SEVENTH BIENNIAL ROSENBERG INTERNATIONAL FORUM ON WATER POLICY





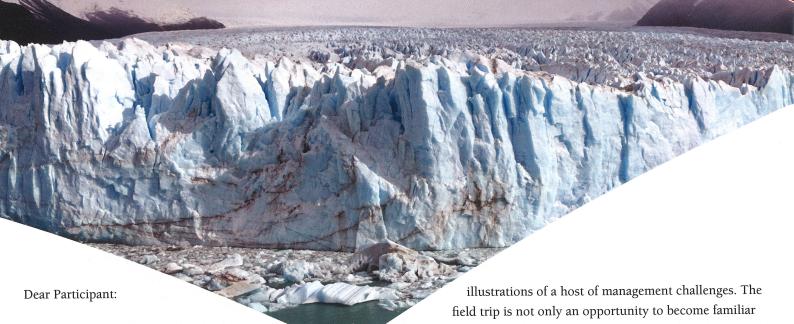








BUENOS AIRES ARGENTINA 15-17 NOVEMBER 2010



On behalf of the Advisory Committee
I welcome you to Buenos Aires, Argentina and
the 7th Rosenberg International Forum on Water Policy. This
year's Forum is held in association with the annual meeting
of the Water Committee of the InterAmerican Network of
Academies of Science (IANAS). We are especially pleased to
welcome IANAS representatives from virtually every country in
the Americas who join us as participants. We are fortunate that
the National Academy of Exact, Physical and Natural Sciences
of Argentina and the InterAcademy Panel (IAP) have joined
with the University of California and the Bank of America as the
principal co-sponsors of this Forum. I especially wish to thank
Dr. Eduardo Charreau, President of the Argentinean Academy
for his generous help in planning and supporting the Forum.

The theme of this Forum is: "Water for the Americas: Challenges and Opportunities". The paper authors come from across the Americas and their writings and presentations will offer different perspectives on hemispheric water problems and the options for addressing them. As usual, the interactive discussions among the participants will be at the core of the Forum. The formal sessions will be held in the San Martin Palace which is the ceremonial facility of the Argentinean Foreign Ministry. I express my appreciation to the Foreign Minister and the Government of the Republic of Argentina for making this splendid facility available to us.

The formal sessions will be preceded by a day long field trip to the delta of the Parana River. The Parana is the second largest river in South America and its watershed provides excellent illustrations of a host of management challenges. The field trip is not only an opportunity to become familiar with the Parana Delta but an occasion for participants to get to know one another in advance of the formal sessions. I hope you will take advantage of these opportunities.

This 7th Forum continues the tradition of an "Artist-in-Residence" established at the 5th Forum. The Artist-in-Residence this year is photographer Bruce Barnbaum of Granite Falls, Washington, USA. Bruce has provided a photograph from the Americas for the Forum poster and he will participate in the sessions. I hope you will make yourself known to him.

This year, we have a large number of co-sponsors in addition to the principals noted above. Their logos can be found elsewhere in this program and on our web site, www.rosenberg.ucanr. org. We are grateful for the support of all of the co-sponsors and are particularly pleased to have a number of Argentinean institutions join with us to support this Forum. I hope you will make yourselves known to the co-sponsors and join with me in thanking them for their support.

I look forward to welcoming each of you to this 7th Rosenberg International Forum in person. I trust that you will find the sessions professionally and personally rewarding and that you will enjoy the pleasant surroundings of Buenos Aires.

Best wishes,

Henry J. Vaux Jr.

Chair

Cover images;

Top: Iguazu Falls. Bottom left to right: Puerto Madero in Buenos Aires, residential facade, Buenos Aires, Congreso Nacional in Buenos Aires, Capital of Argentina, Malbec grape harvest in Mendoza

Pre-Forum Field Trip

La Plata Basin

La Plata Basin, extending over 3.1 million km², includes the south of Brazil, the south east of Bolivia, a large part of Uruguay, the whole of Paraguay and an extensive portion of the central and northern parts of Argentina. The main river systems comprising La Plata Basin are Paraguay, Paraná and Uruguay rivers. The Paraná and Uruguay rivers come together to form the La Plata River, draining to the southwest Atlantic Ocean, with an average discharge of 25,000m³/s.

A large wetland corridor links the Pantanal (in the headwaters of the Paraguay River) with the delta of Paraná River, at its outlet to the La Plata River. This constitutes a surface drainage system with great biological diversity and productivity, intimately linked with its underlying ground water systems, the Guarani and Yrenda-Toba-Tarijeño Aquifers.

