As of Oct. 17, 2003

	Time	Room A	Room B	Room C	Room D	Room E	Room F
Nov.3 MON	9:30	Opening Address					
	9:40	Keynote Speech 1 (at Main Hall) *"Micro- or Small- Gas Turbines"* Prof. Terry Simon University of Minnesota Chairperson: Dr. Kenichiro Takeishi (Mitsubishi Heavy Industries,Ltd.)					
	10:40	Break					
	10:50	Keynote Speech 2 (at Main Hall) *"High Temperature Materials for Gas Turbine: The Present and Future"* Dr. Hiroshi Harada National Institute of Materials Science Chairperson: Mr. Yomei Yoshioka (Toshiba Corporation)					
	11:50	Lunch					
	13:20	Superalloy 1	Unsteady Flow & Noise 1	Aero engine 1	Cascade Design	Recuperator & Heat Exchanger	Forum Wave Rotor 1
	14:50	Break					
	15:10	Forum 1 (at Main Hall) *"Industry-University Cooperation in Gas Turbine Research"* Co-chairs: Dr. David Wisler (General Electric), Prof. Toshinori Watanabe (University of Tokyo)					
	16:40	Break					
	17:00	Superalloy 2	Turbine Flow Simulation	Aero engine 2	Combustion Control	Blade Structure	Forum Wave Rotor 2
	19:00						
Nov.4 TUE	9:00	Thermal Barrier Coating	Internal Flows 1	Heat Transfer & Flow Transition	Micro Gas Turbine		Throughflow Modeling
	11:00	Break					
	11:10	Keynote Speech 3 (at Main Hall) *"Fuel Cell and Gas Turbine for Future Energy System"* Dr. Takao Watanabe Central Research Institute of Electric Power Industry Chairperson: Mr. Katsuhide Hiraoka (National Maritime Research Institute)					
	12:10	Lunch					
	13:40	Keynote Speech 4 (at Main Hall) *"Future View of Energy Supply and Role of Gas Turbine in Japan "* Mr. Hiroyuki Ino Tokyo Electric Power Company Chairperson: Prof. Osamu Kawaguchi (Keio University)					
	14:30	Break					
	14:50	OS Ultra Micro Gas Turbine 1	Internal Flows 2	Turbulence Model	Combustor Development	Advanced Material	Diagnostics, Control & Measurement 1
	16:50	Break					
	17:00	Forum 2 (at Main Hall) *"Current Status and Strategy of Electricity and Energy Supply"* Chairperson: Mr. Keizo Tsukagoshi (Mitsubishi Heavy Industries,Ltd.)					
	19:00						

As of Oct. 17, 2003

	Time	Room A	Room B	Room C	Room D	Room E	Room F
Nov.5 WED	9:00	OS Ultra Micro Gas Turbine 2	Internal Flows 3	Ribbed Passage Flow & Heat Transfer	Low Emission Combustor	Rotor Dynamics & Bearing	Diagnostics, Control & Measurement 2
	11:30	Break					
	11:40	Keynote Speech 5 (at Main Hall) *"Combustion Technology for Current and Future Gas Turbines"* Prof. Ann Dowling University of Cambridge Chairperson: Mr. Yasuhiro Kinoshita (Kawasaki Heavy Industries, Ltd)					
	12:40	Lunch					
	14:10	OS Ultra Micro Gas Turbine 3	Development & Verification of CFD codes	Unsteady Flow & Noise 2	Conjugate Heat Transfer Analysis	Performance Analysis of Gas Turbines: Intake Air Humidifying & Filtration	
	15:40	Break					
	15:50	Keynote Speech 6 (at Main Hall) *"Recent Findings of Analytical Studies in Unsteady Aerodynamics, Aeroacoustics and Aeroelasticity of Turbomachines"* Prof. Masanobu Namba Sojo University Chairperson: Prof. Toshinori Watanabe (The University of Tokyo)					
	16:50						
	17:00	Shuttle Bus Service to Banquet(Tower Hall Funabor					
	17:30	Tour of the Aquarium & Banquet(Tokyo Sea Life Park)					
Nov.6 THU	9:00	OS Marine Gas Turbines & Turbocharger	Surge/Stall 1	Industrial Gas Turbine & Power Plant 1	Impingement & Film Cooling	Combustor Design	Performance Analysis of Gas Turbines & New Systems
	11:00	Break					
	11:10	Keynote Speech 7 (at Main Hall) *"Aeroengine Technology in 21st Century"* Dr. Mike Benzakein GE Aircraft Engines Chairperson: Dr. Yoshiya Nakamura (Ishikawajima-Harima Heavy Industries Co.,Ltd.)					
	12:10	Lunch					
	13:30	Force/Vibration	Surge/Stall 2	Industrial Gas Turbine & Power Plant 2	Flows in Rotating or Bended Duct	Optimization & Inverse Method	Performance Analytic Modellings & Tool
	15:00	Break					
	15:20	Panel Discussion (at Main Hall) *"Gas Turbines in the Future (Tentative)"* Co-chairs: Prof. Nobuhide Kasagi (University of Tokyo) Mr. Kimio Sakata (Japan Aerospace Exploration Agency)					
	17:50	Closing Address					
	18:00						

As of Oct. 17, 2003

Session Program

November 3 Monday 13:20 - 14:50

Speaker's Name is underlined.

