

R'09



Twin World Congress



R'09 Twin World Congress and World Resources Forum Nagoya, Japan, September 14 – 16, 2009

Plenary Lectures: Live Transmission
between Nagoya and Davos

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Materials Science & Technology

Final Program

Invited Plenary Speakers

September 14: Dennis Meadows, President, Laboratory for Interactive Learning

Hiroshi Esaki, Professor, University of Tokyo

Faye Duchin, Professor, Rensselaer Polytechnic Institute

Chettiyappan Visvanathan, Professor, Asian Institute of Technology

September 15: Guibin Jiang, Professor, Chinese Academy of Sciences

Marina Fischer-Kowalski, Professor, Klagenfurt University

Shiro Saka, Professor, Kyoto University

Helga Weisz, Professor, Potsdam Institute for Climate Impact Research

September 16: *World Resources Forum:*

Keiko OMORI, Director, Office of Sound Material-cycle Society, Ministry of
the Environment Japan

Hiroyuki MATSUDA, Professor, Faculty of Environment and Information
Sciences, Yokohama National University

Parallel Sessions

Monday, September 14

08:00 – 16:00 Toyoda Auditorium	Registration (R'09 and WRF)
10:00 – 11:50 Room I	4D Economics for the Management of Materials, Natural Resources and Emissions Chaired by Prof. Chettiyappan Visvanathan, Asian Institute of Technology
295	Keynote: Production Really Matters: Could We Simply Apply Rate of Time Preference to Evaluate the Life Quality of Our Future Generations? Arayama Yuko, Japan
225	Strategies to Comply with the Kyoto Protocol in Korean Agricultural Sector Kim Chang-Gil ,Republic of Korea
206	Globalization and Environmental Quality: Empirical Analysis Tsurumi Tetsuya ,Japan
165	An Empirical Study on Interdependency of Environmental Load and International I-O Structure in the Asia-Pacific Region Watanabe Takatoshi, Japan
163	Semicentralized Supply and Treatment Systems – Integrated Infrastructure Solutions for Urban Areas of Tomorrow Bieker, Susanne, Germany
10:00 – 11:20 Room II	1E Renewable Energy Chaired by Prof. Osamu Tarakado, Nagoya University
118	Bio-energy Development in Vietnam: Situation and Prospect Nguyen Thi Loan, Viet Nam
292	Gasification Reactions of Woody Biomass Pellets in a Packed Bed Reactor Naruse Ichiro, Japan
109	Ethanol Oxidation Kinetics in Water at 25 MPa in the Temperature Range of 533–623 K Koido Kenji,Japan
244	Fluid-Oscillation Coupled Analysis of Fatigue Loads on HAWT Rotor

	Blade for Turbulence Inflow Hasegawa Yutaka, Japan
10:00 – 11:20 Room III	1B Clean and Efficient Energy Conversion Chaired by Prof. Rei Hino, Nagoya University
89	Prediction of Optimum Performance of Heat-pump Systems by Numerical Simulation Miyamoto Toshio, Japan
280	Soft X-ray Angle-resolved Photoemission Spectroscopy of Bi _{1.72} Pb _{0.38} Sr _{1.88} CuO _{6+δ} Hamaya Yoichiro, Japan
282	Improvement Techniques for Carbon Dioxide Tolerance of PEMFC Using Hydrogen Reformed from Biogas Yamamoto Arata, Japan
265	Role of Temperature Dependent Chemical Potential on Thermoelectric Power Takeuchi Tsunehiro, Japan
10:00 – 12:00 Room IV	W1 Workshop: New Rules for the Proper Handling of Community Discards Organized by Mr. Anthony Richard, Richard Anthony Associates, USA
10:00 – 12:00 Room V	2C Safe and Environmentally Sound Disposal -1- Chaired by Prof. Shinji Yasui, Nagoya Institute of Technology
105	Municipal Solid Waste Disposal Practices in Sri Lanka : Challenges & Responsibilities – Case Study in Trincomalee Urban Area Pitigala Sanath, Sri Lanka
116	Management of Waste from Petroleum Production Platform: A case study at Songkhla Province in Southern Thailand Siriwong Cherdchan, Thailand
119	Maximize Utility of Rubber Latex Lutoid for Planting Para rubber with Safety Dose of Cd, Pb, Mn, and Zn Siriratpiriya Orawan, Thailand
102	Release Behavior of Potassium, Chlorine and Sulfur during Thermal Conversion Processes of Wheat Straw Yang Xuemin, China
122	Removal of Noxious gases in Air Stream by Absorption Combined with Electrochemical Oxidation Liwei Huang, China

