

ICAO  
Colloquium



on Aviation Emissions  
with Exhibition

ICAO Headquarters, Montréal, Canada, 14 – 16 May 2007

**BIOGRAPHIES**



# ICAO COLLOQUIUM ON AVIATION EMISSIONS

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### *Welcome and Introduction*

#### **Mr. Roberto Kobeh González**



Mr. Roberto Kobeh González is President of the Council of the International Civil Aviation Organization (ICAO). He was elected to the position in 2006, after serving eight years as the Representative of Mexico on the Council. During that time, he served as First Vice-President of the Council, Chairman of the Finance Committee, and as a Member of the Air Transport Committee. Beginning in 1966, Mr. Kobeh González held a number of posts of increasing responsibility with his Government's Directorate General of Civil Aeronautics. As Deputy Director General in the areas of Administration and Air Transport, he took part in negotiations on bilateral agreements with various countries. From 1978 to 1997, he served as Director General of the Air Navigation Services of Mexico (SENEAM), the agency responsible for providing navigation, air traffic control, meteorology, and aeronautical communications services. Mr. Kobeh González has also been a professor of aeronautical electronics at the National Polytechnic Institute of Mexico. He received numerous awards, including the Award for Extraordinary Service from the Federal Aviation Administration (FAA) of the United States in 1988. In 1997, he was awarded the Emilio Carranza Medal from the Government of Mexico for his contribution to the development of civil aviation in Mexico for 30 consecutive years. Most recently, in 2004, he received the award for Contribution to the Development of Aviation in the Central American Region from the Central American Corporation for Air Navigation Services (COCESNA).

#### **Mr. John Begin**



Mr. Begin holds degrees in Business Management with a focus in economics and human resources development and a Law Degree with a focus in environmental regulation. He has held a variety of management positions over the past 30 years in the aerospace and airline industries, most recently as the Managing Director for Safety and Environment at the corporate level of Northwest Airlines. Mr Begin has extensive experience with all facets of the environmental field including active involvement in the issues of climate change, local air quality and aircraft noise. He has managed industrial safety programs, has expertise in munitions and explosives safety, is an experienced facility security officer dealing with military classified

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programs, and has several years of experience as an analytical chemist in an environmental laboratory. He was a lead author of the IPCC Special Report on Aviation and the Environment. He has participated on behalf of IATA in the ICAO CAEP Forecasting and Economic subgroup, co-authoring many papers on forecasting and economic analysis. He was appointed to his current post of Deputy Director, Air Transport Bureau effective 6 January 2006.

### **Ms. Jane Hupe**



Jane Hupe is the Chief of the Environmental Unit in ICAO's Air Transport Bureau. Environmental Protection is one of the Three pillars of the Organization alongside Safety and Security, and is one of the six strategic objectives of ICAO – "Minimize the adverse effect of global civil aviation on the Environment"- a major challenge for civil aviation in the upcoming years.

Based in ICAO's headquarters in Montreal since 1998, her responsibilities include the management of the Environmental Unit and the coordination of the activities of the ICAO Council's Committee on Aviation Environmental Protection (CAEP), which consists of Members from States and Observers from intergovernmental organizations and non-governmental organizations representing the aviation industry and environmental interests.

As the CAEP Secretary, Jane has been in the forefront of ICAO's efforts to define and promote policies and standards for aviation environmental protection. She advises the ICAO Council on recommendations to minimize the impact of aviation on the environment, primarily focusing on those problems that benefit most from a common coordinated approach, on a worldwide basis, namely aircraft noise and the impact of aircraft engine emissions. In her work she cooperates with other international forums with an interest on environmental issues related with aviation within and outside the UN family, such as UNFCCC, IMO, UNEP, and ISO. She regularly represents ICAO and contributes papers and articles to aviation and environmental business events and conferences.

Prior to 1998, Jane worked with ICAO as a consultant to ICAO's Technical Cooperation Bureau, providing direct assistance to ICAO's Contracting States in the environmental field. For 15 years she worked for the Institute of Civil Aviation (IAC) in Brazil, serving as an adviser on environmental protection related subjects, developing standards and regulations and representing the Ministry of Aeronautics at government-related environmental forums. She was also the coordinator and a principal lecturer of international courses held by IAC. Among other titles, she holds a Masters degree in Airport

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Management from Ecole Nationale de L'Aviation Civile – ENAC (France), and a Post-graduate degree in Environmental Auditing, from UESA (Rio de Janeiro). Married with two children, Jane speaks English, French, German, Spanish and Portuguese and has dual Brazilian/German citizenship.

