PROGRAM

The First Asian Congress

ACGT 2005

Asian Congress on Gas Turbines

Seoul, Korea
November 15-18, 2005

ACGT 2005 Seoul

Organized by

Korean Fluid Machinery Association

Gas Turbine Society of Japan

Organization of the Asian Congress on Gas Turbines 2005

Organizing Society

Korean Fluid Machinery Association

Gas Turbine Society of Japan

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Korean Society of Aeronautical and Space Sciences

Korea Society of Propulsion Engineers

Society of Air-Conditioning and Refrigerating Engineers

Japan Society of Mechanical Engineers

Japan Society for Aeronautical and Space Sciences

Turbomachinery Association

Chinese Society of Engineering Thermophysics

Financial Support

Samsung Techwin Co. Ltd., Korea

Doosan Heavy Industries and Construction Co. Ltd., Korea

School of Mechanical and Aerospace Engineering, Seoul National University

Asian Congress on Gas Turbines 2005

Contents

MESSAGE FROM

THE ORGANIZING COMMITTEE

On behalf of the Organizing Committee, I would like to welcome all of you to Seoul and the Asian Congress on Gas Turbines (ACGT) 2005! The ACGT 2005 is a new international congress on gas turbines which was initiated by the Korean Fluid Machinery Association (KFMA) and the Gas Turbine Society of Japan (GTSJ) to promote gas turbine technology and research in Asia.

Gas turbines have long been essential for power generation and propulsion. They are also playing important roles in various new applications such as distributed generation. Thus, the Asian gas turbine markets are growing rapidly, and I hope that the ACGT 2005 will serve as a catalyst for promoting communication and cooperation among Asian gas turbine societies. Furthermore, I hope that the ACGT 2005 will lead to stronger ties between the Asian gas turbine societies and their counterparts in the US and Europe.

The scientific program of The ACGT 2005 includes three invited Keynote Lectures and two Forum Sessions. The Keynote Lectures address timely issues facing the gas turbine field, and we are privileged to have Professor Reza Abhari, Dr. Jung Ho Lee, and Dr. Ayao Tsuge as our speakers this year. The Forum Sessions are pre-organized sessions where interested groups can get together and freely engage in discussions. A total of more than 80 technical papers are to be presented in the Forum and General Sessions. Although most of the contributions happen to be from Korea and Japan this year, many more are expected from China in the future.

Planning and organizing a meeting of this kind requires dedication from many individuals, including the members of the Organizing Committee, staff, volunteers, and student assistants. I would like to take this opportunity to thank all of them for their contribution to the ACGT 2005. The Organizing Committee is also grateful for the financial support from Samsung Techwin Co., Doosan Heavy Industries and Construction Co., and the School of Mechanical and Aerospace Engineering, Seoul National University. Special thanks are due to Professor T. S. Kim, the Secretary General of the ACGT 2005, for his dedication. Finally on behalf of the Organizing Committee, I thank all of the participants for attending the ACGT 2005 and wish everyone a productive and pleasant Congress. Thank you very much.

강 신 형

Shin-Hyoung Kang
Chairman
Organizing Committee of the ACGT 2005

Osamu Kawaguchi

Osamu Kawaguchi
Organizing Committee of the ACGT 2005
President, The Gas Turbine Society of Japan

SCHEDULE AT A GLANCE

November 15, Tuesday

15:00 – 18:00	Registration
19:00 – 21:00	Reception (Marronnier Hall)

November 16, Wednesday

08:00 – 17:00	Registration
09:00 – 11:05	Technical Sessions (3 rooms)
11:05 – 11: 20	Coffee Break
11:20 – 12:10	Keynote Speech 1(Convention Hall)
12:10 – 13:30	Lunch (Crystal Hall)
13:30 – 15:10	Forum session 1 (Convention Hall)
15:10 – 15:30	Coffee Break
15:30 – 17:35	Technical Sessions (3 rooms)

