Manufacturing Systems Modeling, LG Electronics Inc., January 1996 ~ March 1996, \$24,000.

Cho, Hyunbo, Development of a Feature-based Adaptive CAPP System, Korea Research Foundation, December 1996 ~ November 1999, \$62,000.

Cho, Hyunbo, Efficient Feature-based Process Planning for Sculptured Pocket Machining, PO STECH, May 1996 ~ April 1997, \$9,900.

Cho, Hyunbo, In Jun Choi, Sung H. Han, and Kwangsoo Kim, Development of VR Standard Factory/VR Assembly Planning System, Ministry of Information and Communication, January 1996 ~ December 1996, \$687,500.

Cho, Hyunbo, Scheduling Model of Transportation for Steel-making Processes, POSCO, July 1996 ~ January 1998, \$39,700.

Cho, Hyunbo and Moo Young Jung, Development of a Process Model-assisted Simulation System, POSCO, May 1996 ~ April 1997, \$210,000.

Cho, Hyunbo, Suk-Hwan Suh, and Kwangsoo Kim, A Study on Enabling Technologies of Holonic Manufacturing Systems, KITECH, December 1996 ~ November 1997, \$34,000.

Choi, In Jun, Graphical User Interface for Scheduling System, Korean Science and Engineering Foundation through Automation Research Center at POSTECH, January 1996 ~ February 1997, \$15,000.

Choi, In Jun, Object-oriented Document and Information Management System, POSCO, January 1996 ~ December 1996, \$350,000.

Chung, Min K., Center for Industrial and Manufacturing Engineering Research Resources, KOSEF, January 1996 ~ October 1997, \$295,000.

Chung, Min K., Development of Workload Assessment System for Worker's Discomfort and Safety, STEPI, November 1996 ~ October 1997, \$135,000.

Chung, Min K., Work Place and Operator Interface Design of the PL and TCM Control Rooms in the Cold Roll Plant #1, POSCO, April 1996 ~ March 1997, \$158,000.

Han, Sung H., Development of a Usability Evaluation Method for the CFMS User Interface of UCN 3,4, KAERI, April 1996 ~ November 1996, \$63,000.

Han, Sung H., Development of Product Usability Evaluation Techniques, STEPI, November 1996 ~ October 1997, \$125,000.

Hong, Yushin, An Optimal Inspection Schedule and A Production Run Length in Imperfect Production Processes, POSTECH, April 1996 ~ March 1997, \$24,000.

Hong, Yushin, Manpower Allocation System for Maintenance Works in Kwangyang Steel Works, POSCO, April 1996 ~ March 1997, \$240,000.

Hong, Yushin, Resource Capacity Allocation in Cold Rolled Steel Mill, POSCO, July 1996 ~ January 1998, \$40,000.

Jun, Chi-Hyuck and Chung, Min K., Applied Statistics for Engineers, PIRL, POSTECH, October 1996 ~ September 1997, \$7,500.

Jun, Chi-Hyuck and Sooyoung Kim, Statistical Analysis and Prediction of Hot Coil Quality, RIST/POSCO, January 1996 ~ June 1997, \$78,000.

Jun, Chi-Hyuck, An Optimal Model for Equipment Inspection in Steelworks, POSCO/GSIST, July 1996 ~ January 1998, \$36,000.

Jun, Chi-Hyuck, Search Algorithms for Production Scheduling, Automation Research Center, KOSEF, March 1996 ~ February 1997, \$18,000.

Jun, Chi-Hyuck, Traffic Aggregation and Analysis of ATM Multiplexer with Heterogeneous Sources, POSTECH, January 1996 ~ June 1997, \$6,000.

Jung, Eui S., Application of Humanware Engineering to Car Interior Packaging, Samsung Motors Co., February 1996 ~ January 1997, \$146,000.

Jung, Eui S., Development of a Kamsung Design System for Car Styling and Interior, Samsung Motors Co., December 1995 ~ October 1996, \$52,000.

Jung, Eui S., Development of an Ergonomic Weapon Design System, April 1996 - December 1996, \$56,000.

Jung, Eui S., Office Planning for Daewoo Intelligent Building Systems, Daewoo Electronics Co., July 1995 ~ June 1996, \$127,000.