	Session A-1	Session B-1	Session C-1	Session D-1	Session E-1	Session F-1
	Superalloy 1	Unsteady Flow & Noise 1	Aero engine 1	Cascade Design	Recuperator & Heat Exchanger	Forum: Wave Rotor 1
	Chairpersons: Dr. Ryohei Tanaka (Japan Ultra-high Temperature Materials Reseach Institute) Mr. Takashi Sakurai (Ishikawajima-Harima Heavy Industries Co.,Ltd.)	Chairpersons: Prof. Satoru Yamamoto (Tohoku University) Dr. Yutaka Kawata (Mitsubishi Heavy Industries,Ltd.)	Chairpersons: Dr. Arun K. Sehra (NASA, USA) Dr. Seishi Uchida (Mitsubishi Heavy Industries,Ltd.)	Chairpersons: Prof. Jian-jun LIU (Chinese Academy of Sciences, P.R.China) Dr. Atsumasa Yamamoto (Japan Aerospace Exploration Agency)	Chairpersons: Mr. Yasuoki Tomita (Mitsubishi Heavy Industries,Ltd.)	Chairpersons: Prof. Toshio Nagashima (The University of Tokyo)
13:20	TS-120 *Recovery of Material Properties in Service-Degraded Gas Turbine Blades* A. Ito (Chubu Electric Power Co.,Ltd.), Y. Kagiya, H. Watanabe, H. Takagi, D. Saito, Y. Yoshioka, H. Ito, J. Ishii	TS-047 *Study on Noise Reduction in Turbofan (Effects on Performance and Noise by Improving Outlet Angle of Impeller)* T. Hirano (Hosei University), G. Minorikawa, S. Suzuki, S. Mizuki	TS-107 *MG5 series Commercial Helicopter Engine Development and Utilization* S. Uchida (Mitsubishi Heavy Industries, Ltd.), Y. Nagashima, K. Shimauchi	TS-041 *Novel Blade-free Turbomachine Concept for Microgasturbine Engine Applications (Part 1. Design.Design Characteristics. Metal Model Realization)* A. Soudarev (Boyko Research-Engineering "Ceramic Heat Engines" Center (NIZ KTD), Russia), A. Souryaninov, V. Tikhoplav, A. Molchanov, P. Avran, L. Lelait	TS-110 *Applications of Compact Size Recuperator on Vehicle Microturbines* R. Cui (Shenyang Liming Aero-Engine Group Corp., P.R.China), X. Wu, K. Wang, B. Deng	FR-301 *Preliminary Design Procedure for Gas Turbine Topping Reverse-Flow Wave Rotors* P. Akbari (Michigan State University, USA),N. Müller
13:50	TS-123 *Development and Evaluation of High Strength Ni-base Single Crystal Superalloy,TMS-82+* T. Hino (Toshiba Corporation), Y. Yoshioka, Y. Koizumi, T. Kobayashi H. Harada	TS-048 *Unsteady Three-Dimensional Navier-Stokes Simulations of Turbine Rotor-Stator Interaction Using Multi-Airfoil* D. Biswas (Toshiba Corporation), T. Takamatsu, H. Iwasaki	TS-104 *Overview on 4 Years Achievements of Research and Technology Development of Environmentally Compatible Propulsion System for Next-Generation Supersonic Transport (ESPR project)* Y. Fujitsuna (Engineering Research Association for Supersonic Transport Propulsion System)	TS-042 *Development Status of a Fore-Loaded Turbine Blade* H. Taki (Kawasaki Heavy Industries, Ltd.), D. Kataoka, H. Kato, K. Hashimoto	TS-067 *Development of CMC Heat Exchanger and Its Thermo-fluid Dynamics Performance* T. Yoshida (Japan Aerospace Exploration Agency), T. Kumagai, T. Yamane	FR-302 *Introductory Investigation of Micro Wave Rotor* K. Okamoto (The University of Tokyo), T. Nagashima, K. Yamaguchi
14:20	TS-124 *Development of A Grain Defects Resistant Ni-Based Single Crystal Superalloy YH61* H. Tamaki (Hitachi, Ltd.), A. Okayama, A. Yoshinari , K. Kageyama , K. Sato, T. Ohno	TS-049 *Numerical and Experimental Investigation of the Unsteady Flow Field in a Transonic Centrifugal Compressor* H. Krain (DLR, Germany), C. Hah	TS-105 *Technology Requirements for Revolutionary Propulsion Systems of the 21st Century* W. Whitlow, Jr. (NASA Glenn Research Center, USA), J. M. Earls , V. W. Wessel	TS-043 *CFD Design of a 8:1 Pressure Ratio Centrifugal Compressor* V. I. Mileshin (Central Institute of Aviation Motors, Russia), A. N. Startsev, I. K. Orekhov	TS-112 *Development of Large Scale Recuperator for Gas Turbine* R. Akiyoshi（Ishikawajima-Harima Heavy Industries Co.,ltd.）, K. Imai, T. Sioda, K. Ito, M. Hori	FR-303 *Internal Combustion Wave Rotors for Gas Turbine Engine Enhancement* R. Nalim (Indiana University Purdue University Indianapolis (IUPUI), USA) , K. Pekkan