### **PANEL 1 – AVIATION EMISSIONS**

#### **THE NATURE OF THE PROBLEM**

##### **Dr. David W. Fahey**

Dr. David W. Fahey is a research physicist in NOAA's Earth System Research Laboratory in Boulder, Colorado, USA. He joined the Laboratory after receiving advanced degrees in physics from the University of Wisconsin and the University of Missouri. His principal research interest is the measurements of trace gases and aerosols in the troposphere and lower stratosphere using instruments on board research aircraft. His interpretative studies have addressed stratospheric ozone depletion, the photochemistry of nitrogen oxides, the formation of nitric acid containing aerosols, and the role of black carbon aerosol in climate. Dr. Fahey has served as a Principal Investigator and Project Scientist for a number of airborne sampling missions with NASA's research manned and unmanned aircraft and as a participant in several international scientific assessments of ozone depletion and climate. He has received the U.S. Department of Commerce Silver and Bronze Medals for Meritorious Federal Service, the American Meteorological Society Henry G. Houghton Award, and is a Fellow of the American Geophysical Union.

##### **Dr. Dave Lister**

David Lister is an emissions specialist with the UK Civil Aviation Authority. Prior to that he was a Technical Manager at the UK Defence Research and Evaluation Agency (DERA) and has spent more than 30 years in the field of engine emissions research and international regulatory development.

He was the co-Chair of the IPCC Special Report on Aviation and the Global Atmosphere, has participated in a number of scientific advisory groups and has contributed to WMO ozone and IPCC climate change assessments.

He currently serves as co-Rapporteur of Working Group 3 (Emissions – Technical) of ICAO Committee on Aviation Environmental Protection.

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He graduated with a BSc in Chemistry and a PhD from Southampton University, UK.

### **Dr. Lourdes Q. Maurice**



Dr. Lourdes Q. Maurice is the Chief Scientific and Technical Advisor for Environment in the Federal Aviation Administration's Office of Environment and Energy. She serves as the agency technical expert for basic and exploratory research, and advanced technology development focused on aircraft environmental impacts and its application to noise and emissions certification. Lourdes manages and provides agency technical leadership for the Partnership for Air Transportation Noise and Emissions Reduction (PARTNER) Center of Excellence. She previously served as the Air Force Deputy, Basic Research Sciences and Propulsion Science and Technology in the office of the Deputy Associate Secretary of the Air Force for Science and Technology. She also worked at the Air Force Research Laboratory's Propulsion and Power Directorate from 1983 to 1999 planning and executing basic, exploratory, and advanced development propulsion science and technology programs, focusing on state-of-the-art aviation fuels and propulsion systems. Her areas of expertise include pollutant formation chemistry, combustion kinetics, hypersonic propulsion, and aviation fuels. She received her B.Sc. in Chemical Engineering and M.Sc. in Aerospace Engineering from the University of Dayton in Dayton, Ohio and her Ph.D. in Mechanical Engineering from the University of London's Imperial College at London, United Kingdom. She is also a Distinguished Graduate of National Defense University's Industrial College of the Armed Forces, where she earned a M.Sc. in National Resource Strategy. Lourdes has served as an advisor to the United Nation's Intergovernmental Panel on Climate Change and the National Academies of Science National Research Council. She is an Associate Editor for AIAA's Journal of Propulsion and Power and serves on the Editorial Board of the International Journal of Aeroacoustics. She has authored over 100 publications and is a 2003 Fellow of AIAA.



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### Dr. Richard C. Miake-Lye

Rick Miake-Lye is a Vice President and Director of AeroThermodynamics at Aerodyne Research, Inc. He is currently serving as the CAEP Research Focal Point on Local Air Quality. Over the past years, he has led a group active in understanding the environmental impacts of airplanes, both in-flight for global impacts and on the ground for local air quality concerns. He is the current chair of the SAE E-31 committee on measurement of aircraft engine emissions, is a participant and advisor to the PARTNER center of excellence on aircraft noise and emissions, and has interacted with many European programs, most recently with OMEGA, a UK center of excellence on aviation and the environment. He was a contributing author to the 1999 IPCC report on Aviation and the Global Atmosphere.



### Dr. Andreas Volz-Thomas

Andreas Volz-Thomas is senior scientist at the Research Centre Jülich, Institute for Chemistry and Dynamics of the Geosphere, and has worked for more than 25 years in the field of atmospheric science. He is coordinator of IAGOS, a European initiative for establishing in-service aircraft as a platform for global atmospheric observations related to climate change and air quality. Over the past years, he was co-author of the IGACO theme report to IGOS, vice chair of the EUROTRAC-2 scientific steering committee and member of the management board of ACCENT, the European Network of Excellence for Atmospheric Research.



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### *PANEL 2 – AVIATION EMISSIONS*

#### *ASSESSING THE MAGNITUDE OF THE PROBLEM*

##### **Mr. Dan Allyn**

Dan Allyn has been an engineer with Boeing for 21 years. During that time he has primarily supported different Commercial Airplane product development programs with a focus on engine performance, nozzle performance, and engine emissions. Dan is currently the Emissions Regulations focal for the Boeing Commercial Airplane Company.

Dan is an active member of ICAO CAEP Working Groups 2 and 3, and the Chairman of the International Coordinating Council of Aerospace Industries Association.