November 17, Thursday

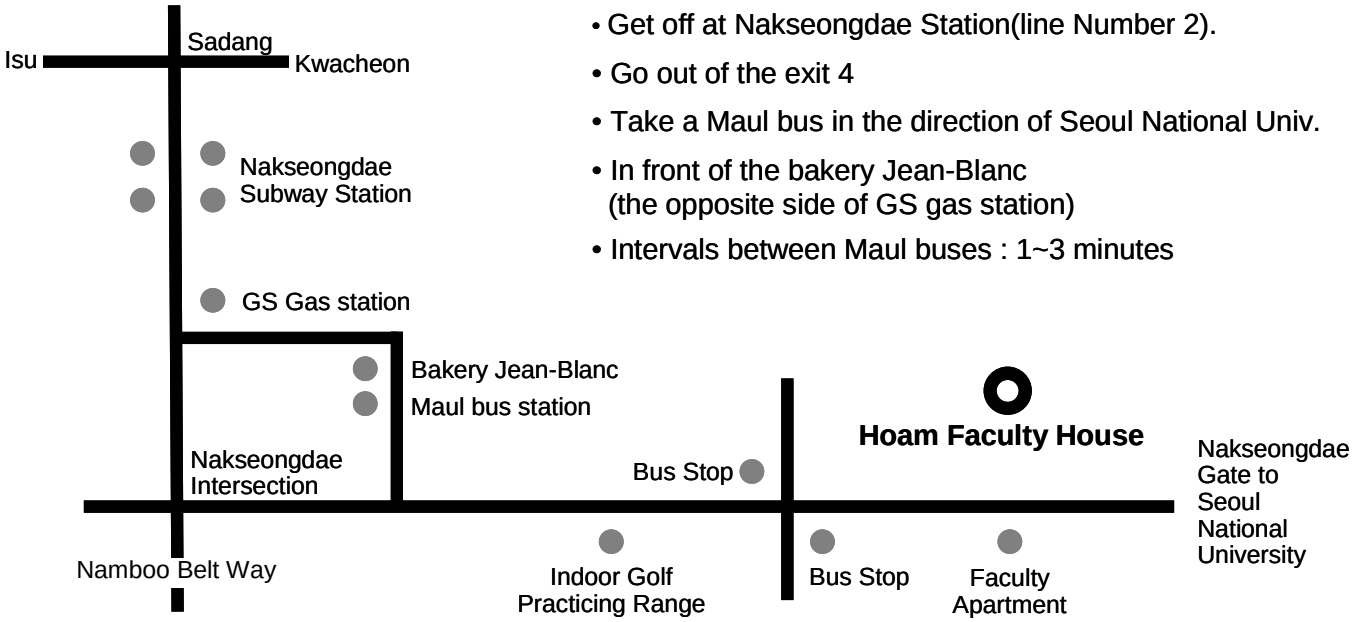
08:00 – 17:00	Registration
09:00 – 11:05	Technical Sessions (4 rooms)
11:05 – 11:20	Coffee Break
11:20 – 12:10	Keynote Speech 2 (Convention Hall)
12:10 – 13:30	Lunch (Crystal Hall)
13:30 – 15:10	Forum session 2 (Convention Hall)
15:10 – 15:30	Coffee Break
15:30 – 18:00	Technical Sessions (3 rooms)
18:30 – 21:00	Banquet (Convention Hall)

November 18, Friday

08:00 – 11:00	Registration
09:00 – 09:50	Keynote Speech 3 (Convention Hall)
09:50 – 10:10	Coffee Break
10:10 – 11:50	Technical Sessions (3 rooms)
11:50 – 13:00	Lunch (Crystal Hall)
13:00 – 16:00	Lab. Tour (School of Mech. & Aero. Eng., Seoul National Univ.)

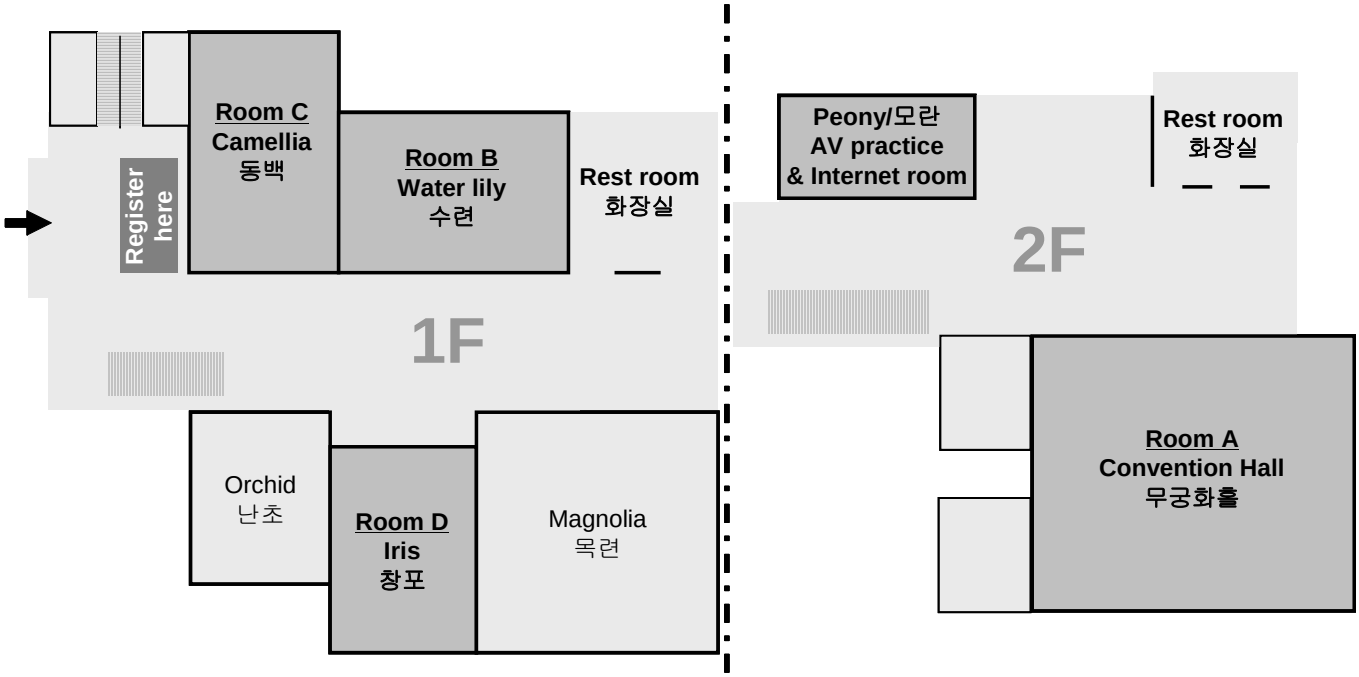
LOCATION AND FLOOR PLAN OF THE CONGRESS VENUE