November 3 Monday 17:00 - 19:00

	Session A-2	Session B-2	Session C-2	Session D-2	Session E-2	Forum 3
	Superalloy 2	Turbine Flow Simulation	Aero engine 2	Combustion Control	Blade Structure	Forum: Wave Rotor 2
	Chairpersons: Mr. Koji Take (Kawasaki Heavy Industries, Ltd)	Chairpersons: Prof. Hyung Hee Cho (Yonsei University, Korea)	Chairpersons: Dr. Jih-Fen Lei (NASA Glenn Research Center, USA) Dr. Yoshiya Nakamura (Ishikawajima-Harima Heavy Industries Co.,Ltd.)	Chairpersons: Dr. Kazuo Suzuki (Japan Aerospace Exploration Agency) Mr. Yasuhiro Kinoshita (Kawasaki Heavy Industries, Ltd)	Chairpersons: Dr. Stanislaw Strzelecki (Technical University of Lodz, Poland) Prof. Sigehiko Kaneko (The University of Tokyo)	Chairpersons: Prof. Toshio Nagashima (The University of Tokyo)
17:00	TS-121 *Development of the Third Generation Single Crystal Superalloy for Power Generation Gas Turbines* A. Yoshinari (Hitachi Ltd.), R. Hashizume, Y. Murata, M. Morinaga	TS-070 *Turbulent Flow Computation in Film-Cooling Turbine Cascades* B. Kurmanov (ALSTOM Power Uniturbo, Russia), M. Namba, G. Podvidz	TS-106 *Revolutionary Propulsion Systems for 21st Century Aviation* A. K. Sehra (NASA Glenn Research Center, USA), J. Shin	TS-146 *Application of the Helmholtz Resonator for Reducing the Combustion Oscillation in a Gas Turbine* S. Yamanaka (Toshiba Corporation), F. Maeda, K. Shioda, K. Iwabuchi, T. Tsuchiya, M. Okamoto	TS-009 *Bird Impact Analysis of Pre-Stressed Fan Blades Using Explicit Finite Element Code* R. Jain (Gas Turbine Research Establishment, India), K. Ramachandra	FR-304 *Oral Presentation Only* *The Wave Rotor for Gas Turbines: Description, Operation and Use* Y. Ribaud (ONERA, France)
17:30	TS-118 *Mechanical Properties and Castability of 4th Generation Ni-base Single Crystal Superalloy TMS-138* Y. Aoki (Ishikawajima-Harima Heavy Industries Co., Ltd.), M. Arai, K. Chikugo, Y. Koizumi, H. Harada	TS-071 *Approach to a New Scheme Film Cooling Enhancement by Jet Path Control and Reduction Mixing zones Using Coupled Jets* A.Javadi (Sharif University of Technology, Iran), K.Javadi, M. Taeibi-Rahni , M. Darbandi	TS-108 *Design and Test of Transonic Compressor Rotor with Tandem Cascade* Y. Sakai (Kawasaki Heavy Industries, LTD), A. Matsuoka, S. Suga, K. Hashimoto	TS-147 *Advanced Monitoring System For Combustor Pressure Fluctuation* H.Iba (Mitsubishi Heavy Industries, LTD.), M. Nomura, T. Kawakami, T. Koga	TS-010 *Reduction of Vibratory Stress of Compressor Blade by Use of Asymmetric Vane Spacing* Y. Kaneko (Mitsubishi Heavy Industries, Ltd.), K. Mori, H.Okui	FR-305 *Oral Presentation Only* *Autonomous Pressure Wave Compressor Devise* J. Piechna (Warsaw Technical University, Poland)
18:00	TS-119 *Development of a Next Generation Ni-base Single Crystal Superalloy* Y. Koizumi (National Institute for Materials Science (NIMS)), T.Kobayashi, Z. Jianxin, T.Yokokawa, H.Harada, Y.Aoki, M.Arai	TS-072 *A Three-Dimensional Navier-Stokes Simulation of A Film-Cooled Turbine Stage* T. Nishizawa (Japan Aerospace Exploration Agency), K. Saiki, O. Nozaki, K. Kikuchi	TS-109 *A Booster Stage with Tandem Cascade Rotor for Fan Engine* S. Suga (Kawasaki Heavy Industries, Ltd.), A. Matsuoka , Y. Sakai, K. Hashimoto	TS-148 *Sound Emission from Laminar Diffusion Flame with Controlled Oscillatory Fuel Flow* K. Harumi (National Maritime Research Institute), M. Ikame, T. Kishi, K. Hiraoka, H. Oka	TS-011 *Blade-Strength Assessment of a Marine Turbocharger under Development* F. Iwaki (Ishikawajima-Harima Industries Co., Ltd.), K. Mitsubori, H. Taguchi, M. Obata, A. R. Mech	FR-306 *Oral Presentation Only* *The General Compatibility Conditions of the Nonstationary Compressible Flow in Stationary Periodic and Materially Balanced Pressure Wave Machine* H. A. Nour Eldin (University of Wuppertal, Germany)
18:30	TS-122 *Development of a Gas Turbine Design Program Coupled with an Alloy Design Program - A Virtual Turbine* H. Saeki (Toshiba Corporation), T. Yokokawa, H. Harada, Y. Fukuyama, T. Yoshida	TS-073 *Numerical Investigation of the Flow Field in HP Turbine Stage* F. Martelli (University of Florence, Italy), P. Adami, E. Belardini		TS-132 *LES of Combustion Instabilities in a Lean Premixed Gas Turbine Combustor* J. Shinjo (Japan Aerospace Exploration Agency), Y. Mizobuchi, S. Ogawa	TS-012 *Interface Construction for Thermal Stress Analysis in Virtual Turbine and Its Application* J. Chen (Japan Aerospace Exploration Agency), A. Ogawa, R. Hashimoto, T. Yoshida	FR-307 *Oral Presentation Only* *Wave Rotor - A Review of the Work of Power Jets Ltd. and Univ. of Calgary* J. A. C. Kentfield (University of Calgary, Canada)

November 4 Tuesday 9:00 - 11:00

Speaker's Name is underlined.

	Session A-3	Session B-3	Session C-3	Session D-3		Session F-3
	Thermal Barrier Coating	Internal Flows 1	Heat Transfer & Flow Transition	Micro Gas Turbine		Throughflow Modeling
	Chairpersons: Dr. Yoshiatsu Kojima (Hitachi Ltd.) Mr. Hideaki Kaneko (Mitsubishi Heavy Industries, Ltd.)	Chairpersons: Prof. Wolfgang Schröder (Aachen University, Germany) Prof. Makoto Yamamoto (Tokyo University of Science)	Chairpersons: Prof. Lee Langston (University of Connecticut, USA) Mr. Nobuaki Kizuka (Hitachi Ltd.)	Chairpersons: Prof. Terry Simon (University of Minnesota, USA) Dr. Toshiaki Tsuchiya (Tokyo Electric Power Company)		Chairpersons: Prof. Xiaofeng Sun (Beijing University of Aeronautics and Astronautics, P.R.China)
9:00	TS-129 *Recent Developments in the Field of Plasma-Sprayed Thermal Barrier Coatings* R. Vaßen (Institut für Werkstoffe und Verfahren der Energietechnik (IWV 1), Germany), J. -E.. Döring, M. Dietrich, H. Lehmann, D. Stöver	TS-031 *The Simulation of 3D Flows in Blade Rows and Exhaust Systems using a Multiblock Navier-Strokes Solver* J. Liu (Chinese Academy of Sciences, P.R.China)	TS-066 *Construction of Cooling Effectiveness Database Applied to the Virtual Gas Turbine in HTM21 Project* M. Matsushita (Japan Aerospace Exploration Agency), T. Yoshida	TS-115 *The Development of 300kW Class High Efficiency Micro Gas Turbine "RGT3R"* R. Shibata (Niigata Power Systems Co., Ltd.), Y. Nakayama, S. Machiya, K. Kobayashi		TS-050 *Theory and Design of the Regenerative Flow Compressor* A. Engeda (Michigan State University, USA), M. Raheel
9:30	TS-130 *Development and Evaluation of Thermal Barrier Coatings for the 1700 ℃-class Closed-Cycle Gas Turbine Corresponding to CO2 Collection* M. Okada (Central Research Institute of Electric Power Industry), M. Nakayama, T. Torigoe, T. Kameda, H. Arikawa, T. Hisamatsu	TS-032 *3D Configuration of Shock Wave in Transonic Centrifugal Impeller Using 2D-PIV* M. Hojo (Japan Aerospace Exploration Agency), H. Hayami, S. Aramaki	TS-068 *Effects of Periodic Wake Passing Upon Bypass Transition of Blade Boundary Layer and Unsteady Loss* E. Koyabu (Sophia University) , K. Funazaki, M. Kimura	TS-116 *Microturbocompressor Fuel Cell - Based Plants for Hybrid Engine Applications* A. Soudarev (Boyko Research-Engineering "Ceramic Heat Engines" Center (NIZ KTD), Russia), A. Souryaninov, A. Molchanov, P. Arvan, L. Lelait		TS-051 *Flow in a High Speed Compressor Due to Axisymmetric Tip Clearance* H. S. Joo (Seoul National University, Korea), S. J. Song
10:00	TS-131 *Thermal Conductivity and Sintering Behavior of Hafnia-based Thermal Barrier Coating Using EB-PVD* K. Matsumoto (Toshiba Corporation), Y. Itoh, Y. Ishiwata	TS-033 *Numerical Study on Blade Roughness Effect on the Performance of Turbomachines* S. H. Kang (Seoul National University, Korea), Y. S. Kang, K. H. Han	TS-069 *Studies on Effects of Periodic Wake Passing upon a Blade Leading Edge Separation Bubble: Transitional Behaviors of Separated Boundary Layer* K. Funazaki (Iwate University), K. Yamada, Y. Kato	TS-117 *Combined Thermal Efficiency Evaluation and Dynamic Characteristics of Micro Gas Turbine Centered Co-generation System* S. Kaneko (The University of Tokyo), G. Fukuyama, T. Watanabe		TS-052 *The Reduced Order Through-Flow Modeling of Axial Turbomachinery* O. Dubitsky (Concepts NREC, USA), A. Wiedermann, T. Nakano, J. Perera
				TS-113 *Development of a Small Jet Engine Test System for University Education* M. Tanabe (Nihon University), T. Kuwahara, K. Aoki		