Delta of Paraná River

The Paraná River at its outlet to the La Plata River generates the delta el Paraná. The area of approximately 14,000km² has a network of islands and inlets, water channels, rivers and backwaters from a sub-tropical wonderland. The Paraná Delta is one of the few Deltas of the world leading to a river and not a sea. The total length of the Delta is about 320 km with a width that varies from 18 km to 60 km.

The islands of the Delta owe their existence to the large amount of sediment involved in the Paraná River. The banks of sediment are colonized by reeds, grasses and other species that contribute to their roots to consolidate islands which are subsequently colonized by other species.

November 15 (Monday)

| 0845 | Mermoz (Breakfast) Room, Sofitel Arroyo Hotel | | | | |
|------|--|--|--|--|--|
| | Brief explanation about the Pre-Forum Field Trip Site | | | | |
| | Dr. Silvia Rafaelli, Local Organizing Committee | | | | |
| | Dr. Gabriel Raggio, Undersecretariat of Water Resources of Argentina | | | | |
| | Lic. Andrés Carsen, Matanza-Riachuelo River Basin Authority | | | | |
| | | | | | |

Darticipants depart hatal for Dro Forum Field Trin

| 0920 | randipants depart notes for Pre-Forum Field Inf |) |
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1000 Pre-Forum Field Trip departs Buenos Aires harbor for Paraná Delta

1130 Arriving to El Descanso Island Resort at Delta of Paraná River

1200 Welcome

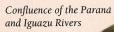
Dr. Andrés Rodriguez, National Director of
Undersecretariat of Water Resources of Argentina
"La Plata Basin and Guarani Aquifer in the Context of
Argentinean Water Resources Management"

1300 Lunch on-site: Argentinean Barbeque

1530 Depart from El Descanso Island Resort

1700 Pre-Forum Field trip returns to Buenos Aires harbor

1930 Reception: National Academy of Exact, Physical and Natural Sciences



Water for the Americas: Challenges and Opportunities

| ľ | NOVEMBER 16 (Tuesday) | | SESSION 2 | 1000 | General Discussion | |
|--|---|---|--|------------------------|--|--|
| | | | "Adaptation to Scarcity: The Range of Choice" | 1100 | Participants Identify Three | |
| 0900 | Opening Ceremony | | Mordechai Shechter, Chair | 1110 | Primary Lessons | |
| | Dr. Henry Vaux, Chair, Rosenberg International Forum | | Helen Ingram, Rapporteur | 1110 | Coffee Break | |
| | Mr. Daniel Dooley, Vice President, University of California | 1415 | "Institutional Response as an Adaptation" | "C | SESSION 5 ases in Transboundary Water | |
| | Dr. Michael Clegg, | | R. Maria Saleth, India | | Management" | |
| | Foreign Secretary, U.S. National | 1435 | Clarifying Discussion | | Robert Sandford, Chair | |
| | Academy of Science | 1445 | General Discussion | | Ariel Dinar, Rapporteur | |
| | Dr. Eduardo Charreau, President, ANCEFN, Argentina | 1530 | Participants Identify Three Primary Lessons | 1130 | "The Mackenzie River Basin" Rob de Loe, Canada | |
| | Canciller Hector Timerman, | 1540 | Afternoon Break | 1150 | Clarifying Discussion | |
| | Ministro de Relaciones Exteriores, Comercio Intenacional y Culto | | | 1200 | "The La Plata River Basin" | |
| | de la República Argentina or | | SESSION 3 | 1200 | Victor Pochat, Argentina | |
| | Minister of Foreign Affairs, Trade | "Supply and Sanitation: How are the | | 1220 | Clarifying Discussion | |
| | and Worship of Republic Argentina | | Unserved to be Served?" | 1230 | General Discussion | |
| | Canciller Jorge Enrique Ministro de Relaciones Exteriores, Comercio | Paul Perkins, Chair Alberto Garrido, Rapporteur | | 1330 | Participants Identify Three | |
| | Internacional y Culto de la | | Miberto Gurriao, Rapporteur | 1330 | Primary Lessons | |
| | Republic of Argentina | 1600 | "Serving the Urban Unserved" | 1345 | Lunch | |
| | Dr. Lino Baranao, Minister of Science Technology and Productive Innovation Government of the Republic of Argentina | | Raul Lopardo, Argentina | | | |
| | | 1620 | Clarifying Discussion | | SESSION 6 | |
| | | 1630 | "Serving the Rural Unserved" Katherine Vammen, Nicaragua | | "The Role of Indigenous Claims to Water and Indigenous Knowledge" | |
| 0945 | Keynote Address Dr. Fabian Lopez, Undersecretary of Water Resources, Government of the Republic of Argentina Break | 1650 | 1650 Clarifying Discussion | | Helen Ingram, Chair | |
| | | 1700 | General Discussion | Ayman Rabi, Rapporteur | | |
| 1015 | | - 1800 | Participants Identify Three Primary Lessons | 1500 | "Pursuing Indigenous Claims" Patricia Avila Garcia, Mexico | |
| | | 1810 | Adjourn for the Day | 1520 | Clarifying Discussion | |
| SESSION 1 "Water Scarcity in the Americas: Common Problems" Henry Vaux, Chair Paul Perkins, Rapporteur | | 1900 | 1900 Visit and Reception: Coleccion de Arte Amalia Lacroze de Fortabat Museum Olga Cossettini 141, Puerto Madero, Buenos Aires | | "The Importance of Traditional Knowledge" Michael Miltenberger, Canada | |
| | | | | | Clarifying Discussion | |
| | Tuul Terkins, Rupporteur | | | 1600 | General Discussion | |
| 1045 | "A Southern Perspective" Abel Mejia, Venezuela | NOVEMBER 17 (Wednesday) | | 1700 | Participants Identify Three Primary Lessons | |
| 1105 | Clarifying Discussion | | SESSION 4 | | | |
| 1115 | "A Northern Perspective" David Getches, USA | "Lessons in Conjunctive Use" Ayman Rabi, Chair Ariel Dinar, Rapporteur | | | CLOSING SESSION Ariel Dinar, Chair | |
| 1135 | Clarifying Discussion | | Artei Dinai, Kapporteur | 1715 | Three Person Reaction Panel | |
| 1145 | General Discussion | 0900 | "Innovative Lessons in Ground | 1713 | Guillermo Donoso, Chile | |
| 1245 | Participants Identify Three Primary Lessons | | Water Management" Tushaar Shah, IWMI, India | | Robert Sandford, Canada Jose Galizia Tundisi, Brazil | |
| 1300 | Lunch | 0920 | Clarifying Discussion | 1800 | General Discussion | |
| 1400 | Lunch Concludes | 0930 | "The Case of Mexico" | 1815 | Closing Ceremony | |
| | | | Blanca Jimenez Cisneros, | 1830 | Adjourn | |
| | | 0950 | UNAM, Mexico Clarifying Discussion | 2100 | Gala Dinner: Sponsored by AySa SA – Aguas y Saneamiento S.A. | |
| | | | | | | |