20	Socializing of Solid Waste Management - a good approach to solve solid waste problem in rural areas of Vietnam Nguyen Loan, Viet Nam
12:00 – 13:00	Lunch Break
12:15 – 13:15	Poster Session A
13:30 – 14:30 Room I	4B Policy option for Natural Resource Management Chaired by Prof. Kazuo KOGA, Nagoya University
220	What is Appropriate Benefit-Sharing in the Access and Benefit-Sharing Issues in the Convention on Biological Diversity? -Lesson and learned from practical cases- Hayashi Kiichiro, Japan
160	Study on Alternatives of Forest Plan Applied Strategic Environmental Assessment in the U.S. Ito Hideyuki, Japan
194	Biofuel Promotion as a Rural Energy Development Policy in Indonesia Chong Siang Chew, Japan
13:30 – 14:50 Room II	4A Policies and Human Behavior for Resource Management Chaired by Dr. Na Sungin, Hiroshima Shudo University
217	The Role of Poetry and Images in Creating Recycling and Resources Saving Awareness Posada Enrique, Colombia
161	Local Climate Policy - USA, Germany and Japan Sugiyama Noriko, Japan
178	The Comparative Analysis of E-Waste Management System in China, Japan, Korea and Taiwan Na Sungin, Japan
293	Socially Responsible Investment: Do they perform better than conventional funds? Ito Yutaka, Japan
13:30 – 14:40 Room III	1C Development of Innovative Materials Chaired by Prof. Ryoichi Ichino, Nagoya University
192	Keynote: Energy Efficiency of Switchable Mirror Window Yoshimura Kazuki, Japan
255	Transition Temperature Control of VO ₂ -SiO ₂ Nanohybrid Particles by Tungsten Doping for Smart Window Suzuki Hisao, Japan

276	Hydrothermal Synthesis of High Surface Area Mayenite and their Catalysis for VOC Combustion Li Chunshan, Japan
13:30 – 15:10 Room IV	W2 Workshop: Eco-Wealth of Nations: An Inquiry into the Nature and Causes of the Eco-Wealth of Nations Organized by Prof. Yuko Arayama, Nagoya University, Japan
13:30 – 14:40 Room V	2C Safe and Environmentally Sound Disposal -2- Chaired by Prof. Daisuke Hirabayashi, Nagoya University
210	Keynote: Property of Solid State Fish Waste for the Treatment of Waste Water Ozawa Masakuni, Japan
212	Reconverted-resources of Fluorine from Exhaust Gases by Dry-processing Using Calcium Absorbents Yasui Shinji, Japan
127	Integrated Approach for Municipal Solid Waste Management in Colombo Metropolitan Region (CMR) of Sri Lanka. Herath Malani, Sri Lanka
15:10 – 15:30	Coffee Break
15:30 – 16:00 Grand Hall	Opening Session, Nagoya and Davos Chaired by Itoh Hideaki / Hayashi Kiichiro (Nagoya) Chaired by Edelmann Xaver / Ruf Arthur (Davos) Welcome Address Davos Edelmann Xaver , R'09 Twin World Congress Chairman, Empa, Switzerland
	Welcome Address Nagoya Itoh Hideaki , Professor, R'09 Twin World Congress, Chair of Local Organizing Committee, Japan
	Welcome Address Davos Nn
	Welcome Address Nagoya Miyata Takashi , Professor. Vice President, Nagoya University, Japan
16:00 – 16:45	Invited Plenary Lecture, Part I Chaired by Edelmann Xaver / Ruf Arthur (Davos)
DAVOS (live transmission to Nagoya)	Perspectives on Limits to Growth 37 Years Later Meadows Dennis , President, Laboratory for Interactive Learning & Japan Prize Laureate
16:45 – 17:30	Invited Plenary Lecture, Part II Chaired by Itoh Hideaki / Hayashi Kiichiro (Nagoya)
NAGOYA (live transmission to Davos)	Energy Saving with ICT – Green University of Tokyo Project Esaki Hiroshi , Professor, University of Tokyo
17:30 – 18:00	Coffee Break