Dan received a MS in Aeronautics and Astronautics and a BS in Mechanical Engineering from the University of Washington.

##### **Mr. Ted Elliff**

Ted Elliff has a joint honours degree in pure and applied chemistry with environmental science.

He is working at the EUROCONTROL Experimental Centre, just outside Paris, where since 1999 he has been responsible for introducing and developing an environmental research work programme for the Agency. Through active participation at a European and International level in technical working groups, a suite of environmental assessment tools have been developed which correspond to international guidance material.

His group at the Experimental Centre has been supporting ICAO since CAEP5 when a first study on benefits of CNS/ATM was carried out. This work has pioneered environmental assessment of operational concepts.

Since joining EUROCONTROL in 1991, early days were spent in the development of RAMS - the fast-time ATM simulator. Later he was involved in working on establishing a Quality culture within the Experimental Centre.

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Before life at EUROCONTROL, Ted was previously working in the UK in the automotive and defence industries.

### **Mr. Gregg Fleming**



As Chief of the Environmental Measurement and Modeling Division at the John A. Volpe National Transportation Systems Center, Mr. Fleming has over 19 years of experience in all aspects of transportation-related acoustics and air quality. He guides the technical work of multi-faceted staff of engineers, programmers and scientists. In support of the Federal Aviation Administration (FAA), he is currently responsible for evaluating, establishing, and maintaining standardized procedures for national and international aircraft noise certification. In addition, he is responsible for the design and development of an entirely new, global aviation noise and air quality assessment tool, the Aviation Environmental Design Tool (AEDT). In support of the Federal Highway Administration (FHWA), Mr. Fleming oversees the development of the FHWA's Traffic Noise Model (TNM). Mr. Fleming is Chairman Emeritus of the Transportation Research Board's Committee for Transportation Related Noise and Vibration, ADC40. He is also a member of the Society of Automotive Engineers' (SAE) Aircraft Noise Subcommittee, A-21, as well as two SAE Project Working Teams. He has served on working groups for numerous national and international standards, including standards dealing with topics such as noise measurement instrumentation, outdoor sound propagation, highway noise barrier evaluation, and vehicle tire/pavement noise.

### **Mr. Roger Gardner**

Roger is Chief Executive of the Omega academic Knowledge Transfer Network on aviation sustainability, based out of Manchester Metropolitan University in the UK. Omega started in January 2007 involving 9 universities and a wide range of stakeholders. Previously Roger headed up work in the UK Department for Transport on air quality and environmental technology aspects of aviation's environmental impact. He has 20 years experience in aviation during which time he has also worked for Defence Evaluation Research Agency and QinetiQ on aviation environmental research management and emissions technical issues.



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### **Dr. Hans Schlager**

Head of Department "Atmospheric Trace Species", DLR- Institute of Atmospheric Physics, Oberpfaffenhofen.

Since 2003 Member of the IGAC (International Program on Atmospheric Chemistry) Steering Group on Intercontinental Transport and Chemical Transformation of Pollutants (ITCT); 2002 – 2004, Member of the VINTERSOL (Validation of International Satellites and Study of Ozone Loss) Coordination Core Group of the European Commission; 1997- 1999, Member of the THESEO (Third European Stratospheric Ozone Experiment) Coordination Core Group of the European Commission; 1994 – 2006, Coordinator of major national and international field experiments (e.g. BMBF Programs "Pollution from Air Traffic" and "Polar Stratospheric Aerosol Experiment"), EU-Projects POLINAT-1, POLINAT-2 (Pollution from Aircraft Emissions), TROCCINOX (Tropical Cirrus and Lightning NOx Experiment), ITOP (Intercontinental Transport of Air Pollutants), AMMA (African Monsoon Multidisciplinary Analyses).

Mr. Schlager has published more than 90 reviewed publications in journals and books.

### **Prof. Ian A. Waitz**

B.S., 1986, Pennsylvania State University

M.S., 1988, George Washington University

Ph.D., 1991, California Institute of Technology

Ian A. Waitz is the Jerome C. Hunsaker Professor of Aeronautics and Astronautics at MIT and Director of the Partnership for Air Transportation Noise and Emissions Reduction (PARTNER), an FAA/NASA/Transport Canada-sponsored Center of Excellence. His principal fields of interest include propulsion, fluid mechanics, thermodynamics, reacting flows, aeroacoustics, and, in particular, aspects of the above that relate to environmental issues associated with aircraft design and operation. Professor Waitz has written approximately 60 technical publications including a report to the U.S. Congress on aviation and the environment, holds three patents and has consulted for many organizations. During 2002-2005 he was Deputy Head of the Department of Aeronautics and Astronautics. He served as an associate editor of the AIAA Journal of Propulsion and Power. In 2003 Professor Waitz received a NASA Turning Goals Into Reality Award for Noise Reduction. He was honored with the 2002 Class of 1960 Innovation in Education Award and appointment as a MacVicar Faculty Fellow in 2003. He is a Fellow of the AIAA, and an ASME and ASEE member.