■ Location of the congress site



- Get off at Nakseongdae Station(line Number 2).
- Go out of the exit 4
- Take a Maul bus in the direction of Seoul National Univ.
- In front of the bakery Jean-Blanc
  (the opposite side of GS gas station)
- Intervals between Maul buses : 1~3 minutes

■ Floor plan of the convention center



SESSION SCHEDULE

	Time	Room A (Convention Hall)	Room B (Water lily)	Room C (Camellia)	Room D (Iris)
Nov. 16 (Wed)	09:00	Turbomachinery Design and Test	Blade cooling	Development and Test of Micro Gas Turbines	
	11:05	Break			
	11:20	Keynote Speech 1 (Room A) Impact of Turbomachinery Technology Development on Future Trends in the Energy and Transportation Sectors Prof. Dr. Reza S. Abhari, Swiss Federal Institute of Technology, Zurich, Switzerland			
	12:10	Lunch			
	13:30	Forum 1 (Room A) Energy Strategies of Korea, Japan, and China			
	15:10	Break			
	15:30	Combustor Design	Hot Section Manufacturing	Gas Turbine Operation and Maintenance	
	17:35	Session Closing			
Nov. 17 (Thu)	09:00	Heat Transfer in Turbine & Internal Passages	Aerodynamics of Gas Turbine Components	Performance Analysis	Applications of Micro Gas Turbines
	11:05	Break			
	11:20	Keynote Speech 2 (Room A) Management of Hot Gas Path Components in Gas Turbines Dr. Jung Ho Lee, International Power Technology Ltd., Korea			
	12:10	Lunch			
	13:30	Forum 2 (Room A) The Role of Gas Turbines in Distributed Generation and Possibilities for International Cooperation			
	15:10	Break			
	15:30		Stability, Interaction and Unsteady Flow	Low Emission Technology	High Temperature Materials & Life
	18:00	Session Closing			
	18:30	Banquet (Convention Hall)			
Nov. 18 (Fri)	09:00	Keynote Speech 3 (Room A) Challenges to Sustainable Society of Energy and Environment in the 21st Century Dr. Ayao Tsuge, Council for Science and Technology Policy, Cabinet Office, Japan			
	09:50	Break			
	10:10	Turbomachinery Flow Analysis & Experiment	Combustion Instability	Advanced Cycles & Performance Enhancement	
	11:50	Lunch			
	13:00	Lab. Tour			
	16:00	Congress Closing			

KEYNOTE AND FORUM SESSIONS

Keynote Sessions

Keynote Speech 1
November 16 (Wed) 11:20 – 12:10 (Room A, Chairperson : Seung. Jin Song, Seoul National University, Korea)
Impact of Turbomachinery Technology Development on Future Trends in the Energy and Transportation Sectors
Prof. Dr. Reza S. Abhari, Swiss Federal Institute of Technology, Zurich, Switzerland

Keynote Speech 2
November 17 (Thu) 11:20 – 12:10 (Room A, Chairperson : Dae Sung Lee, KARI, Korea)
Management of Hot Gas Path Components in Gas Turbines
Dr. Jung Ho Lee, International Power Technology Ltd., Korea

Keynote Speech 3
November 18 (Fri) 09:00 – 09:50 (Room A, Chairperson : Osamu Kawaguchi, Keio University, Japan)
Challenges to Sustainable Society of Energy and Environment in the 21st Century
Dr. Ayao Tsuge, Council for Science and Technology Policy, Cabinet Office, Japan

Forum Sessions

Forum 1 : Energy Strategies of Korea, Japan, and China
November 16 (Wed) 13:30 – 15:10 (Room A, Chairperson : Toshinori. Watanabe, University of Tokyo, Japan)

Energy Situation and Related Technology Development in Japan
Dr. Kiichiro Ogawa, The Institute of Applied Energy, Japan
CCGT & Electric Power Resource Planning in Korea
Dr. Kundae Lee, Korea Energy Economics Institute, Korea
Perspective on Gas Turbine Power Industry in China
Prof. Hongde Jiang, Tsinghua University, China
Energy strategies of Japan
Dr. Mikio Sato, Central Research Institute of Electric Power Industry, Japan

Forum 2 : The Role of Gas Turbines in Distributed Generation and Possibilities for International Cooperation
November 17 (Thu) 13:30 – 15:10 (Room A Chairperson : Jeong L. Sohn, Seoul National University, Korea)

Gas Turbine Cogenerations in Japan
Mr. Hiroshi Sato, Tokyo Gas Co., Ltd., Japan
The Microturbine Market Overview and Case Studies in Korea
Mr. Joonsuk Kil, Samsung Corporation, Korea
Introduction of Gas Turbine Combined Cycle Co-generation Plant
Mr. Shigeo Kondo, Kawasaki Heavy Industries, Ltd., Japan
Gas Turbine Development in Korea
Dr. Daiki Min, Korea Advanced Institute of Science & Technology, Korea