18:00 – 18:45	Invited Plenary Lecture, Part III Chaired by Edelmann Xaver / Ruf Arthur (Davos)
DAVOS (live transmission to Nagoya)	Work and Everyday Life in a Resource-Constrained Global Economy Duchin Faye , Professor, Rensselaer Polytechnic Institute
18:45 – 19:30	Invited Plenary Lecture, Part IV Chaired by Itoh Hideaki / Hayashi Kiichiro (Nagoya)
NAGOYA (live transmission to Davos)	Resource Circulation in Asia: Practical Challenges in Setting up Recycling Industries Visvanathan Chettiyappan , Professor, Asian Institute of Technology
20:00 – 22:00 Foyer	Welcome Reception Opening address Dr. Felix Moesner , Attaché, Head of Science & Technology Office Japan, Embassy of Switzerland

Tuesday, September 15

08:00 – 16:00 Toyoda Auditorium	Registration (R'09 and WRF)
10:00 – 11:50 Room I	4E Life Cycle Thinking and Environmental Indicators Chaired by Prof. Minoru Fujii, Nagoya University
67	Keynote: Implementation of a Mandatory Take Back Program for Fluorescent Tubes, Household Batteries and Sharps Worrell Bill, United States of America
121	Life Cycle CO2 Emissions for Water Saving Service in Food-service Industry—An Example of Green Servicizing— Ita Sayaka, Japan
191	The Direct and Indirect Environmental Evaluation of the Energy Recovery Complex from Waste and Woody Biomass Tomohiro Tabata, Japan
228	Study on Indicators for Sustainable EcoTopia Society from the Perspective of Environmental, Economic, Social and Human Aspects Hayashi Kiichiro, Japan
140	RNSOIL, Risk-cost Evaluation Framework for Remediation Technologies of Contaminated Soil and Groundwater Inoue Yasushi, Japan
10:00 – 11:40 Room II	1F Technologies for Materials Recycling and Re-Integration Chaired by Prof. Noriyuki Kobayashi, Nagoya University
260	Pyrolysis Study of Woody Biomass under the Presence of Metal Salt: Explosive decomposition of wood at relatively low temperature Terakado Osamu, Japan
264	Resource Recovery from Cemented Carbide Scraps by Molten Salt Oxidation and Ion Exchange Treatments Itakura Takeshi, Japan
51	Chloride-induced Vaporization of Indium from Indium Tin Oxide Dodbiba Gjergj, Japan
259	Immersion of Fly Ash in Oxalic Acid to Recycle Calcium as Acid Gas Absorbent Sawada Kayo, Japan
50	Enhanced CO2 Fixation into Calcium Carbonate Superstructures via Indirect Steel-making Slag Carbonation