November 4 Tuesday 14:50 - 16:50

	Organized Session 1	Session B-4	Session C-4	Session D-4	Session E-4	Session F-4
	Ultra Micro Gas Turbine 1	Internal Flows 2	Turbulence Model	Combustor Development	Advanced Material	Diagnostics, Control & Measurement 1
	Chairpersons: Prof. Yves Ribaud (ONERA, France) Prof. Shimpei Mizuki (Housei University)	Chairpersons: Prof. Abraham Engeda (Michigan State University, USA) Dr. Osamu Nozaki (Japan Aerospace Exploration Agency)	Chairpersons: Dr. Robert Kiml (Tokyo University of A&T) Dr. Yoshitaka Fukuyama (Japan Aerospace Exploration Agency)	Chairpersons: Dr. George K. Vedeshkin (Central Institute of Aviation Motor, Russia) Dr. Takashi Tamaru (Central Research Institute of Electric Power Industry)	Chairpersons: Dr. Hiroshi Harada (National Institute for Materials Science)	Chairpersons: Mr. Masanori Endoh (Japan Aerospace Exploration Agency)
14:50	OS-101 *Aerothermal Optimization of Micro-gasturbine Compressor Including Heat Transfer* R. A. Van den Braembussche (von Karman Institute for Fluid Dynamics, Belgium), A. A. Işlek, Z. Alsalihi	TS-027 *Numerical Simulation of Stall Suppression by Micro Air Injection in a Low-Speed Axial Compressor* G. Xu (Chinese Academy of Sciences, P.R.China), H. Zhang, C. Nie, W. Huang, J. Chen	TS-059 *The SST Turbulence Model with Improved Wall Treatment for Heat Transfer Predictions in Gas Turbines* F. Menter (ANSYS CFX, Germany), J. Carregal Ferreira, T. Esch, B. Konno	TS-149 *The Effects of Specifications of a Fuel Supply Unit with a New Concept for a Dry Low NOx Gas Turbine Combustor* T. Wakabayashi (OSAKA GAS CO., LTD.), K. Moriya, S. Ito, S. Koga, K. Shimodaira, Y. Kurosawa, K. Suzuki, O. Kawaguchi	TS-126 Low Cost Manufacturing Process of Titanium Matrix Composite Ring A. Kono (Mitsubishi Heavy Industries, Ltd.), T. Yamada, M. Hirota, Y. Kawachi	TS-001 *Fault Diagnosis System for an Industrial Gas Turbine by Means of Neural Networks* J. Arriagada (Lund University, Sweden), M. Genrup, A. Loberg, M. Assadi
15:20	OS-102 *Conceptual Design of Recuperator for Ultramicro Gas Turbine* T. Nagasaki (Tokyo Institute of Technology), R. Tokue, S. Kashima, Y. Ito	TS-028 *Numerical Investigation of two 3-D Designed Profiles in a 2-stage Turbine with Shrouded Bladings* D. E. Bohn (Aachen University, Germany), I. Balkowski, C. Tümmers, M. Sell	TS-060 *Large-Eddy Simulation of Film Cooling* X. Guo (Aachen University, Germany), W. Schröder, M. Meinke	TS-150 *The Development of LPP Combustor for ESPR* T. Oda (Kawasaki Heavy Industries, Ltd.), Y. Kinoshita, M. Kobayashi, H. Ninomiya, H. Kimura, S. Hayashi, H. Yamada, K. Shimodaira	TS-127 *Development of Turbine Disk Materials for Aircraft Engines* S. Takahashi (Ishikawajima-Harima Heavy Industries Co., Ltd.), S. Nishikiori, M. Hosoya, M. Arai, M. Takekawa, K. Tahara	TS-002 *A Study on Intelligent Performance Diagnostics of a Gas Turbine Engine Using Neural Networks* C. D. Kong (Chosun University, Korea), J. Y. Ki , M. C. Kang, S. H. Kho
15:50	OS-103 *Towards the Development of Finger-Top Gas Turbines* E. Matsuo (The University of Tokyo,), H. Yoshiki, T. Nagashima, C. Kato	TS-029 *Aerodynamic Blade Optimal Design of Turbomachinery* R. S. Amano (University of Wisconsin-Milwaukee, USA), C. Xu	TS-061 *Second-moment Turbulence Closure in Prediction of Channel Flow with System Rotation* M. Ichikawa (Keio University), S. Obi, S. Masuda	TS-151 *Development of Ultra Low-NOx Combustor Technology for Next Generation Supersonic Transport Engines in ESPR Project* S. Hayashi (Japan Aerospace Exploration Agency), H. Yamada, K. Shimodaira, S. Yoshida, T. Oda, H. Ninomiya, B. Jones	TS-125 *Technology Research on High Efficiency Gas Turbines Utilizing Melt-Growth Composite Ceramics* K. Kobayashi (Engineering Association for High Performance Gas Turbines(HPGT)), Y. Waku, N. Nakagawa, S. Yokoi	TS-003 *Neural Networks for the Study of Gas Turbine Engines Air System* G. Torella (Italian Airforce Academy, Italy), F. Gamma , G. Palmesano
		TS-030 *Numerical Analysis of Tip Leakage Flow Field in a Transonic Axial Compressor Rotor* K. Yamada (Iwate University), M. Furukawa, M. Inoue, K. Funazaki	TS-062 *Large-Eddy Simulation of Trailing-Edge Blowing* J. Krömer (Rheinisch-Westfälische Hochschule Aachen ,Germany), M. Meinke, W. Schröder	TS-152 *Study on Pre-vaporized and Premixed Gas Turbine Combustion Technology for High Carbon Ratio Fuel (HCRF)* Y. Marutani (Ishikawajima-Harima Heavy Industries Co, Ltd.), T. Fujimori, D. Riechelmann, T. Mizutani, M. Mikami	TS-128 *Research and Development of Niobium-Based Superalloys for Hot Components of Gas Turbines* R. Tanaka (Japan Ultra-high Temperature Materials Research Institute(JUTEMI)), A. Kasama, M. Fujikura, I. Iwanaga, H. Tanaka, Y. Matsumura	TS-004 *Statistical Analyses to Improve Gas Turbine Diagnostics Reliability* R. Bettocchi (University of Ferrara, Italy), M. Pinelli, P. R. Spina, M. Venturini