Kim, Kwangsoo, A Parametric Approach to Feature-based Modeling, KOSEF, March 1996 ~ February 1997(2nd year), \$25,000.

Kim, Kwangsoo, Extraction of Machining Features, KRF, December 1996 ~ November 1999, \$56,000.

Kim, Kwangsoo, Feature-based Surface Machining System, POSCO, May 1996 ~ April 1997, \$27,000.

Kim, Soo-Young, Development of HITEMS, Samsung Electronics Co., January 1996 ~ December 2000, \$1,250,000.

Kim, Soo-Young, Development of Neural Network Module for POSCO PIPO, January 1996 ~ December 1996, \$160,000.

Suh, Eui-Ho, Research on Decision Support Method for POSCO EIS, PIRL, POSTECH, January 1996 ~ December 1996, \$170,000.

Suh, Eui-Ho, Research on East-sea Rim Studies, Sasakawa Foundation, April 1996- Feb 1997, \$15,000.

Suh, Eui-Ho, Constructing DB and expert system for environmental pollution control, POSTECH, March 1996 - December 1996, \$17,000.

Suh, Suk-Hwan, Developing versatile operating and shop floor monitoring system for CNC, POSCO, January 1996 ~ December 1996, \$350,000.

Suh, Suk-Hwan, Development of intelligent PC-NC system, Ministry of Trade and Industry, December 1996 ~ November 1997, \$55,000.

Suh, Suk-Hwan, Five-axis Machining with Additional-axis NC system, KOSEF Core Research, April 1996 ~ March 1998, \$30,000.

Suh, Suk-Hwan, Performance Evaluation System for Numerical Control System, Research Association of Numerical Control System, December 1996 ~ November 1997, \$25,000.

Suh, Suk-Hwan, Virtual CAM System for Precision Machining, KOSEF core Research, August 1996 ~ July 1998, \$35,000.

Yun, Myung Hwan, Biomechanical Analysis of Tool Grasping Tasks, POSTECH Research Grant, March 1996 ~ March 1997, \$35,000.

Yun, Myung Hwan, Development of Hand Posture Measurement System for Human Motion Measurement System, Korea Research Institute of Standardization and Sciences, October 1996 ~ October 1997, \$30,000.

Yun, Myung Hwan, Samsung Display Devices - 21st Century Vision, Samsung Display Devices, June 1996 ~ August 1996, \$25,000.

VI. EDITORSHIPS, AWARDS AND HONORS

1. EDITORSHIPS

Chung, Min K., Editor-in-chief, *Journal of the KIIE*, January 1995 - December 1996.

Chung, Min K., Editorial Board Member, *Human Factors and Ergonomics in Manufacturing*, October 1996 - present.

Hong, Yushin, Editorial Board Member, *Korean Management Review*, April 1996 - present.

Hong, Yushin, Editorial Board Member, *International Journal of Production and Planning*, October 1996 - present.

Hong, Yushin, Associate Editor, *Asian-Pacific Journal of Operational Research*, January 1994 - present.

Jun, Chi-Hyuck, Guest Editor, *Computers and Industrial Engineering*, Vol. 30, No. 3, 1996.

Jung, Eui S., Editor-in-chief, *Journal of the Ergonomics Society of Korea*, January 1995 - December 1996.

Jung, Moo Young, Editorial board member, *Computers and Industrial Engineering*, 1994 - present.

Jung, Moo Young, Editorial board member, *International Journal of Industrial Engineering*, 1995 - present.

Jung, Moo Young, Associate Editor, *Engineering Design and Automation*, 1995 - present.

Suh, Eui-Ho, Editorial Board, *Journal of Database Management*, 1989 - present.

Suh, Eui-Ho, Editorial Board, *Information Resources Management Journal*, 1990 - present.

2. AWARDS

Cho, Hyunbo, SME's 1997 Outstanding Young Manufacturing Engineer Award, November 25, 1996.

Jung, Eui S. and **Min K. Chung**, 1996 Liberty Mutual Insurance Company Best Paper Award, November 12, 1996.

Yun, Myung Hwan, Co-author of the best student paper in the *20th International Conference on Computers and Industrial Engineering*, Kyungju, Korea, October 6-9, 1996.