	Li Huiquan, China
10:00 – 11:30 Room III	1D Materials and Energy Efficiency in Specific Industries Chaired by Prof. Takashi Itoh, Nagoya University
15	Keynote: Functional Materials Development from Waste Biomass Zhang Fu-Shen, China
166	Study on the Autarky Mode of Electricity in Iron & Steel Factory Wang Jianjun, China
92	Simulation and Integration of Coal-based Syngas to Propylene Process Zhang Xiangping, China
75	Experimental Study on Energy Saving of Mass Merchandising Stores by Operational Changes of Air-Conditioning System Nakayama Hiroshi, Japan
9:10 – 12:00 Room IV	2B Green Production, Cleaner Production -1- Chaired by Prof. Liu Huizhou, Chinese Academy Science / Prof. Sakakura Akira, Nagoya University
216	Keynote: Green Production using Supercritical Fluids Lee Youn-Woo, Republic of Korea
87	What the plastic industry must do if we are to keep plastic out marine debris and get to zero waste Anthony Richard, United States of America
71	Substitution of Peat for Synthetic Aggregates and Bagasses-sewage Sludge Based Compost as a Containerized Media for Crop Production Jayasinghe Guttala, Japan
	Coffee Break(10:20 – 10:40)
237	Manufacturing of "Bio-compost" by Organic Waste for Soil Improvement Tsuge Morie, Japan
107	Development of Optimal Biomass Refinery System at Miyako-island, Japan (Research outcomes highlights) Shinogi Yoshiyuki, Japan
103	Green Synthesis of Esters via Catalytic Dehydrative Condensation under Solvent-free Conditions or in Water Sakakura Akira, Japan
234	Synthesis of Calcium Silicate Hydrate Supported Transition Metal Catalyst and VOCs Decomposition Activity Evaluation

	Hirabayashi Daisuke, Japan
10:00 – 11:30 Room V	2C Safe and Environmentally Sound Disposal -3- Chaired by Dr. Gunawan Hadiko, Nagoya University
270	Keynote: Ultrasound-induced Decomposition of Dodecane Using Supercritical Carbon Dioxide in Water Microemulsion Enokida Youichi, Japan
224	Environmental Purification and Safeguard by Environment Friendly Minerals Suzuki Kenzi, Japan
245	Role of DNA Techniques in Tailor-made Bioremediation of Kerosene Contaminated Land Yamada Hiroko, Japan
250	Extraction of Americium(III) by the Multidentate Diamide and Phosphine Oxides and their Structures Optimized for Lanthanum(III)-complex Sasaki Yuji, Japan
12:00 – 13:20	Lunch Break
12:15 – 13:15	Poster Session B
13:10 – 14:40 Room I	4C Economics for the Management of Materials, Natural Resources and Emissions Chaired by Prof. Watanabe Takatoshi. Aichi Gakuin University
241	Keynote: The Diffusion-oriented Policy for Enhancing SMEs through an Environmental Approach Otake Nobutaka, Japan
261	Resource Management and Capacity Utilization in Japan's fishing industry Yagi Michiyuki, Japan
90	A Decision Analytic Extension of the Wastewater Treatment Input-Output Model Lin Chen, Japan
279	Cooperative Decision Making under Uncertainty: Implications for global warming Tanaka Kenta, Japan
13:20 – 14:10 Room II	1A Applications of Nano- and Biotechnologies for Resource Efficiency Chaired by Prof. Kayo Sawada, Nagoya University