As of Oct. 17, 2003

November 5 Wednesday 9:00 - 11:30

Speaker's Name is underlined.

	Organized Session 2	Session B-5	Session C-5	Session D-5	Session E-5	Session F-5
	Ultra Micro Gas Turbine 2	Internal Flows 3	Ribbed Passage Flow & Heat Transfer	Low Emission Combustor	Rotor Dynamics & Bearing	Diagnostics, Control & Measurement 2
	Chairpersons: Prof. Rene Van den Braembussch (von Karman Institute, Belgium) Dr. Eito Matsuo (The University of Tokyo)	Chairpersons: Mr. Patrick Avran (Boyko Research-Engineering, France) Prof. Ken-ichi Funazaki (Iwate University)	Chairpersons: Prof. Ryoichi S. Amano (University of Wisconsin-Milwaukee, USA) Prof. Takanari Okamura (Hachinohe Institute of Technology)	Chairpersons: Prof. Francesco Martelli (University of Florence, Italy) Mr. Mitsuru Inada (Mitsubishi Heavy Industries,Ltd.)	Chairpersons: Dr. Yasutomo Kaneko (Mitsubishi Heavy Industries,Ltd.) Mr. Kouichi Namba (Mitsui Engineering & Shipbuilding Co., Ltd.)	Chairpersons: Prof. Giovanni Torella (Italian Airforce Academy, Italy) Dr. Masahiro Kurosaki (Ishikawajima-Harima Heavy Industries Co.,Ltd.)
9:00	OS-104 *Numerical Analysis of 2.5 Dimensional Geometry Turbine Performance* N. Watanabe (The University of Tokyo), S. Teramoto, T. Nagashima	TS-114 *Development of a New High-Speed Multi-Stage Compressor Facility ; Experimental Set Up* D. Lippett (Cranfield University, United Kingdom), P. Timmis, P. Ivey, D. Bailey, G. Woollatt	TS-078 *Rib-Induced Secondary Flow Structures inside a High Aspect Ratio Trapezoidal Channel - Application to Cooling of Gas Turbine Blade Trailing Edge -* R. Kiml (Tokyo University of A&T), S. Mochizuki, A. Murata, M. Sulitka	TS-139 *Intensification of Kinetic Combustion Performance in Hydrocarbon Fuels When the Oxidizing Conversion Products are Used* V. V. Azatyan (Russian Academy of Sciences, Russia), G. K. Vedeshkin, E. D. Sverdlov	TS-017 *Experimental Invesigation of 150 mm Diameter Large Hybrid Foil/Magnetic Bearing* H. Heshmat (Mohawk Innovative Technology, Inc., USA), D. S. Xu	TS-005 *Detection and Prediction of the Performance Deterioration of a Turbofan Engine* L. Marinai (Cranfield University, United Kingdom), R. Singh, B. Curnock, D. Probert
9:30	OS-105 *Some Aerodynamic Performances of Small Size Compressor and Turbine Stages* I.V. Gaydamaka (Central Institute of Aviation Motor, Russia), A.V. Efimov, M.Ja. Ivanov, O.I. Ivanov, R.Z. Nigmatullin, N.I. Ogarko	TS-023 *Experimental Investigation on Shock Wave and Turbulent Boundary Layer Interactions in a Square Duct at Mach 2 and 4* H. Sugiyama (Muroran Institute of Technology), K. Fukuda, K. Mizobata, L. Sun, R. Minato	TS-079 *PIV Flow Field Measurements in a Rotating U-Shaped Channel. Comparison of smooth and 90°rib-roughened walls.* Y. Servouze (Office National d'Etudes et de Recherches Aérospatiales, France), C. Brossard, P. Gicquel	TS-141 *Conical Flameholder with Pilot Burner for Lean Premixed Combustion* T. Yamamoto (Japan Aerospace Exploration Agency), Y. Kurosawa, S. Tachibana, S. Yoshida, K. Shimodaira, K. Suzuki	TS-018 *Static and Dynamic Characteristics of High Speed Multilobe Journal Bearings* S. Strzelecki (Technical University of Lodz, Poland)	TS-006 *Performance Analysis and Diagnostics of a Small Gas Turbine* J. Yin (Cranfield University, United Kingdom), M. S. Li, W. M. Huang
10:00	OS-106 *Structural Analysis of Rotating Parts of an Ultra-micro Gas Turbine* M. Ishihama (Kanagawa Institute of Technology), Y. Sakai, K. Matsuzuki , T. Hikone	TS-024 *Computation of the Flow in a H.P.Compressor Drive Cone Cavity* K. M. Tham (University of Sussex, United Kingdom), C. A. Long, A. B. Turner, J. A. Dixon	TS-080 *Heat Transfer Characteristic of a Triangular Channel with Turbulence Promoter* K. Takeishi (Mitsubishi Heavy Industries Ltd.), T. Kitamura, M. Matsuura, K, Shimizu	TS-142 *Injection of Lean Mixtures into Hot Burned Gas for Maintaining Low-NOx Emissions over an Extended Range of Fuel-Air Ratios in Prevaporized Combustion* N. Aida (Hosei University), T. Nishijima, H. Yamada, S. Hayashi, T. Kawakami	TS-019 *Prototyping of Radial and Thrust Air Bearing for Micro Gas Turbine* S Kitazawa (The University of Tokyo), S. Kaneko, T. Watanabe	TS-007 *A Study on Applying Nonlinear Control to Gas Turbine Systems* M. Ashikaga (Kawasaki Heavy Industries, Ltd.), Y. Kohno, M. Higashi, K. Nagai , M. Ryu
10:30	OS-107 *Prototyping of Small-sized Two-dimensional Radial Turbines* K. Matsuura (The University of Tokyo), C. Kato, H. Yoshiki, E. Matsuo, H. Ikeda, K. Nishimura, R. Sapkota	TS-025 Experimental and Numerical Investigation of Sealing Performance of Turbine Rim Seals K. Teramachi (Ishikawajima-Harima Heavy Industries Co., Ltd.), M. Hamane, T. Manabe, N. Yanagidani	TS-081 *Effects of Rotation Speed on Heat Transfer in a 90°-Rib Roughened Two-Pass Duct* Y. Y. Kim (Yonsei University, Korea), K. M. Kim, D. H. Rhee, H. H. Cho	TS-135 *Development of Low NOx Diffusive Burner Applying Spiral Flame Combustion* N. Hiromitsu (Ishikawajima Harima Heavy Industries Co., Ltd.), J. Hosoi, H. Toh , O. Kawaguchi	TS-015 *Experimental Investigation into the Behavior of Misaligned Shafts on Balanced Rotors* G. Hanish (Northumbria University, United Kingdom), P. S. Leung, P. K. Datta	TS-153 *The Development of Operation System of a Liquid-fueled Micro Gas Turbine* Y. Mori (The University of Tokyo), S. Kaneko, T. Watanabe
11:00		TS-026 *CFD Studies of Industrial Gas Turbine Exhaust Diffusers* K. Ishizaka (Mitsubishi Heavy Industries Ltd.), S. Wakazono , M. Yuri , R. Takahashi	TS-082 *The Effects of Oblique Discrete Rib Arrangement on Heat Transfer Performance of a Square Duct* K. Tatsumi (Kyoto University), H. Iwai, K. Suzuki	TS-136 *Characteristics of Low NOx Diffusion Combustion with Strong Swirl Flow* J. Yajima (Keio University), T. Hasegawa, O. Kawaguchi, N. Hiromitsu, J. Hosoi, H. Toh	TS-016 *Dynamics of Asymmetric Rotors using Solid Models* J. S. Rao (Quality Engineering and Software Technologies, India), R. Streenivas	TS-008 *Numerical Correction of Pyrometry Data from Gas Turbines* J. Nickel (Technical University Berlin, Germany), H. Pucher, M. Lüdtke