GENERAL SESSIONS

November 16 Morning session

	Session W-1(Room A)	Session W-2(Room B)	Session W-3(Room C)
	Turbomachinery Design and Test	**Blade Cooling**	**Development and Test of Micro Gas Turbines**
	Chairperson : Chan Lee (University of Suwon, Korea)	**Chairperson : Sang Woo Lee (Kumoh National Institute of Technology, Korea)**	**Chairperson : Yoshiyuki Fujitsuna (Engineering Research Association for Supersonic Transport Propulsion System, Japan)**
9:00	ACGT2005-005 Enhancement of Efficiency by Blade Optimization in a Single-Stage Transonic Axial Compressor Choon-Man Jang (Korea Institute of Construction Technology, Korea), Abdus Samad, Kwang-Yong Kim (Inha University, Korea)	ACGT2005-010 Experimental Study on Heat Transfer of Film-Cooled Turbine Blade using Infrared Thermography K. S. Kim (Sungkyunkwan University, Korea), S. M. Kim (Georgia Institute of Technology, USA), Youn J. Kim (Sungkyunkwan University, Korea)	ACGT2005-035 Development of PPU for Smoke Generator M.H. Kim, H.G. Jang, O.S. Sung, S.B. Chen (Samsung Techwin Co., Ltd., Korea)
9:25	ACGT2005-013 Advanced Aerodynamic Optimization Design System for Turbomachinery Xin Yuan, Xuelin Gao, Bo Chen, Zhirong Lin(Tsinghua University, China)	ACGT2005-072 Conjugate Simulation of Flow and Heat Conduction by a Common CFD Platform “UPACS” Takashi Yamane, Takahiro Bamba, Yoshitaka Fukuyama (Japan Aerospace Exploration Agency, Japan)	ACGT2005-062 Micro Centrifugal Compressor for Ultra Micro Gas Turbine Toshiyuki Hirano, Yoshiyuki Koizumi, Kousuke Tanida, Ronglei Gu, Gaku Minorikawa, Hoshio Tsujita, Shimpei Mizuki (Hosei University, Japan)
9:50	ACGT2005-022 Development of Aerodynamic Design System for Centrifugal/Mixed-flow Compressors Justin Oh(MEEREX, Korea)	ACGT2005-086 Flow Field Measurement for Film Cooling Air by Laser-induced Fluorescence Daisuke Tokunaga, Kenichiro Takeishi, Takanori Kumagai, Masaharu Komiyama (Osaka University, Japan)	ACGT2005-089 A Test Operation of Micro Gas Turbine with Ceramic Rotor Norihiko Iki, Takayuki Matsunuma, Hiro Yoshida, Takumi Ebara, Satoshi Sodeoka, Takahiro Inoue, Masato Suzuki, Yoonhwan Lee (National Institute of Advanced Industrial Science and Technology, Japan)
10:15	ACGT2005-070 Numerical Investigation of the Effects of a Counter-Rotating LP Turbine on an Interaction between a HP and the LP Turbine Masaaki Hamabe, Ruriko Yamawaki, Hiroshi Hamazaki, Haruyuki Tanimitsu(Ishikawajima-Harima Heavy Industries Co., Ltd., Japan)	ACGT2005-095 Influence of Different Hole Length to Diameter Ratios on Film Cooling Zhenxing Han, Shi Liu, Hongde Jiang, Jianjun Liu, Jie Liu, Sijing Zhou (Chinese Academy of Science, China)	ACGT2005-057 Development of a Micro Gas Turbine System With Low-Calorific Value Gas from Biomass Yudai Yamasaki, Yoshifumi Nakashima, Yuji Mori, Tatsuo Watanabe, Shigehiko Kaneko (The University of Tokyo, Japan)
10:40	ACGT2005-019 The Effect of Rotor Geometry on Small 2-D Turbine Performance Joon-Sun Kim(Yonsei University, Korea), Hang-Cheol Choi, Kwang-Ho Kim(Korea Institute of Science and Technology, Korea), Won-Gu Joo (Yonsei University, Korea)	ACGT2005-028 Heat/Mass Transfer and Pressure Drop in a Rotating Two-Pass Duct with Transverse Ribs Kyung Min Kim, Sang In Kim, Dong Hyun Lee, Hyung Hee Cho (Yonsei University, Korea)	ACGT2005-016 Numerical Analysis of Rotor Dynamic Characteristics for the Radial Inflow Turbine Impeller Test Rig of a 100kW Microturbine Yonghui Xie, Qinghua Deng, Di Zhang, Zhenping Feng (Xi’an Jiaotong University, China)