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### **PANEL 3 – MITIGATION MEASURES**

#### **LOCAL AIR QUALITY**

##### **Associate Prof. John-Paul Clarke**

John-Paul Clarke is an associate professor in the School of Aerospace Engineering at the Georgia Institute of Technology, where his research and teaching address optimization and robustness in aircraft and airline operations, air traffic management, and the environmental impact of aviation. He received S.B., S.M., and Sc.D. degrees from the Massachusetts Institute of Technology and was a faculty member there prior to moving to Georgia Tech. He has also been a researcher at the NASA Jet Propulsion Laboratory and a visiting scholar at the Boeing Company. Dr. Clarke is a member of the Airline Group of the International Federation of Operations Research Societies (AGIFORS), the American Institute of Aeronautics and Astronautics (AIAA), the Institute for Operations Research and the Management Sciences, the Institute of Navigation, and Sigma Xi, the Scientific Research Society. He serves or has served on several national and international committees, including the Aeronautics and Space Engineering Board of the National Research Council, the FAA Research Engineering and Development Committee, the Airspace Systems Program Subcommittee of the NASA Aerospace Research Advisory Committee, the AIAA Air Transportation Systems Technical Committee, the AIAA Technical Committee on Management, and the Aircraft Noise Committee of the Society of Automotive Engineers. Dr. Clarke was the first director of the Partnership for Air Transportation Noise and Emissions Research (PARTNER), the Center of Excellence for Aviation Noise and Aircraft Emissions Mitigation, and is an active researcher in both PARTNER and the National Center of Excellence for Aviation Operations Research. In 1999, he was awarded the AIAA/American Association of Airport Executives (AAAE)/Airport Consultants Council (ACC) Jay Hollingsworth Speas Airport Award, and in 2003 he was awarded the FAA Excellence in Aviation Award. He is also a two-time recipient of the AGIFORS for prize for the Best Innovation in Airline Operations Research.

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### **Ms. Julie Ann Draper**

Ms. Draper is the Special Assistant for International Environmental Planning of the Federal Aviation Administration's (FAA's) Office of Environment and Energy (AEE). This office develops national aviation policy relating to environmental and energy matters. This includes representing the United States in development of international standards relating to aircraft noise and engine emissions in international forums. Ms. Draper serves as an advisor to the AEE Director for developing, coordinating, and presenting agency positions on environmental matters to other federal agencies, particularly those involved in the Next Generation Air Transportation System (NextGen) Plan, and to international bodies, particularly the International Civil Aviation Organization (ICAO). Ms. Draper also serves as Deputy Director for the NextGen Environment Working Group (EWG) and, within ICAO CAEP, as the Co-Lead of Airport Air Quality Task Group of the Operations Working Group 2.



Formerly, Ms. Draper was an Operations Research Analyst in the FAA's AEE. She served as the office's lead subject matter expert on local air quality impacts and her responsibilities included policy, guidance, analysis, and model development. In this capacity, Ms. Draper also was an appointed member of the National Research Council (NRC) Transportation Research Board (TRB) Committee on Environmental Impacts of Aviation. Prior to joining the FAA, Ms. Draper worked as a private consultant on aviation air quality issues and energy model development. Ms. Draper has a degree in Applied Mathematics.

### **Mr. Emanuel Fleuti**

Emanuel Fleuti completed his studies at the University of Berne, majoring in physical geography and computer science. After working as a meteorologist for short term weather forecasting in the private sector and in hazardous waste management with the Federal Office for Environment, he has been working with Unique (former Zurich Airport Authority) since 1990, heading the Environmental Services Department. He is responsible for all environmental topics excluding aircraft noise, but is specialised particularly in environmental management and local air quality. Within this, Zurich Airport has gained worldwide reputation and expertise in airport air quality assessments and mitigation planning. Unique has held an ISO 14401 certificate for its Environmental Management System since 2001, the



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Environmental Department also holds an ISO 9001 certificate for Quality Management. Emanuel Fleuti has participated in a number of different international programs like the IPCC Special Report on Aviation and Global Atmosphere (1999), AERONET II and III and the CAEP process. He also represents the airport in the ADV (German Airports Association), ACI EUROPE and the ACI World Environment Standing Committee, acting as the current chairman. He has also been involved as a consultant in air quality initiatives of international airports and organisations.