November 5 Wednesday 14:10 - 15:40

	Organized Session 3	Session B-6	Session C-6	Session D-6	Session E-6
	Ultra Micro Gas Turbine 3	Development & Verification of CFD codes	Unsteady Flow & Noise 2	Conjugate Heat Transfer Analysis	Performance Analysis of Gas Turbines: Intake Air Humidifying & Filtration
	Chairpersons: Prof. Michael J. Ivanov (Central Institute of Aviation Motor, Russia) Prof. Chisachi Kato (The University of Tokyo)	Chairpersons: Dr. Hartmut Krain (DLR, Germany)	Chairpersons: Dr. Victor I. Mileshin (CIAM, Russia) Prof. Nobuhiko Yamasaki (Kyushu University)	Chairpersons: Dr. Mike Wilson (University of Bath, UK) Prof. Sadanari Mochizuki (Tokyo University of A&T)	Chairpersons: Prof. Wei Wang (Chinese Academy of Sciences, P.R.China) Mr. Eiichi Koda (Central Research Institute of Electric Power Industry)
14:10	OS-108 *Concepts and Combustion Characteristics of a n Ultra-micro and a Micro Combustor* S. Yuasa (Tokyo Metropolitan Institute of Technology), K. Oshimi, M. Uehara	TS-020 *The Experience of CFD Calculations for Flow Analysis in Centrifugal Compressor Stages* Y. B. Galerkin (TU Saint-Petersburg, Russia), V. P. Mitrofanov, A. Y. Prokofiev	TS-056 *An Experimental Study on Unsteady Flow Behaviors in an Axial-Flow Turbine* S. Kasuga (Tokyo Denki University), A. Yamamoto, T. Miyachi, T. Okaniwa	TS-083 *Conjugate Heat Transfer Analysis of a Test Configuration for a Film-cooled Blade* K. Kusterer (Aachen University, Germany), D. E. Bohn , T. Sugimoto, R. Tanaka	TS-090 *A Study of Performance on Advanced Humid Air Turbine Systems* S. Higuchi (Hitachi, Ltd.), S. Hatamiya, N. Seiki, S. Marushima
14:40	OS-109 *Internal Heat Mixing and External Heat Losses in an Ultra Micro Turbine* Y. Ribaud (ONERA, France)	TS-021 *Numerical Prediction of Humid Effect to Transonic Flows in Turbomachinery* Y. Sasao (Tohoku University), S. Yamamoto	TS-057 *Wake Decay within the Stator Vane in a High-Speed Axial-Flow Compressor* R. Nohara (Ishikawajima-Harima Heavy Industries Co.,Ltd.), K. Imanari, I. Fujii, Y. Ooba	TS-084 *Numerical Parametric Study on Full Coverage Cooled Multi-Layer Plates* D. E. Bohn (Aachen University, Germany), N. Moritz	TS-091 *High Fogging Tests and Performance Model for High Fogging* J. Hoffmann (Alstom (Schweiz) AG, Switzerland), C. Ojo
15:10	OS-110 *Performance of a Micro-scale Radial-Flow Compressor Impeller Made of Silicon Nitride* J. P. Johnston (Stanford University, USA), S. Kang, T. Arima, M. Matsunaga, H. Tsuru, F. B. Prinz	TS-022 *High Accuracy Multigrid Method of the Unsteady Convection Diffusion Equation and Calculations of Heat and Fluid Flow* W. Wu (The University of Shanghai for Science and Technology, P.R.China) , Y. Ge	TS-058 *Effects of Airfoil Clocking on Aero-performance and Unsteady Blade Loading in a High-Speed Axial Compressor* D. Kato (Ishikawajima-Harima Heavy Industries Co., Ltd.), K. Imanari	TS-085 *Conjugate Simulations of Flow and Heat Conduction for Turbine Cooling* T. Yamane (Japan Aerospace Exploration Agency), F. Mimura, T. Yoshida, S. Yamawaki, C. Nakamata, R. Imai	TS-092 *Outstanding Operational Behavior of Taylor-Made Nonwovens Filters for Intake Air Filtration of Gas Turbines* M. Schmidt (Freudenberg & Vilene Nonwovens (Suzhou) Co., Ltd., P.R.China), S. Berbner, A. Klink, M. Waldenmaier, R. Schulz