72	Keynote: Development of Novel Pretreatment for Enzymatic Saccharification of bark Matsushita Yasuyuki, Japan
198	Photochemical and Enzymatic Methanol Synthesis from Carbon Dioxide with Zinc Porphyrin and Dehydrogenase System Amao Yutaka, Japan
13:20 – 14:00 Room III	3A Modeling and Simulation for Resource Management Chaired by Prof. Koji Yasuda, Nagoya University
74	Flow Field and Temperature Field Affected by the Array of Desks in the Room with Air-conditioning Minari Masako, Japan
124	A Routing Protocol towards Sustainable Sensor Networks for Nature Monitoring Takahashi Keita, Japan
13:10 – 14:40 Room IV	2B Green Production, Cleaner Production -2- Chaired by Prof. Lee Youn-Woo, Seoul National University
294	Keynote: Extractive Desulfurization of Fuel Using 3 - Methylpyridinium - Based Ionic Liquids Liu Huizhou, China
252	Study on NSR catalyst for lean burn engines: Effects of catalyst profiles and reaction conditions Satsuma Atsushi, Japan
238	Environmental Purification by Porous Titanium Phosphate with Multiple Functions Yamamoto Yuta, Japan
278	Porous Ceramic Biocarrier Prepared from Montmorillonite for Microorganisms Immobilization Hadiko Gunawan, Japan
13:20 – 14:30 Room V	2A Future Development of Waste Generation Chaired by Dr. Li Chunshan, Nagoya University
130	Keynote: Investigation of Sludge from Concentrated Latex Industry for Preparing a New Product as Fertilizer Danteravanich Somtip, Thailand
288	Synthesis of Superhydrophobic Platinum Catalyst on Stainless Steel Gauze in Supercritical Carbon Dioxide Enokida Youichi, Japan

115	Potential Utilization of Hydrothermally Converted Slags as Solid Reactant for Freon Decomposition Hirabayashi Daisuke, Japan
14:40 – 15:00	Coffee Break
15:00 – 15:30 Grand Hall	Opening Session, Nagoya and Davos Chaired by Itoh Hideaki / Hayashi Kiichiro (Nagoya) Chaired by Edelmann Xaver / Ruf Arthur (Davos)
	Opening Address Nagoya Nakahara Tsuneo, Dr. , President, The Engineering Academy of Japan, Japan
	Opening Address Davos Nn
	Opening Address Nagoya Shimojo Shinji, Dr. , Executive Researcher, National Institute of Information and Communications Technology, Japan
	Opening Address Davos Nn
15:30 – 16:15	Invited Plenary Lecture, Part V Chaired by Itoh Hideaki / Hayashi Kiichiro (Nagoya)
NAGOYA (live transmission to Davos)	Environmental Pollution of New POPs in China: Challenges and Research Highlights Jiang Guibin, Professor , Chinese Academy of Sciences
16:15 – 17:00	Invited Plenary Lecture, Part VI Chaired by Edelmann Xaver / Ruf Arthur (Davos)
DAVOS (live transmission to Nagoya)	A Hundred Years of Resource Use of the World Economy – Dynamics, Drivers, Impacts Fischer-Kowalski, Marina, Professor , Klagenfurt University
17:00 – 17:30	Coffee Break
17:30 – 18:15	Invited Plenary Lecture, Part VII Chaired by Itoh Hideaki / Hayashi Kiichiro (Nagoya)
NAGOYA (live transmission to Davos)	Recent Progress in Second Generation Biofuels Technology Development Saka Shiro, Professor , Kyoto University
18:15 – 19:00	Invited Plenary Lecture, Part VIII Chaired by Edelmann Xaver / Ruf Arthur (Davos)
DAVOS (live transmission to Nagoya)	The Link between Resource Management and Climate Change Helga Weisz, Dr. , Potsdam Institute for Climate Impact Research
20:00 – 22:00 Westin Nagoya Castle	Congress Banquet