VII. SERVICES AND ACTIVITIES

1. IE SEMINAR SERIES

- March 6 Professor Sungzoon Cho (POSTECH)
“Prinaples and Applications of Neural Networks”
- March 20 Professor Inyong Ham (Pennsylvania State University)
“IE : History and Future Perspectives”
- March 27 Mr. Yong Seok Yoo (Korea Information Engineering Services)
“Internet and Information Exchange”
- March 30 Professor Doo Hwan Bae (KAIST)
“COBRA : Common Object Request Broken Architecture”
- April 3 Professor **Min K. Chung** (POSTECH)
“Biomechanical and Postural Analysis of Machine RepairTaksks with High Prevalence of Low Back Injuries”
- April 17 Professor Kang Won Lee (Seoul Polytechnique University)
“ATM Traffic Control”
- April 17 Dr. Steven Ray (National Institute of Standard and Technology)
“Manufacturing Systems Integration Activities at NIST”
- May 1 Professor Myung Kwan Yoo (Samsung University)
“ISFDBS Using Information Invariance Principle for Control and Deusion Making System”
- May 3 Professor Remy Glardon (Ecole Polytechnique Federale De Lausanne)
“Overview of the Swiss System for the Promotion of Technology Transfer - Case in Machine Design”
- May 20 Dr. Dong Mok Shin (Pennsylvania State University)
“Adaptive Control wing Neural Network : Application to the control of Cutting Force in Turning”
- May 22 Mr. Young Joon Kim (Samsung Engineering)
“Design Automation Activities at Samsung Engineering”
- May 29 Dr. Jae Jin Jang (Samsung Electronics)
“The Operation of an Automated Manufacturing Cell”

- Jun 3 Professor Kwang-Jae Kim (Pennsylvania State University)
“Quality Function Deployment for Optimizing Product Designs: Concepts, Methods, and Models”
- Jun 11 Mr. Hong Kyun Park (SDRC)
“Product Data Management”
- Jun 12 Professor **Injun Choi** (POSTECH)
“EDMS + PDM + Groupware + Object-Orientation”
- Jun 19 Professor Hyun Bok Eom (Southeast Missouri State University)
“Mapping the Intellectual Structure of Research in Decision Support Systems Through Author Citation Analysis”
- August 8 Professor Richard A. Wysk (Pennsylvania State University)
“An Equipment Level Controller for CIM Integration”
- September 4 Dr. Ho Soon Im (UCLA)
“Competitive Location, Production, and Market Selection”
- September 18 Mr. Kyung Sik Kwon (POSCO)
“The Role of IE in Steel Manufacturing”
- October 9 Professor A. Osyczka (Tokyo Metropolitan University)
“Multicriteria Optimization Using Genetic Algorithm”
- October 16 Mr. Hyung Keun Lee (LG-EDS)
“Survival Strategy for Small-to-Medium-Sized Companies”
- October 23 Professor Bong Joo Jung (Yonsei University)
“Improving System Efficiency in LCD Manufacturing Processes”
- October 30 Professor Sam Pyo Chun (Korea University of Technology and Education)
“Biomechanical Analysis of the Human Fall Responses”
- November 1 Professor Ebrahim Shayan (Swinburne University of Technology)
“Education and Research at Industrial Research Institute Swinburne (IRIS)”
- November 6 Professor **Hyunbo Cho** (POSTECH)
“Product Design Evaluation Using Virtual Reality”
- November 13 Professor **Soo Y. Chang** (POSTECH)
“Strategic Decision Support Based on Actual Production Capability”

November 27 Dr. Kyung Sik Park (Ssang Yong Information Systems)
 “Application of Scheduling Systems”

December 4 Professor Seung Nam Byun (Kyunghee University)
 “Product Liability and Safety Policies in OECD Countries”

2. SERVICES

Hong, Yushin, General Chair, Korean Society for Simulation '96 Spring Conference, May 11, 1996.

Hong, Yushin, Vice Chairman, University Faculty Senator, March 1996 - February 1996.

Jun, Chi-Hyuck, Board Member, Korea OR/MS Society, January 1995 - present.

Jun, Chi-Hyuck, Board Member, Korean Institute of Plant Engineering, January 1996 - present.