November 6 Thursday 9:00 - 11:00

Speaker's Name is underlined.

	Organized Session 4	Session B-7	Session C-7	Session D-7	Session E-7	Session F-7
	Marine Gas Turbines & Turbocharger	Surge/Stall 1	Industrial Gas Turbine & Power Plant 1	Impingement & Film Cooling	Combustor Design	Performance Analysis of Gas Turbines & New Systems
	Chairpersons: Mr. Katsuhide Hiraoka (National Maritime Research Institute) Mr. Masatoshi Chiba (Ishikawajima-Harima Heavy Industries Co.,Ltd.)	Chairpersons: Prof. Frans A.E. Breugelmans (von Karman Institute, Belgium) Prof. Yutaka Ohta (Waseda University)	Chairpersons: Mr. Masafumi Fukuda (Toshiba Corporation) Mr. Toshiyuki Takagi (Mitsui Engineering & Shipbuilding Co., Ltd.)	Chairpersons: Dr. Boris Kurmanov (ALSTOM Power Uniturbo, Russia) Dr. Toyoaki Yoshida (Japan Aerospace Exploration Agency)	Chairpersons: Dr. Shigeru Hayashi (Japan Aerospace Exploration Agency) Dr. Hidemi Toh (Ishikawajima-Harima Heavy Industries Co.,Ltd.)	Chairpersons: Dr. Juergen Hoffmann (Alstom (Schweiz) AG, Switzerland) Dr. Hideto Moritsuka (Central Research Institute of Electric Power Industry)
9:00	OS-201 *Turbocharger Technology for Personal Water Craft* Y. Matsuyama (Ishikawajimaharima Heavy Industries CO., LTD.), H. Furukawa, T. Mineta, T. Fukuda	TS-037 *A Stability Model for Transonic Axial Compressors* W. Yu (Beijing University of Aeronautics and Astronautics, P.R.China), X. Sun	TS-098 *High-efficiency Gas Turbines Operating in Intermediate Duty* B. Becker (SIEMENS POWER GENERATION, Germany), V. Thien	TS-074 *Jet Impingement onto a Dimpled Surface with Different Crossflow Schemes* K. Kanokjaruvijit (Imperial College London, United Kingdom), R. F. Martinez-Botas	TS-143 *Investigation of Cooling Structure with MGC Material for a High Temperature Gas Turbine Combustor* T. Hagari (Kawasaki Heavy Industries, Ltd.), K. Ishida, Y. Kinoshita	TS-086 *A Comparative Investigation of Reheat in Gas Turbine Cycles* K. Sarabchi (University of Tabriz, Iran)
9:30	OS-202 *Research and Development of Gas Turbine for Next-Generation Marine Propulsion System (Super Marine Gas Turbine)* M. Arai (Technological Research Association of Super Marine Gas Turbine), T. Sugimoto, K. Imai ,H. Miyaji, K. Nakanishi, Y. Hamachi	TS-038 *Prediction and Active Control of Surge Inception of a Centrifugal Compressor* N. Hagino (Kanagawa Institute of Technology), K. Uda, Y. Kashiwabara	TS-099 *Modernization and Upgrade Programs for Mitsubishi Heavy-duty Gas Turbines* K. Watanabe (Mitsubishi Heavy Industries, Ltd.), H. Arimura, K. Akagi, H. Sakuma	TS-075 *Enhanced Impingement Heat Transfer: Comparison of Co-flow and Cross-flow with Rib Turbulators* G. E. Andrews (The University of Leeds, United Kingdom), R.A.A. Abdul Hussain , M. C. Mkpadi	TS-144 *Effect of Primary Equivalence Ratio on Reducing both Fuel-NOx and Thermal-NOx Emissions of the Gas Turbine Combustor for Oxygen-blown IGCC with Hot/Dry Syngas Cleanup* T. Hasegawa (Central Research Institute of Electric Power Industry), M. Sato	TS-087 *A Novel LNG and Oxygen Stoichiometric Combustion Cycle without CO_2 Emission* W. Wang (Chinese Academy of Sciences, P.R.China), R. Cai, N. Zhang, H. Jin
10:00	OS-203 *The WR-21 Intercooled Recuperated Gas Turbine Engine- Integration Into Future Warships* C. R. English (Royal Navy, United Kingdom)	TS-039 *The Measurements of Unsteady Flow Fields in an Axial Flow Fan under Stalled Condition* K. H. Kim (Korea Institute of Science and Technology, Korea) , Y. H. Shin, C. S. Kang	TS-100 *Development and In-house Shop Load Test Results of M701G2 Gas Turbine* A. Maekawa (Mitsubishi Heavy Industries, LTD.), R. Magoshi, Y. Iwasaki	TS-076 *Heat Transfer in Impingement/Effussion Cooling System with Rib Turbulators* Y. W. Nam (Yonsei University, Korea), D. H. Rhee, H. H. Cho	TS-145 *Numerical/Experimental Methodology for the Retrofitting of Combustion Chambers for Gas Turbines* F. Martelli (The University of Florence, Italy), G. Riccio, P. Adami, G. Benelli, G. Tanzini	TS-089 *Off-Design Analysis of the GRAZ Cycle Performance* A. Miller (Warsaw University of Technology, Poland), J. Lewandowski, K. Badyda, S. Kiryk, J. Milewski, J. Hama, N. Iki
10:30	OS-204 *Rolls-Royce MT30 Design, Certification, Launch and Growth* S. Wilmshurst (Rolls-Royce plc, United Kingdom)	TS-040 *Development of a Surge Prediction System for Multi Stage Axial Compressors* H. Hoenen (RWTH Aachen University, Germany), T. Arnold		TS-077 *Experimental Investigation on Heat Transfer and Film Cooling of High Loaded Transonic Turbine Vanes and Blades* R. Nogami (Mitsubishi Heavy Industries, LTD.), K. Shimizu, K. Takeishi, T. Kitamura	TS-134 *Numerical Prediction of Turbulent Combustion Flows in Staged Combustor Using LES and Extended G-Equation* T. Tominaga (The University of Tokyo), Y. Itoh, N. Taniguchi, T. Kobayashi, T. Hagari, Y. Nonaka	