November 16 Afternoon session

	Session W-4(Room A)	Session W-5(Room B)	Session W-6(Room C)
	Combustor Design	**Hot Section Manufacturing**	**Gas Turbine Operation and Maintenance**
	Chairperson : Kook Young Ahn (Korea Institute of Machinery & Materials)	**Chairperson : Ken-ichi Funazaki (Iwate University, Japan)**	**Chairperson : Toshiaki Tsuchiya (Tokyo Electric Power Co., Japan)**
15:30	ACGT2005-056 Development of a MGT Combustor with Mixture Injected into Burned Gas Sadamasa Adachi, Atsushi Iwamoto, Yudai Yamasaki (Tokyo University, Japan), Hideshi Yamada, Shigeru Hayashi(Japan Aerospace Exploration Agency, Japan), Shigehiko Kaneko (Tokyo University, Japan)	ACGT2005-012 Development of Ni Base Braze Repair Process for Gas Turbine Hot Parts Masahiko Onda, Ikuo Okada, Kei Osawa, Koji Takahashi (Mitsubishi Heavy Industries, Ltd, Japan)	ACGT2005-081 Technical Trend and Operational Experiences of M501G Gas Turbine M.Fujioka, I.Taguchi, K.Fujii (Mitsubishi Heavy Industries, Ltd, Japan)
15:55	ACGT2005-061 Development of Dry Low Emission Combustor for 50kW Class Gas Turbine Osamu Azegami, Yoichiro Ohkubo, Yoshinori Idota, Shinichiro Higuchi, Keiichi Okabayashi (Toyoda, Aichi, Japan)	ACGT2005-085 Reduction of Machining Time for MGA2400 and X-45 Materials Hiroshi Asano, Takashi Morikawa, Morihiko Tanaka (Mitsubishi Heavy Industries, Ltd, Japan)	ACGT2005-076 Technology of gas turbine maintenance Eiji Akita , Katsuhiko Abe , Koji Imakita , Atsuhiko Kanebako (Mitsubishi Heavy Industries, Ltd, Japan)
16:20	ACGT2005-027 Measurement Study of Fuel Distribution in a Scaled Air Turbo Ramjet Combustor Using PLIF Yu-in Jin (University of Science and Technology, Korea), In-Young Yang, Young-Hwan Choi, Soo-Seok Yang, Dae-Sung Lee (Korea Aerospace Research Institute, Korea)	ACGT2005-045 Manufacturing Process Design for Advanced Turbine Disks Nho-Kwang Park, Jong-Taek Yeom, Jung-Han Kim (Korea Institute of Machinery & Materials, Korea)	ACGT2005-009 Fluoride Ion Cleaning of Gas Turbine Blade using Fluidized PTFE S. Y. Chang, M. T. Kim, O. Y. Oh, and J. B. Won (Korea Electric Power Research Institute, Korea)
16:45	ACGT2005-039 An Experimental Study of the Slinger Combustor Seong Man Choi (Chonbuk National University, Korea), Kang Yeop Lee, Dong Hun Lee (Samsung Techwin Co., LTD., Korea), Jeong Bae Park (Agency for Defense Development, Korea)	ACGT2005-063 Recent Progress in the Research of High-Temperature Turbine Nozzles with MGC Materials C. Nakamata, S. Fujimoto, Y. Okita (Ishikawajima-Harima Heavy Industries Co., Ltd, Japan)	ACGT2005-080 Update on Design and Operating Experience of Low BTU Gas Firing Gas Turbine for Steel Works Toyoaki Komori, Nobuyuki Yamagami, Koichirou Yanou (Mitsubishi Heavy Industries, Ltd, Japan)
17:10	ACGT2005-074 Development and Testing in a Small Hydrogen-Fueled Reversed-Flow Annular Combustor for Hypersonic Flight Experiments Keiichi Okai, Kazuo Shimodaira, Yoji Kurosawa, Hideyuki Taguchi, Tetsuya Sato, Motoyuki Hongo (Japan Aerospace Exploration Agency, Japan)	ACGT2005-069 Research and Development on a High Temperature Gas Turbine Combustor Utilizing Melt-Growth Composite Material Kiyoshi Matsumoto, Yasuhiro Kinoshita(Kawasaki Heavy Industries, Ltd, Japan)	