Poster Sessions

Monday, September 14

12:15 – 13:15 Symposion Hall	Materials and Energy Technology –A-
38	Homogeneous Synthesis of Cellulose Acetate Butyrate in Ionic Liquid Cao Yan , China
56	Development and Research of Photovoltaic/Thermal Flat-type Solar Collector Miki Yasutomi , Japan
49	Studies on Air-type Photovoltaic/Thermal Collector Using See-through a-Si PV module as the Cover Miki Yasutomi , Japan
61	Development Adsorption Heat Pumps for Novel Hybrid Water Heater Applications Dong Lihua , Japan
91	Decoupling Combustion of Coal for Suppressing NO _x Emission and Smoke – from fundamental research to application Gao Shiqiu , China
111	Improvement in Butane Adsorption Performance by Compositing Adsorbents Huang Hongyu , Japan
177	Protective Coating for Slab Reheating of 304 stainless steel Liu Peng , China
214	Effects of Temperature and Oxygen Addition on Suppression of Deactivation with Carbon Monoxide on PEFC Pt Catalyst Arai Hayato , Japan
222	Preparation of Enzymes Immobilized on Clays and their Catalytic Properties. Kamiya Toshimitsu , Japan
231	Synthesis of Thermoelectric Bi-Sb Alloy Nanoparticles Tanaka Yusuke , Japan
235	Fabrication and Properties of Lead-Free Piezoelectric NaNbO ₃ -BaTiO ₃ Thin Films through a Chemical Route

	Sakamoto Wataru , Japan
239	Si Doping into Densely-Aligned Carbon Nanotube Films on SiC Maruyama Takehiro , Japan
251	Effect of Calcium on Precipitation Recovery of Boron Dissolved in Aqueous Solution by Hydrothermal Mineralization Sasai Ryo , Japan
256	Preparation and Luminescence Property of LDH/Laser-dye/Surfactant Hybrid Solid Materials Sasai Ryo , Japan
262	Crystal Growth and Electrical Properties of a Ba-Co-O system compound Kitagawa Daisuke , Japan
269	Electronic Structure and Thermoelectric Property of Layered Cobalt Oxides $NaxCoO_2$ Arita Shogo , Japan
272	Thermoelectric Properties of Al-Fe-Mn-Si Alloys Toyama Yasuhiro , Japan
275	Preparation and Electrical Properties of Dense $Ba_3Co_2O_6(CO_3)_x$ Ceramics Fujiharu Yoshiyuki , Japan
283	Methane-to-methanol Oxidation by Active Oxygen Formed from Water Vapor Hibino Takashi , Japan
299	Selective Separation of Phosphorous Anion from Used Nickel Electroless Plating Bath Ichino Ryoichi , Japan
12:15 – 13:15 Symposion Hall	Waste and Emission Management –A-
41	The Recovery and Utilization of Flue Gas for SO ₂ Removal by V ₂ O ₅ /activated Coke Li Jianjun , Japan
114	Non-destructive Detection of Soot in Exhaust Filter Using Millimeter Wave Shibuya Takayuki , Japan
226	Thermal Stability of Ceramic Catalyst for Removal of Organic Emission Ozawa Masakuni , Japan
240	Lead Elimination from Incineration Bottom Ash by Chlorination Volatilization Method Using Chlorides and Diatomite

	Tomita Naoya , Japan
246	Evaluation of Diffusivity of Various Gases within Automotive Catalysts Katoh Satoru , Japan
263	Decomposition of NO2 and VOCs Using Uranium Oxide Ikai Tomoharu , Japan
273	Detection of Small Amount of Uranyl by Using LIF Inoue Yasushi , Japan
286	Synthesis of Enzyme Immobilization Support Using Clay Minerals and Formaldehyde Decomposition Performance Wang Xiaomei , Japan
289	Treatment and Vitrification of Spent Catalyst for Organic Synthesis Containing Uranium and Antimony Enokida Youichi , Japan
12:15 – 13:15 Symposion Hall	Political, Economic and Social Issues
73	Patent Protection on GM Crops and its Public Domain Hiraki Takayuki , Japan
150	Evaluation of Remedial and Preventive Technologies for Air, Water, and Soil Pollution Sakaguchi Iwao , Japan
159	Environmental Measurement Skills by Red Tide Index Model toward the Control of the Sea Phenomenon Accelerated by Human Activity Suzuki Chika , Japan
257	Environmental Impact Assessment of Hydrogen Production System Arita Yuji , Japan