### **Mr. Curtis A. Holsclaw**

Curtis A. Holsclaw is currently the Manager of the Emissions Division within the United States Federal Aviation Administration's Office of Environment and Energy located in Washington DC. During his fifteen year tenure at the FAA he has been responsible for policy and regulatory activities related to aircraft noise and engine exhaust emissions certification requirements as well as research and development to advance the state of knowledge and mitigation concerning the environmental impacts of commercial aircraft. Prior to joining the FAA he worked for Douglas Aircraft Company in California for ten years. While at Douglas Aircraft Company he worked in the acoustics engineering department responsible for aircraft noise test and analysis programs and noise certification software development and validation. In addition, he served as an FAA Designated Engineering Representative for acoustics, responsible for findings related to several aircraft noise certification programs. Over the last twenty three years he has been involved in the noise and emissions working groups and several task groups under the International Civil Aviation Organization's Committee on Aviation Environmental Protection. His current role within the ICAO CAEP is as Co-Rapporteur of the Emissions Technical Working Group 3.



### **Mr. Archie Muckle, Jr.**

Archie Muckle, Jr. is an Environmental Officer in ICAO's Air Transport Bureau, Environmental Unit. Archie is under secondment to ICAO from the U.S. Federal Aviation Administration (US FAA), Office of Aviation Environment and Energy (AEE). At the U.S. FAA (AEE), Archie serves as the Special Assistant for Environmental Economic Analysis. Prior to joining AEE, Archie served as the lead economist in the Operations and Regulatory Analysis Branch of the U.S. FAA's Aviation Policy and Plans Office. While in the Policy and Plans Office, he was responsible for developing cost-benefit analyses for more than

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100 regulatory actions ranging from Noise phase-out of Chapter 3 aircraft to check baggage match.

Prior to joining the U.S. FAA, Archie served as chief environmental economist at the U.S. Coast Guard (USCG) Office of Marine Environment and Waterways. While at the USCG, Archie was responsible for various environmental projects involving the economics component of Environmental Impact Assessments, Environmental Impact Statements, and other special projects related to economic implications of the impacts of maritime activities on the environment.

Archie has participated in various groups within CAEP since 2001. During CAEP/7, he served as the Rapporteur of the Emissions Charges Task Force (ECTF). The ECTF was charged with developing the New ICAO Guidance on Aircraft Emissions Charges Related to Local Quality.

B.A. degree in economics from the Fort Valley State University (Agricultural Unit of the University of Georgia), Fort Valley, Georgia (USA). Completed requirements for an M.A. degree in economics from George Mason University, Fairfax, VA) (USA).

### **Mr. Peter Newton**

Assistant Director Aviation Environment, Department of Trade and Industry, UK. Has been involved with aviation environmental issues since joining the DTI in 1990, and has been active in CAEP Working Groups during that time. A member of WG3 (Emissions) and the Forecasting and Economic Support Group (FESG), latterly the leader of the long term technology task group that developed the long term NO<sub>x</sub> goals for CAEP/7. A Lead Author on the IPCC special report on "Aviation and the Global Atmosphere" (1999), and also on the IPCC 4th Assessment Report (2007).

### **Mr. Roger Roy**

Mr. Roger Roy holds a degree in economics from the University of Ottawa in Canada, with a focus on quantitative methods ranging from econometrics, statistics and mathematics. He has held various positions in Canada's federal public service. His work experience includes more than 33 years in the field of transportation, at Canada's transportation regulatory agency and department of transport. He has been involved over the years in a broad range of diversified analytical work related to the air



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transportation sector, including air forecasts, demand analysis, productivity measurement, costs and cost function analysis, benchmarking work, analytical work related to air transport activities' social costs. He served for over 17 years on the board of the Canadian Transportation Research Forum in different capacities, ranging from Councillor, Vice-President to President of the board. Since 1997, he occupies the position of Director General of Economic Analysis at Transport Canada. In that capacity, he has been behind all the eleven Annual Reports on the state of transportation in Canada produced under a statutory requirement spelled out in the 1996 Canada Transportation Act and tabled in Parliament by the Minister of Transport. In relation to ICAO's Committee on Aviation Environmental Protection (CAEP), he was co-rapporteur of the CAEP's Forecast and Economic analysis Support Group (FESG) during the CAEP 6 and 7 work cycle.

### **PANEL 4 – MITIGATION MEASURES**

#### **GLOBAL CLIMATE**

#### **Mr. Juergen Haacker**

Director Operations, IATA

Juergen Haacker joined IATA in May 2005 as Director, Operations with responsibility for Flight Operations, Engineering & Maintenance, Engineering & Environment, Data Base Services and Technical Fuel Management.



Juergen Haacker initially started his career at Lufthansa Airlines as a Maintenance Technician in 1967. After obtaining a Computer Science degree from Hamburg University, he rejoined Lufthansa as Aircraft Systems Engineer, Flight Management and Autopilot Systems. He was engaged in international working groups for flight operations standards and system specifications.

In 1987, he took over the restructuring of the workshop area at the Component Overhaul Division which was required due to the introduction of all new Display and Engine Control Systems.

In 1991, Juergen Haacker was asked to join the restructuring team for Lufthansa Airlines, which planned the introduction of today's aviation group. As a consequence, he moved to Frankfurt to establish an all-new Customer Engineering Organization for the new Lufthansa Technik. During this time, he



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also acted as Chairman of the A330/A340 Customer Community and as a member of the Boeing 747 airline community.