November 17 Morning session

	Session TH-1(Room A)	Session TH-2(Room B)	Session TH-3(Room C)	Session TH-4(Room D)
	Heat Transfer in Turbine & Internal Passages	**Aerodynamics of Gas Turbine Components**	**Perpormance Analysis**	**Applications of Micro Gas Turbines**
	Chairperson : Yoji Okita (Ishikawajima-Harima Heavy Industries Co., Ltd, Japan)	**Chairperson : Xin Yuan (Tsinghua University, China)**	**Chairperson : Kwang Ho Kim (Korea Institute of Science and Technology, Korea)**	**Chairperson : Shigeo Hatamiya (Hitachi Co. Ltd., Japan)**
9:00	ACGT2005-011 Characteristics of heat transfer and Friction Factor in a Square Channel with Varying Number of Ribbed Walls Soo Whan Ahn, Ho Keun Kang, Myoung Ho Kim (Gyeongsang National University, Korea)	ACGT2005-017 Computational Investigations on the Flow Characteristics in the High Rotating Stepped Labyrinth Seals Jun Li, Zhenping Feng(Xi'an Jiaotong University, China)	ACGT2005-001 A Study on Intelligent Performance Diagnostics of a Gas Turbine Engine using User Friendly Interface Neural Networks Chang duk Kong (Choson University, Korea)	ACGT2005-066 Evaluation and Demonstration of DME (Dimethyl Ether) as an Alternative Fuel for Micro Gas Turbines Toshiaki Tsuchiya, Masanori Okamoto (Tokyo Electric Power Co., Japan)
9:25	ACGT2005-014 Effects of Incidence Angle on the Endwall Heat Transfer Within a High-Turning Turbine Rotor Passage Sang Woo Lee, Jin Jae Park, Byoung Joo Chae (Kumoh National Institute of Technology, Korea)	ACGT2005-041 Numerical Shape Optimization of Labyrinth Seal for Gas Turbine Takao Ohno, Kazuaki Inaba (Tokyo University of Science, Japan), Kazuyuki Toda (Chiba Institute of Science, Japan), Makoto Yamamoto (Tokyo University of Science, Japan)	ACGT2005-008 Part Load Analysis of 2.5MW Power Generation Gas Turbine Unit SooYong Kim (Korea Institute of Machinery & Material, Korea), Valeri P. Kovalevsky(JV Engineering Ecology Engineering, Korea), Dae Seung Kim (Korea Institute of Machinery & Material, Korea)	ACGT2005-002 Performance Evaluation of Distributed Micro Gas Turbine(MGT) Co-generation Technology with Grid-connection Kwang-beom Hur, Jung-keuk Park, Sang-kyu Rhim (Korea Electric Power Corporation, Korea)
9:50	ACGT2005-087 A Study on the Heat Transfer of Two-Dimensional Jet Impingement Enhanced by Ribs Masanori Kubo, Kenichiro Takeishi, Ryuta Ito, Yutaka Oda (Osaka University, Japan)	ACGT2005-091 Effect of Wake Passing upon Aerodynamic Performance of A Low-Pressure Turbine Linear Cascade with Variable Solidity Ken-ichi Funazaki, Kazutoyo Yamada (Iwate University, Japan), Ken-ichi Segawa, Hiroshi Hamazaki, Akira Takahashi, Haruyuki Tanimitsu (Ishikawajima-Harima Heavy Industries Co., Ltd, Japan)	ACGT2005-042 Performance and Emission Analysis of the Gas Turbine Cycle for Utilizing the Heavy Residue Oil from Refinery Process Chan Lee (University of Suwon, Korea), Seung Jong Lee, Yongseung Yun (Institute for Advanced Engineering, Korea) , Hyung Taek Kim (Ajou University, Korea)	ACGT2005-020 Development of C60 Micro Gas Turbine- Cogeneration system Sung soo Lee, Byung sik Park (Korea Institute of Energy Research, Korea)
10:15	ACGT2005-030 Effect of Rotation on Heat/Mass Transfer on Turbine Blade and Shroud Dong-Ho Rhee, Hyung Hee Cho(Yonsei University, Korea)	ACGT2005-044 Effects of Görtler Vortices on Flow and Heat Transfer on Concave Wall Jaroslav Hemrle, Sadanari Mochizuki, Akira Murata, Petr Sobolík (Tokyo University of A&T, Japan)	ACGT2005-026 Concept Study of Small Industrial Gas Turbine Integrated to Cogeneration Plant with Optional Desalination Capability Seung Joo Choe, Min Su Paek, Joung Seok Kim (Doosan Heavy Industries & Construction Co., Ltd., Korea), Hyun Dong Shin, Dai Ki Min, Alexandre M. Bograd (Korea Advanced Institute of Science and Technology, Korea)	ACGT2005-067 Evaluations on the Economical Competitiveness of Micro Gas Turbine Cogeneration Systems based on Efficiency and Maintenance Cost Toshiaki Tsuchiya, Masanori Okamoto (Tokyo Electric Power Co., Japan)
10:40	ACGT2005-084 Heat Transport Enhancement by Application of Avian Respiration Eiji Sakai, Toshinori Watanabe, Takenori Himeno (University of Tokyo, Japan)	ACGT2005-093 Numerical Investigation of Condensation and Turbulence in Turbine Stator-rotor Interaction Yasuhiro Sasao, Satoru Yamamoto (Tohoku University), Tadashi Tanuma (Toshiba Corporation)	ACGT2005-077 Exergetic Flow Analyses of High-Efficiency CO2-Capturing Systems Based on Pure Oxygen Combustion Pyong Sik Pak (Osaka University, Japan)	ACGT2005-075 Co-generation of Digestion Gas-Fuelled Micro Gas Turbine Nobuhiko Hamano, Yoichi Ohashi, Satoshi Yano (Ebara Corporation, Japan)