Tuesday, September 15

12:15 – 13:15 Symposion Hall	Materials and Energy Technology –B-
59	Hydrothermal Gasification of Glucose and Starch by Using Batch and Continuous Reactor Kumabe Kazuhiro , Japan
70	Immunoextraction of Bisphenol A Using Antibodies Immobilized on Mesoporous Silicates Kato Katsuya , Japan
104	Feasibility Research on Carbon Capture and Storage Network with Utilization of LNG Cryogenic Energy Huang Hongyu , Japan
173	Product Evolution of Tofu Waste in Low-temperature Hot Compressed Water Tian Yajun , Japan
195	Chemical Recycling of Waste Gypsum as Calcium Sulfide for Metal Recovery from Metal-Containing Wastewater Soya Katsuhide , Japan
213	In Situ Measurements of Water Distribution in a PEFC Membrane by NIR Laser Spectrometry Mizutani Noriyuki , Japan
215	Spectroscopic Measurements of High Temperature Materials in a Premixed Hydrogen-Oxygen Flame Matsuura Hiroyuki , Japan
229	Effects of Ultrasonic Irradiation on Preparation of Particles of Calcium Phosphate Nii Susumu , Japan
232	Influence of Carbon Nanotube Addition on Thermoelectric Properties of Skutterudite-type Cobalt Antimonide Compound Tachikawa Masashi , Japan
236	Synthesis of Higher Manganese Silicide by Pulse Discharge Sintering Method Yoshikura Masaaki , Japan
243	Upgrade Conversion of Spent SiC Abrasive Powder to CNT Particles Sasai Ryo , Japan

253	Thermal Transport Phenomenon on Turbulent Circular Tube Fluid Flow Including Nano-Diamonds Torii Shuichi , Japan
258	Preparation of Porous Alumina Using Needle-like Boehmite Particles and Its Thermal Stability Kojima Takashi , Japan
267	Recycle Technique of Iron Phosphate Containing Sludge Takahashi Masaaki , Japan
271	Heat-release Application of the Carbon-nanotube/silicon-carbide Composite Materials Made from Used-SiC Abrasive Powders Norimatsu Wataru , Japan
274	Nonwoven Activated Carbon Sheet Derived from Textile Waste Disposal Kakuta Noriyoshi , Japan
281	Study on Green Extraction of Condensed Tannins from Wasted Wood by Hydrothermal Process Ishida Yasuyuki , Japan
297	Study on Synthesis of Bio-diesel Fuel and its Application Based on Flow-around Ultrasound Zhu Ning , Japan
12:15 – 13:15 Symposion Hall	Waste and Emission Management –B-
33	Calculation of Adsorption and Desorption of Butane Gas in Carbon Canister Sato Kazunari , Japan
78	Effect of pH and Chloride Concentration on the Figures of Merit of an Electrocoagulation Process for the Removal of Hexavalent Chromium García Antón José , Spain
131	Dechlorination of Pentachlorophenol in an Anaerobic Microbial Column Li Zhiling , Japan
227	Adsorption and Desorption of Some VOCs on Zeolite-based Ceramics by Temperature Programmed Desorption Analyses Yamada Yuki , Japan
242	Effect of Heat Treatment and Composition on the Crystallization Behavior of Melt-solidified Slag Mizutani Moritoshi , Japan
248	Effect of Agitator on Performance of Sonochemical Reaction

	Yasuda Keiji , Japan
247	Enhancement of Enzymatic Saccharification of Wood Biomass by Ultrasound Yasuda Keiji , Japan
254	Lanthanide Extraction Using Chelating Agents in Aqueous Phase Takeuchi Momoe , Japan
268	Transesterification to Biodiesel Using CaO Catalyst under Ultrasonic Irradiation Takai Shinya , Japan
277	Preparation of W/O Emulsion Fuel with Soybean Oil by Ultrasonic Irradiation Morita Tsuyoshi , Japan
287	Estimation of Flow Rate of Droplet in Ultrasonic Atomization Yasuda Keiji , Japan
291	Sonochemical Degradation of Metal Organic Complex in an Aqueous Solution Hayase Takashi , Japan
12:15 – 13:15 Symposion Hall	Information and Communication Technologies
233	Estimation of Fluid Energy in Taylor Vortex Flow Using PIV Method Furukawa Hiroyuki , Japan
284	Small-sized Power Sensor and Wireless Display for Fine-grained Measurement and Presentation Kawaguchi Nobuo , Japan