Jun, Chi-Hyuck, Korea Institute of Industrial Engineers, Director in Academic Affairs, January 1995 - January 1997.

Jung, Moo Young, Serving as a member of Automation Research and Development Committee of Ministry of Commerce and Industry, 1993 - present.

Jung, Moo Young, Serving as a member of Automation Systems Sub-committee of Industrial Basic Technology Development Committee at Ministry of Commerce and Industry, 1992 - present.

Jung, Moo Young, Serving as a member of Planning Committee for 21st Century of KyungBuk Province, 1993 - present.

Suh, Eui-Ho, Ministry of Trade and Commerce, Advisory Committee, 1995 - present.

Suh, Eui-Ho, Korea Power Electric Co., Advisory Committee in information planning, 1996 - present.

Suh, Eui-Ho, KyungSangbuk-do, Advisory board of relocation , 1996 - present.

Suh, Eui-Ho, Pohang City, Committee of Urban Planning, 1993 - present.

Suh, Eui-Ho, Pohang Chamber of Commerce, Director of Economic Planning, 1992 - present.

Suh, Suk-Hwan, Scientific Committee in International Conference on Integrated Design and Manufacturing, Nantes, France, 1995 - 1996.

Suh, Suk-Hwan, International Committee in Pacific Conference on Manufacturing, Seoul, Korea, 1995 - 1996.

Suh, Suk-Hwan, Expert Committee on ISO/JC 184 : Numerical Control, 1996 - present.

VIII. THESES AND DISSERTATIONS

1. PH.D. DISSERTATIONS

Kang, Dongseok

Construction of a Knowledge Base for Ergonomic Human Modeling (Advisor : Eui S. Jung)
Job placement : Samsung Motors Inc.

Lee, Jungjae

Versatile CAM System for Additional-axis Machining (Advisor : Suk-Hwan Suh)
Job placement : University of Waterloo, Post Doctor

2. M.S. THESES

Bae, Daeho

A Multi-Item Scheduling Heuristic for Parallel Batch Processes in Semiconductor Manufacturing (Advisor : Yushin Hong)
Job placement : Samsung Electronics

Bae, Dugwoo

EIS Development Methodology for Enterprise-wide Interpretation (Advisor : Eui Ho Suh)
Job placement : SK Telecom

Cho, Heunsek

Design of Active Intelligent Decision Support System for Investment Evaluation (Advisor : Eui Ho Suh)
Job placement : Samsung Motors Inc.

Choi, Keunhwan

Solving 3D Geometric Constraints in Assembly Modeling (Advisor : Kwansoo Kim)
Job placement : LG Electronics

Chung, Saeyong

A Study on the Accuracy Calibration of the 5-axis CNC Machine (Advisor : Suk-Hwan Suh)
Job placement : Samsung Motors Inc.

Eo, Hongjun

Design of a VDT-based Operator Interface for a Process Control Room (Advisor : Sung H. Han)
Job placement : Ph.D. Program, POSTECH

Han, Seunga

Line Balancing in MIXED Items Assembly Line (Advisor : Yushin Hong)
Job placement : Korean Air

Hyun, Seokjin

Integration of Heterogeneous Data and Service Objects in the PDM Environment: A CORBA-Based Approach (Advisor : In Jun Choi)
Job placement : Ph.D. Program, POSTECH

Im, Kisoan

Constraint-based Product Modeling for Assembly (Advisor : Kwansoo Kim)

Job placement : LG Electronics

Joo, Jaekoo

Manufacturing Feature Extraction for Sculptured Pocket Machining (Advisor : Hyunbo Cho)

Job placement : Ph.D. Program, POSTECH

Kim, Byoungju

A Systematic Methodology for the User Interface Requirement Analysis (Advisor : Sung H. Han)

Job placement : Hyundai Motor Co.

Kim, Daegu

Parallel and Self-terminating Processing of Multi-dimensional Visual Information (Advisor : Eui S. Jung)

Job placement : LG Electronics

Kim, Daesong

Manufacturing Process Description Method for Simulation (Advisor : Moo Young Jung)

Job placement : LG EDS

Kim, Honghie

A Value-Based IS Evaluation Methodology Using Conjoint Measurement (Advisor : Euiho Suh)

Job placement : Hyundai Motor Co.