November 17 Afternoon session

	Session TH-5(Room B)	Session TH-6(Room C)	Session TH-7(Room D)
	Stability, Interaction and Unsteady Flow	**Low Emission Technology**	**High Temperature Materials & Life**
	Chairperson : Makoto Yamamoto (Tokyo University of Science, Japan)	**Chairperson : Kenichiro Takeishi (Osaka University, Japan)**	**Chairperson : Nho-Kwang Park (Korea Institute of Machinery & Materials, Korea)**
15:30	ACGT2005-053 Prediction of the Fluid Induced Instability Force of an Axial Compressor Young-Seok Kang, Shin-Hyoung Kang (Seoul National University, Korea)	ACGT2005-071 LPP Low NOx Combustor Development for SST Engine in ESPR Program Hiroyuki Ninomiya, Takeo Oda, Masayoshi Kobayashi, Yasuhiro Kinoshita (Kawasaki Heavy Industries, Ltd, Japan), Shigeru Hayashi (Japan Aerospace Exploration Agency, Japan)	ACGT2005-050 Assessment of Crack Propagation Life of Scalloped Radial Turbine Rotor Kyung Heui Kim,Suk-Chul Kang, Seung-Bae Chen (Samsung Techwin, Korea)
15:55	ACGT2005-049 Aeroelastic Analysis of an Isolated Airfoil under a Pulsating Free Stream Flow Seung Ho Cho, Wankee Min, Seung Jin Song, Sang Joon Shin(Seoul National University, Korea), Taehyoun Kim(Boeing Commercial Airplane Company, USA)	ACGT2005-038 Numerical Modeling for Combustion Processes and Flame Stabilization In Lean-Premixed Gas Turbine Combustor Sungmo Kang, Yongmo Kim (Hanyang University, Korea), Jae-Hwa Chung, Dal-Hong Ahn (Korea Electric Power Research Institute, Korea)	ACGT2005-078 Development of Ni-based SC Superalloys for Power-Generation GasTurbines Ryokichi Hashizume (The Kansai Electric Power Company Inc., Japan), Akira Yoshinari, Takamasa Kiyono (Hitachi Co. Ltd., Japan), Yoshinori Murata, Masahiko Morinaga (Nagoya University, Japan)
16:20	ACGT2005-031 Whole Annulus Turbine Stator-Rotor Interactions Considering Downstream Non-Axisymmetric Effects Jianjun Liu, Yuntao Zeng (Chinese Academy of Science, China)	ACGT2005-096 Development of a Software System for Measuring Combustion Driven Oscillations in Dry Low NOx Gas Turbines Jae Hwa Chung, Seok Bin Seo, Dal Hong Ahn, Jong Jin Kim (Korea Electric Power Research Institute, Korea), Dong Jin Cha (Hanbat National University, Korea)	ACGT2005-082 The Effect of Orientation on Low Cycle Fatigue Behavior of Nickel-Base Single Crystal Superalloy Reki Takaku, Takehisa Hino, Yomei Yoshioka (Toshiba Corporation, Japan)
16:45	ACGT2005-064 Three-dimensional Characteristics of Rotor-Stator Interaction Noise Hidekazu Kodama, Naoki Tsuchiya (Ishikawajima-Harima Heavy Industries CO., Ltd, Japan)	ACGT2005-083 Boil Off Gas Firing NOx Reduction by Applying Advanced Combustor to Exisiting Hagashi Niigata Thermal Power Station Unit 3 Series Masato Hayashi, Nobuaki Otake (Tohoku Electric Power CO., INC, Japan)	ACGT2005-055 Inplane Young's Modulus of Thermal Barrier Coatings Fabricated by Electron Beam Physical Vapor Deposition Kunihiko Wada , Yutaka Ishiwata, Takayuki Iwahashi, Masafumi Fukuda (Toshiba Corporation, Japan), Hideaki Matsubara (Japan Fine Ceramics Center, Japan)
17:10	ACGT2005-065 A Study on Active Control of Cascade Flutter with Piezoelectric Device Junichi Kazawa , Toshinori Watanabe (University of Tokyo, Japan)	ACGT2005-034 Optimization of Fuel-Air Premixing Process Junyong Lei, Yuhong Li, Changfu You, Haiying Qi (Tsinghua University, China)	ACGT2005-079 Residual Stress in Thermal Barrier Coating Masayuki Arai (Central Research Institute of Electric Power Industry, Japan), Eiji Wada, Kikuo Kishimoto (Tokyo Institute of Technology, Japan)
17:35	ACGT2005-054 Unsteady aerodynamic performance of a centrifugal compressor with oscillating downstream pressure Hark Jin Eum (Samsung-BP Chemicals, Co. Ltd, Korea), Shin Hyoung Kang (Seoul National University, Korea)		ACGT2005-051 Analysis of Tip Deflection in Turbine Blades Using Non-intrusive Stress Measurement System Kyu-Kang Joung, Suk-Chul Kang , Ki-Seok Paeng (Samsung Techwin , Korea), Young-Jun You, Ho-Jin Choi (Agency for Defence Development, Korea), No-Gill Park (Pusan National University, Korea), Nam-Eung Kim, Andy Von Flotow (Hood Technology Corporation , US)