Between 2000 and 2005, Juergen Haacker was involved in critical turnaround projects at the regional aircraft manufacturer Fairchild Dornier and at Thomas Cook, a Lufthansa subsidiary in the leisure airline business. He acted there as Vice President Operations, coordinating all operational activities for the five Thomas Cook European airlines.

### **Mr. Andreas Hardeman**



Andreas Hardeman works for the International Air Transport Association (IATA), the global airline trade association representing about 260 major airlines worldwide. Based at IATA's Executive Headquarters in Geneva since 1997, he is responsible for the negotiation, formulation, and advocacy of industry strategies and policies on a wide array of airline environmental regulatory issues. In June 2004, he was appointed IATA's official observer and spokesman to ICAO's Committee on Aviation Environmental Protection (CAEP) where he also co-chaired the Emissions Trading Task Force from 2004 to 2007.

Andreas has been at the forefront of IATA's efforts to define and promote the role of air transport in sustainable development, building airline industry consensus on aviation policies concerning climate change, local air quality and noise and leading projects to continue to improve the airlines' environmental image and performance. He represents IATA in technical and economic working groups of ICAO and other intergovernmental bodies and regularly contributes papers and articles to aviation business events and magazines. He also lectures aviation environmental issues on various senior management and MBA courses in Switzerland, including IATA's own Training & Development Institute (ITDI).

Prior to joining IATA, Andreas worked as Public Affairs Consultant for KLM Royal Dutch Airlines in Amsterdam, as the Assistant Legal Officer for the UN Economic Commission for Latin America and the Caribbean in Santiago de Chile, and as a trainee for law firms in The Hague and Brussels. He holds degrees in International Air and Space Law (LLM) from the University of Leiden and International Economic Development (MA) from the University of Bradford.

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### **Mr. Ted McDonald**

Mr. McDonald is the manager of environmental protection for Transport Canada's Civil Aviation Directorate. On behalf of his director, Mr. Robert Shuter, CAEP Member for Canada, Mr. McDonald coordinates all civil aviation environmental protection issues for Canada. This includes representing Canada in domestic and international forums dealing with environmental impacts from civil aviation.



Domestically, Mr. McDonald supports Transport Canada's agenda for minimizing emissions from civil aviation including: the voluntary agreement with the Air Transport Association of Canada (ATAC), environmental programs which promote the demonstration and adoption of operational measures contained in ICAO Circular 303, and Canadian environmental research for the modeling and sampling of aircraft engine emissions.

Internationally, Mr. McDonald is currently serving as the Canadian representative to ICAO/CAEP Working Group 3 – Emissions, and as the Secretariat for ICAO/CAEP Working Group 2 – Operations.

Over the past 15 years, Mr. McDonald has worked with a number of federal government departments and agencies in the field of environmental protection. Prior to assuming his current position, Mr. McDonald was responsible for implementing the environmental management system in one of Canada's largest federal departments. He was also part of the initial team that introduced the ISO 14000 series of systems based environmental management to the Government of Canada.

Mr. McDonald holds degrees in environmental science (Carleton University) and education (University of Ottawa). He is also proud to count himself among the over 40,000 private pilots in Canada.

### **Prof. Katsuhiro Yamaguchi**

Mr. Yamaguchi is a Professor at the Graduate School of Public Policy (GraSPP), University of Tokyo. He is in charge of International Transport Policy Research Unit (ITPU) established under GraSPP. Before coming to the university, he was Director of Planning and Research Office, Civil Aviation Bureau, Ministry of Land, Infrastructure and Transport (MLIT), Government of Japan, tasked with aviation policy ranging from airport construction planning

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and financing to strategic issues in both domestic and international air transport including issues related to global warming.

He joined the Ministry of Transport (reorganized as MLIT in 2001) in 1983 and has had broad and extensive experience in policy areas in air transport, land transport, freight forwarding and information technology. He is currently on leave from MLIT and was assigned to the current position in October 2005.

Mr. Yamaguchi holds a Bachelor of Law from the University of Tokyo (1983) and a Master of Business Administration from the University of Michigan (1990). He also has resided in New York and London.

### *Recent articles*

"Inter-regional air transport accessibility and macro economic performance in Japan." *Transportation Research Part E* 43 (2007) pp. 247-258.

"Spatial Benefit Incidence Analysis of Airport Capacity Expansion: Application of SCGE Model to the Haneda Project" in *Global Competition in Transportation Markets: Analysis and Policy Making*, Research in Transportation Economics Vol. 13, Elsevier, 2005. (Co-author; Takayuki Ueda, Atsushi Koike and Kazuyuki Tsuchiya)

## **PANEL 5 – THE WAY FORWARD**

### **Mr. Robert J. Aaronson**

A well-known aviation executive with significant international experience, Mr. Aaronson was appointed Director General of ACI in 2002. He has been involved in the air transport industry for the past thirty years and has in-depth knowledge of the airport business from every perspective. He serves on the Board of the Air Transport Action Group (ATAG), which promotes industry-wide efforts to reduce the aviation contribution to climate change.