Kim, Seongju

Rule Management in Workflow (Advisor : In Jun Choi)

Job placement : Hyundai Motor Co.

Kim, Sunggu

5-axis Machining with Selectively Three-axis Controlled CNC Machine (Advisor : Suk-Hwan Suh)

Job placement : Ph.D. Program, POSTECH

Lee, Inbom

Specification of Information Requirements for Shop Floor Control (Advisor : Hyunbo Cho)

Job placement : LG Electronics

Lee, Inseok

Workload Evaluation of Squat Sitting Postures (Advisor : Min K. Chung)

Job placement : Ph.D. Program, POSTECH

Lee, Myeongsoo

Ergonomic Design of the VET Workstation in the Process Control Room(Advisor : Min K. Chung)

Job placement : LG Electronics

Lee, Sanghoon

Automatic Generation of Simulation Model for Shop Floor Control System (Advisor : Moo Young Jung)

Job placement : Ph.D. Program, POSTECH

Lee, Youngsu

Production Planning in Semiconductor Wafer Fabrication Considering Variable Cycle Times (Advisor : Soo-Young Kim)

Job placement : Samsung Electronics Co.

Park, Hyungwoo

An Efficient Lot Grouping for Steel Making in Mini Mill (Advisor : Yushin Hong)

Job placement : Ph.D. Program, POSTECH

Park, Kwangsu

Semiconductor Yield Models Considering Cluster Effect and Fault Observation (Advisor : Chi-Hyuck Jun)

Job placement : Ph.D. Program, POSTECH

Park, Woojin

Human Lifting Posture Prediction Models with Biomechanical Cost Functions (Advisor : Euseung Jung)

Job placement : Research Associate, POSTECH

Park, Youngshin

Scheduling Fobs Parallel Machines Using a Neural Network (Advisor : Sooyoung Kim)

Job placement : Ph.D. Program, POSTECH

Yeah, Seunghee

Shift Scheduling in Semiconductor Wafer Fabrication (Advisor : Soo-Young Kim)

Job placement : Samsung Motors Inc.

Yeo, Kunmin

Performance Analysis of PCS with Homogeneous Cells (Advisor : Chi-Hyuck Jun)

Job placement : Ph.D. Program, POSTECH

IX. FACILITIES

1. HARDWARE

Automated Guided Vehicle (AGV) System; Daewoo
CIM System; AMATROL
Coordinate Measurement Machine
Force Dynamometer; Kistler
Milling/Turning Machines; Bridgeport, Easimill, Easiturn
Intelligent Machining Center
FARA SM5 Robot; Samsung
FARA A1-U Robot; Samsung
Eye-Mark Camera and Recorder; NAC
Metabolic Monitor; Amatek
Motion Analysis System; Expert Vision
Telemetric Polygraph for EMG; Sanei
Noraxon EMG System
Usability Testing System; JVC
Workstations; IBM, HP, SGI, SUN
El-mar Eye Tracking System
Power Macintosh 8100/80; Apple *
Biopac system; Biopac Inc. *
Cyberglove system; Virtual Technologies Inc. *
Digital Prioris XL Server 590DP *
Laser Jet 5Si Laser Printer; Hewlett Packard *
ScanJet Iicx Scanner; Hewlett Packard *
Mac Reflex Motion Measurement System; Qualysis, Inc. *
DRM-624X CD Changer; Pioneer *
LP 4039-12R Laser Printer; Sindoricoh *
CDE 100 II CD Recorder; Yamaha *

2. SOFTWARE

CAD/CAM: ICAD, I-DEAS, Pro/Engineer, Unigraphics

DFA/DFM: Boothroyd-Dewhurst

DBMS: Oracle, UniSQL

Data Modeler: Oracle

ESDS: Nexpert

Geometric Kernel : ACIS, Designbase, Parasolid

Human Modeling System: Jack, Mannequin, Sammie

Optimization: LINDO

Product Data Management: IMAN

Simulation: AutoMod/AutoGram, SIMAN, SLAM, Witness

Statistical Analysis: SAS, Statgraphics

System Modeling: IDEF Family, CASE Tools

* Acquired in 1996.