November 6 Thursday 13:30 - 15:00

	Session A-8	Session B-8	Session C-8	Session D-8	Session E-8	Session F-8
	Force/Vibration	Surge/Stall 2	Industrial Gas Turbine & Power Plant 2	Flows in Rotating or Bended Duct	Optimization & Inverse Method	Performance Analytic Modellings & Tool
	Chairpersons: Dr. Herwart T. Hoenen (RWTH Aachen University, Germany) Dr. Dai Kato (Ishikawajima-Harima Heavy Industries Co.,Ltd.)	Chairpersons: Prof. Yasushige Kashiwabara (Kanagawa Institute of Technology)	Chairpersons: Dr. Bernard Becker (SIEMENS POWER GENERATION, Germany) Dr. Shinya Marushima (Hitachi Ltd.)	Chairpersons: Prof. Dieter Bohn (Aachen University, Germany) Dr. Kenichiro Takeishi (Mitsubishi Heavy Industries,Ltd.)	Chairpersons: Dr. David C. Wisler (GE Aircraft Engines, USA) Dr. Hidekazu Kodama (Ishikawajima-Harima Heavy Industries Co.,Ltd.)	Chairpersons: Mr. Stewart Wilmshurst (Rolls-Royce plc, UK) Dr. Tadaharu Kishibe (Hitachi Ltd.)
13:30	TS-053 *Study on Blade Forced Vibration Response of Radial Inflow Turbine* K. Nakano (Ishikawajima-Harima Heavy Industries Co. Ltd), H. Hattori, Y. Hirata	TS-044 *Early Pre-stall Investigation by Sensitive Stall Warning Technique* N. Tahara (Ishikawajima-Harima Heavy Industries Co.,Ltd.), M. Kurosaki , Y. Ohta , E. Outa , H. Shinohara	TS-101 *Repowering of Lowshan Power Plant* M. R. Shahnazari (Niroo Research Institute, Iran), D. Foroughi, H. Fakharian	TS-063 *Pressure Loss Characteristics in Rotating Coolant Passages of Gas Turbine (Effect of Inlet Flow Angle in Intermediate Shaft)* H. Matsuda (TOSHIBA Corporation), F. Otomo, A. Inomata, K. Kitayama, Y. Fukuyama	TS-034 *New Quasi-3D Inverse Navier-Stokes Based Method Used to Design Highly Loaded Axial Compressor Stages* V. I. Mileshin (Central Institute of Aviation Motors, Russia), S. K. Shchipin, A. N. Startsev	TS-093 *Thermodynamic Table for Performance Calculations in Gas Turbine Engine* M. Iwai (Shenyang Institute of Aeronautical Engineering, China)
14:00	TS-054 *Euler/N-S Analysis of Linear Unsteady Aerodynamic Forces on Vibrating Annular Cascade* T. Nagasaki (Kyushu University), N. Yamasaki	TS-045 *Experimental Investigation of Rotating Stall Inception in Axial Flow Fans* S.K.Sane (Indian Institute of Technology Bombay, India), D. Sekhar, N. V. Patil, P. Tagade	TS-102 *Gas Turbine Based Power Plants Repowering Reduces Emissions and Increase Efficiency of Existing Plants while Re-utilising Available Assets* H. -R. Schenk (ALSTOM), G. Ehren, Yu TatMing	TS-064 *Effects of Swirl and Flow Rate on the Flow and Heat Transfer in a Pre-swirl Rotating-disc System* M. Farzaneh-Gord (University of Bath, United Kingdom), M. Wilson, J. M. Owen	TS-035 *Geometry Optimization of Turbine Blade with Surface Injection* T. Nagumo (Tokyo University of Science), K. Toda, M. Yamamoto	TS-094 *Low Bypass Ratio Turbofan Performance Modelling with Fan Radial Flow Profiles* M. S. Li (Cranfield University, United Kingdom), J. F. Yin, B. Curnock
14:30	TS-055 *Numerical Analysis of Active Cascade Flutter Control with Smart Structure* J. Kazawa (The University of Tokyo), T. Watanabe	TS-046 *Unsteady Phenomena during Transient Process in Radial Vanelss Diffuser* N. Hayashi (Chiba Institute of Technology), T. Tagawa, M. Koyama, I. Ariga, M. Sano	TS-103 *Design for F Class Blast Furnace Gas Firing 300 MW Gas Turbine Combined Cycle Plant* T. Komori (Mitsubishi Heavy Industries, Ltd.),H. Hara, H. Arimura, Y. Kitauchi	TS-065 *Predictions of a Turbulent Flow Inside a Sharp U-Curve Duct for a Turbine Blade Cooling Passage* R. S. Amano (University of Wisconsin-Milwaukee, USA), B. Song	TS-036 *The Development of a Genetic Algorithm Code for Secondary Flow Injection Optimization in Axial Turbines* C. F. F. Favaretto (Iwate University), K. Funazaki, T. Tanuma	TS-095 *An Improved Analytic Model to Predict Fouling Phenomena in the Axial Compressor of Gas Turbine Engines* T. W. Song (Seoul National University, Korea), J. L. Sohn, T. S. Kim, J. H. Kim, S. T. Ro