Wednesday, September 16

World Resource Forum(WRF)

-International Symposium for Future Sound Material Cycle Society and Conservation of Biodiversity-

-Place : Toyota Auditorium, Nagoya University

-Registration fee: Free

Program

10:30-10:40	Welcome address: Prof. Tsuneo MATSUI, Director of EcoTopia Science Institute, Nagoya University
10:40-11:20	Keynote address: Ms.Keiko OMORI, Director, Office of Sound Material-cycle Society,Ministry of the Environment Japan
11:20-12:00	Plenary lecture: Professor Hiroyuki MATSUDA, Faculty of Environment and Information Sciences, Yokohama National University
12:00-13:00	Lunch break
13:00-15:00	Panel discussion Chair:Prof. Kiichiro HAYASHI, EcoTopia Science Institute, Nagoya University <i>Panel speakers:</i> -Mr.Toshio FUJII, Director-General of Department of the Environment, Aichi prefecture government -Mr.Masashi KATO, Former Director of Environmental Affairs Bureau, Nagoya City government - Mr.Takashi Morise, DOWA ECO-SYSTEM CO., LTD. -Ms.Konoe FUJIMURA, Japan Association of Environment and Society for the 21st Century -Ms.Keiko OMORI, Director, Ministry of the Environment, Government of Japan (keynote speaker) -Prof.Hiroyuki MATSUDA, Yokohama National University (plenary lecture speaker)
15:30-19:30 [Video-transmission from Davos]	Opening Addresses Chaired by Xaver Edelmann, President World Resources Forum & Member Board of Directors EMPA

<p>18:00-18:15</p>	<p>-Bruno Oberle, Director, Swiss Federal Office for the Environment (FOEN)</p> <p>-Sigmar Gabriel, Federal Minister for the Environment, Nature Conservation and Nuclear Safety Germany (video message)</p> <p>-Ashok Khosla, Co-President, Club of Rome & President IUCN</p> <p>-Dennis Meadows, President, Laboratory for Interactive Learning & Japan Prize Laureate</p> <p>-Timo Mäkelä, Director, Directorate G. DG Environment, European Commission</p> <p>-Bas deLeeuw, Head, Integrated Resource Management of UNEP</p> <p>Session 1: Why a World Resources Forum?</p> <p>Chaired by Marina Fischer-Kowalski, President, International Society for Industrial Ecology; Chair of the Scientific Board of the Potsdam Institute for Climate Impact Research & Member UNEP Resource Panel</p> <p>-Ernst-Ulrich von Weizsäcker, Co-Chair, UNEP Resource Panel & Takeda Prize Laureate</p> <p>Session 2: Regional Perspectives - Meeting the Challenges</p> <p>Chaired by Ashok Khosla, Co-President, Club of Rome & President IUCN</p> <p>-Aromar Revi, Director, Indian Institute for Human Settlements</p> <p>-Gary Gardner, Senior Researcher, Worldwatch Institute</p> <p>-Harry Lehmann, General Director, Environmental Planning and Sustainability Strategies, German Federal Environmental Agency</p> <p>-Zhouying Jin, Professor, Chinese Academy of Social Sciences</p> <p>- "Beyond Climate Change – FLOW" (Movie, UBA Berlin)</p> <p>Input from Aichi-Nagoya to Davos</p> <p>-Professor Kiichiro HAYASHI, EcoTopia Science Institute, Nagoya University</p>
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