He has had direct responsibility for the management and development of six major US airports, including the three airports operated by the Port Authority of New York & New Jersey (PANY&NJ) – John F. Kennedy International Airport, La Guardia Airport and Newark International Airport. His tenure in New York from 1981 to 1989 was preceded by service in the US Government as the top official in the Federal Aviation Administration responsible for nationwide airport standards, safety and development.

From 1989 to 1992, Mr. Aaronson was President and Chief Executive Officer of the Air Transport Association of America (ATA), the trade group of the major North American passenger and cargo airlines. In 1993, he became

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Executive Vice President and General Manager of Lockheed Air Terminal – which became Airport Group International (AGI) and was one of the first firms engaged in worldwide airport development and operations. In 1997, Mr. Aaronson left the management of AGI to establish his own consulting firm, Strategies For Airports, Inc., which subsequently became part of the global Lufthansa Consulting organization and he was appointed its Executive Vice President – Americas.

In 1987/88, Mr. Aaronson served as Chairman of the Airport Operators Council International (one of the predecessor organizations of ACI). He was also President of the (US) National Association of State Aviation Officials, and President of the Wings Club (in New York).

### **Mr. Howard Aylesworth**

Howard Aylesworth is director, civil aviation environment for the Aerospace Industries Association (AIA). He has extensive experience in aviation regulatory and policy matters including aircraft noise and emissions, international trade, and engine and aircraft technology development, certification, production, maintenance and repair.

Mr. Aylesworth, as an ICCAIA advisor to the ICAO Committee on Aviation Environmental Protection (CAEP), introduced the elimination of airport and airspace congestion and delay as a necessary policy measure to reduce aviation emissions, developed the “three-legged stool” approach to reduce aircraft emissions adopted by the ICAO Council and the balanced approach to noise management adopted by the 33rd ICAO Assembly, and has performed economic analysis of emissions standards, market-based measures and other policy options to inform CAEP decisions.

Mr. Aylesworth was a chapter author and steering group advisor to the Special Report on Aviation and the Global Atmosphere which was prepared at ICAO's request by the Intergovernmental Panel on Climate Change (IPCC) in collaboration with the Scientific Assessment Panel to the Montreal Protocol on Substances that Deplete the Ozone Layer, has authored technical and policy papers on aviation environmental matters, assisted in the formulation of aviation provisions to the Kyoto Protocol, has participated in the formulation of NASA research and development programs, and is currently working on economic and policy initiatives to support development of alternative aviation fuels.

Mr. Aylesworth is a member of the FAA Research and Engineering Development Advisory Committee Environment and Energy Subcommittee, the National Academy of Science Transportation Research Board Aviation

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Environmental Committee and its Sustainability Subcommittee, and the Aviation Forecasting and Economics Committee, the FAA Joint Planning and Development Office Environmental Working Group Steering Committee and Policy Panel, and the FAA Center of Excellence (PARTNER) Advisory Board and Environmental Design Space Technical Advisory Board.

Prior to his current position at AIA, Mr. Aylesworth led efforts to eliminate counterfeit and unsafe parts from aviation commerce, and worked on Trade in Civil Aircraft provisions under the General Agreement on Tariffs and Trade (GATT) and the Aircraft Agreement and Subsidies Code Uruguay Round negotiations.

Before joining AIA in 1991, Mr. Aylesworth was Fiscal Planning Services, Inc. vice president for product development, policy consultant to the Lower Mississippi Economic Development Commission, professional staff for the U.S. House of Representatives Economic Stabilization Subcommittee, and marketing specialist for the Maryland Department of Economic and Community Development. Mr. Aylesworth is a past Maryland Commissioner for Indian Affairs and served on the Maryland High Technology Round Table. He received his BA in economics from the University of Denver and his Master of Arts in political economy from the American University.

### **Dr. Taïeb Chérif**



Dr. Taïeb Chérif's career in aviation spans some 35 years. Beginning in 1971, he held various positions of responsibility with the civil aviation authority of Algeria, where he was involved in the full range of airport, airline and air navigation operations, from regulatory and policy work to government relations and technical projects. He also worked in close cooperation with the aviation industry on a number of technical and commercial initiatives.

From 1998 to 2003, Dr. Chérif was the Representative of Algeria on the ICAO Council and, in 2003, he was appointed to his first mandate as Secretary General of ICAO. He was reappointed for a second three-year term, effective 1 August 2006.