November 18 Morning session

	Session F-1(Room A)	Session F-2(Room B)	Session F-3(Room C)
	Turbomachinery Flow Analysis & Experiment	**Combustion Instability**	**Advanced cycles & Performance Enhancement**
	Chairperson : Takashi Yamane (Japan Aerospace Exploration Agency, Japan)	**Chairperson : Soo Seok Yang (Korea Aerospace Research Institute, Korea))**	**Chairperson : Jae Hwan Kim (Korea Aerospace Research Institute, Korea)**
10:10	ACGT2005-073 Large Eddy Simulation of Small-sized Gas Turbine Cascade Flows Kazuo Matsuura, Chisachi Kato (The University of Tokyo, Japan)	ACGT2005-007 An Experimental Study on the Causes of the Combustion Instability in a Dump Combustor Jung Goo Hong (KAIST, Korea), Min Chul Lee, (Korea Electric Power Research Institute, Korea), Uen Do Lee (KAIST, Korea), Kwang Chul Oh(Korea Automotive Technology Institute, Korea), Hyun Dong Shin (KAIST, Korea), Atsushi Maekawa, Katsunori Tanaka, Kentaro Fujii(Mitsubishi Heavy Industries, Ltd, Japan)	ACGT2005-092 Engine Cycle Study for Next-generation Civil Supersonic Aircraft Yoshiyuki Fujitsuna, Kenji Kobayashi, Junsuke Omi (Engineering Research Association for Supersonic Transport Propulsion System, Japan)
10:35	ACGT2005-032 Measurement of Unsteady Total Pressure Downstream of an Axial Turbine Jeong-Seek Kang, Bong-Jun Cha, Soo-Seok Yang, Dae-sumg Lee (Korea Aerospace Research Institute, Korea)	ACGT2005-059 Combustion Characteristics of Diffusion Combustor with Strong Swirl Flow Masahiro Suzuki, Yusuke Saito, Osamu Kawaguchi (Keio University, Japan), Nagayoshi Hiromitsu, Jun Hosoi, Hidemi To (Ishikawajima -Harima Heavy Industries Co., Ltd, Japan)	ACGT2005-088 Utilization of the Gas Turbine Designed for Advanced Humid Air Turbine Shin'ichi Higuchi, Hidefumi Araki, Shigeo Hatamiya, Shin'ya Marushima (Hitachi Ltd., Japan)
11:00	ACGT2005-015 Effects of the Leakage Flow Tangential Velocity on the Leakage Flow Path in Shrouded Axial Compressor Cascades D.W. Sohn (Seoul National University, Korea), T. Kim (Xi'an Jiaotong University, China), S.J. Song (Seoul National University, Korea)	ACGT2005-097 Reduction of Combustion Instability From a Dry Low NOx Gas Turbine Combustor For Power Generation Dal Hong Ahn, Jae Hwa Chung, Seok Bin Seo, Min Chul Lee, Jong Jin Kim (Korea Electric Power Research Institute, Korea)	ACGT2005-048 Performance analysis of MGT/ORC Combined Power Generation System Joon Hee Lee, Tong Seop Kim (Inha University, Korea)
11:25	ACGT2005-046 Effects of Asymmetric Tip Clearance on Centrifugal Compressor Flow Yong-Sang Yoon, Seung Jin Song, Shin Hyung Kang (Seoul National University, Korea)	ACGT2005-094 The Influence of Down-sizing of Gas Turbine Combustors on the Combustion Performance Kenji Nakamura, Akane Yoshida,Osamu Kawaguchi (Keio University, Japan)	ACGT2005-068 Improvement of Micro Gas Turbine Performance by Steam Injection - Verification of the Steam Injection Effect and Stable Operation - Toshiaki Tsuchiya, Masanori Okamoto (Tokyo Electric Power Co., Japan), Satoshi Shibata, Kenichirou Mochizuki (Takuma Co., Ltd., Japan)

GENERAL INFORMATION

■ Language

The official language of ACGT 2005 is English.

■ Registration and information desk

The registration and information desk will be open as follows.

Nov. 15 (Tue) 15:00 – 18:00

Nov. 16 (Wed) & 17 (Thu) 08:00 – 17:00

Nov. 18 (Thu) 08:00 – 11:00

■ Information for Speakers

- Author biography form

  Presenting authors who haven't submitted the biography form should fill out the form and submit it at the information desk before their sessions start.

- Arrival at the session room

  All speakers should arrive at their session rooms 20 minutes before their sessions start. In particular, authors who will use the beam projector should upload the presentation files to the PC equipped in the room well before the session begins. There will be an assistant in each room. If not possible, please refrain from using their notebook computers. In case they want to use their own PCs, it will be their responsibility to check the compatibility between their PCs and the room equipments and all the time required for the computer setting for their presentation will be included in their presentation time.

- Presentation time

  25 minutes are allotted for each general session papers (18 – 20 minutes for presentation and 5-7 minutes for discussion).

■ Information for session chairpersons

Session chairpersons should arrive at the session room well before the session begins and check if all the presenting authors' biography forms have been submitted. They should also try to keep the allocated presentation time for each speaker and allow sufficient time for discussion.

■ AV practice & Internet room

Practice of presentation is possible at the AV practice room (Peony). Internet connection is also available there.

■ Message Board

A message board will be prepared near the information desk.

■ Registration

On-site registration is possible at the registration desk during the opening time every day. The registration fee is as follows.

General	KW 300,000
Students	KW 100,000

The registration fee includes conference materials, lunch, coffee and tea during breaks, and Tuesday reception. The general registration also includes the banquet on Thursday evening. Tickets for non-general registrants (students and accompanying persons) are available at the price of KW 40,000. Registration fee can be paid by either cash or credit card.

■ Proceedings

CD-Rom Proceedings will be distributed to all registrants. Additional Proceedings are available at the price of KW 100,000.

■ Welcome Reception

All registrants and accompanying persons are invited to the reception in the evening of Nov. 15th. The reception is held at the Marronnier room in the main Faculty House building in front of the convention center.

■ Lunch

Lunches will be offered to all registrants. The hall (Crystal) is located in the main Faculty House building.

■ Banquet

In the evening of Nov. 17 (Thu), banquet will be hosted by the Chairman of the congress at the convention hall. All participants with a banquet ticket are invited. For the convenience of the setting of the banquet, all registrants are asked to confirm their attendance before 12:00 on Nov. 17.

■ Laboratory tour

In the afternoon of Nov. 18, a short tour will be arranged for all registrants to join. The participants will visit research laboratories of School of Mechanical and Aerospace Engineering, Seoul National University. The laboratories are located within 10 minutes' distance from the congress site and transportation will be offered. Those who wish to participate in the tour are asked to fill out the participants list on the message board before 11:00 on Nov. 18.