During his first mandate, Dr. Chérif focused on further improving the efficiency and effectiveness of the Organization in responding to the evolving needs of ICAO's 189 Contracting States and of the world aviation community into the 21st century. Building from the Strategic Objectives of Organization approved by the Council, the first ever ICAO Business Plan was developed and adopted in 2005. The Plan lays the groundwork for more requirements-driven and results-oriented programmes, enhanced functional integration between

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ICAO headquarters and its seven regional offices and efficient allocation of resources to high-priority areas. Other measures include the integration of results-based budgeting and results-based management into future budgets of the Organization in line with United Nations system-wide reforms; enhanced use of information technology in the promotion and dissemination of ICAO products and services; and adoption of human resources strategies ensuring that the Organization continues to maintain a highly qualified and competent workforce to successfully implement its Strategic Objectives.

In addition to his extensive career in the field of aviation, Dr. Chérif served as Secretary of State for Higher Education of Algeria. He received a PhD in Air Transport Economics from Cranfield Institute of Technology, United Kingdom, and a Diploma in Aeronautical Engineering from the École Nationale de l'Aviation Civile, Toulouse, France.

### **Mr. Daniel Calleja**



Daniel Calleja is Director for Air Transport at the European Commission. He has vast experience at the European Commission where he has been working since 1986.

Between 1999 and 2004, he was Head of Cabinet of the Vice-president of European Commission, Mrs. Loyola de Palacio, responsible for Transport, Energy and relations with the European Parliament. During this period, he participated actively in the elaboration of the EU transport policy and specially to the launching of the Transport White Book, Single European Sky, the proposal for creation of the Air Security Agency, the mandate with the US and the Galileo program.

Between 1995 and 1999, Mr. Calleja was the Head of Cabinet for Commissioner Marcelino Oreja, responsible for institutional affairs, and for Amsterdam Treaty negotiations. In 1995, he was the legal adviser of the President of the European Commission for the Transport, Competition, State Aids and the supervision of the community law execution.

Between 1993 and 1994, he advised the Transport Commissioner in Air Transport area within the framework of several state aid issues for the air company restructuring, the first directive of ground handling, execution of third air package and CRS regulation.

Between 1986 and 1993, he was a Member of the Legal Service of the Commission and he represented this institution in numerous complaints cases in the European Court of Justice.



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Mr. Calleja is the author of several publications, and he is a lecturer in European Law in several universities and institutes of numerous Member States.

### **Ms. Sue McIntosh**

Sue is the General Manager of the Aviation Services Branch of the Department of Transport and Regional Services, Australia.

Sue's responsibilities include aviation environment policy.

Sue recently commenced this role following 4 years in the Office of Transport Security in the Department of Transport and Regional Services.

Sue has bachelor degrees in arts and law and is admitted as a legal practitioner in the Australian Capital Territory.

### **Mr. David McMillan**

David McMillan became the UK's Director General of Civil Aviation at the Department for Transport in April 2004. He was formerly Director of Strategy and Delivery, responsible for the Department's delivery agenda, business planning and relations with the EU.

David has had a long career in the Department and its predecessors, having worked in aviation, integrated transport and Personnel. Key posts have involved a stint as Transport Secretary in the British Embassy in Washington DC; acting as the Secretary of State's Press Spokesman; setting up the NATS public/private partnership; and securing the replacement of Railtrack by Network Rail as the UK's rail infrastructure provider.

David started his career in the Diplomatic Service, serving in Morocco and Zimbabwe. He has a degree in French and Spanish from Edinburgh University.

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### Mr. João Vieira

João Vieira is Policy Officer at T&E, The European Federation for Transport and Environment, since May 2006. T&E is Europe's principal environmental organisation campaigning specifically on transport issues. At T&E, he is responsible for aviation and shipping, focusing particularly in policies and measures to reduce emissions at the EU level and international level, through the work of ICAO and International Maritime Organisation. He graduated in Environmental Engineering in 2001 and became Master in Transport in 2003. Before joining T&E he was a researcher in a transport research group of the University of Lisbon.

### Mr. Wilton Vilanova Filho

Architect, Mr Vilanova holds a Master's degree in Transport Engineering from the Brasília University and has 23 years of experience in Civil Aviation. Currently, Mr Vilanova heads the Infrastructure and Environmental Division at the Department of Studies, Research and Training for Civil Aviation (SEP) at the Brazilian Civil Aviation National Agency (ANAC).



### Mr. Zhou Kaixuan

Zhou Kaixuan is the Deputy Director General of Aircraft Airworthiness Certification Department, General Administration of Civil Aviation of China.

Starting in 1986, he has participated in rule-making of CCAR 36—Noise Certification Regulation. In 2000, he joined the CAAC team for Civil Aviation Emissions and developed the CCAR 34—Aviation Engine Emission Certification Regulation for China.

He is responsible for Airworthiness Certification Affairs including the Environmental Protection Standards in CAAC.

Mr. Zhou Kaixuan is a member of Halons Technical Options Committee, TEAP/UNEP, Montreal Protocol on Substances that Deplete the Ozone Layer now.

As an Observer, he participated in the CAEP/7 meeting, February 2007, in Montreal.