Patricia Avila, Mexico

Researcher in Political Ecology and Society,
Center for Ecosystems Research of the National
Autonomous University of Mexico (UNAM). Ph.D.
in Social Sciences, received national and international
award by peer researches in Water, Society and
Environment for the National Award in Social
Sciences (National Academy of Sciences). Wrote and
edited several papers and books on water scarcity in
indigenous regions; conflicts over water in cities and
rural areas; and water management in river basins.

Blanca Jimenez Cisneros, Mexico

Ph.D. in treatment and water reuse, expert engineer school, Mexico Environmental Engineers. Researcher of the Institute of Engineering, UNAM. Chair of Environmental Pollution. National System of Researchers, Received the National Prize of Science and Arts 2009. Awarded 2008 National University for Ecological Merit and 2006 The Royal Order of the Polar Star. Chairperson of the Group of Specialists on the IWA water reuse, President of the College Mexico Environmental Engineers and the Mexican Federation of Engineering and Environmental Sciences.

Rob de Loe, Canada

University Research Chair in Water Policy and Governance at the University of Waterloo, and Director of the multi-university Water Policy and Group. Previously Canada Research Chair in Water Management at the University of Guelph. During the past two decades, studied and written extensively about water security, and related concerns such as water allocation, source water protection and climate change adaptation. Provides policy advice to a wide range of government and non-government organizations in Canada. In 2008 named Chair of the Advisory Panel, Royal Bank of Canada's Blue Water project, a \$50 million, 10-year charitable grant program.

Guillermo Donoso, Chile

Ph.D. in Agricultural and Natural Resource
Economics at the University of Maryland, College
Park. National Director of the Instituto de
Investigaciones Agropecuarias de Chile and Full
Professor of the Agric ultural Economics Department
of the Pontificia Universidad Católica de Chile. Focus
on water economics, markets for water rights, water
quality management.

David H. Getches, USA

Dean, University of Colorado Law School and Raphael J. Moses Professor of Natural Resources Law. Taught and written in water law, Indian law, and natural resources; authored many books, book chapters, and articles on water law and policy. From 1983-1987, served as Executive Director of the Colorado Dept of Natural Resources under Governor Richard D. Lamm. Consulted widely on water policy with governmental agencies and non-governmental organizations throughout the United States, Latin America, and Europe.

Raúl Lopardo, Argentina

Hydraulic and Civil Engineer, La Plata
University, Argentina. Doctor, Mention
Physical Sciences University of Toulouse, France.
President of the National Water Institute of
Argentina (INA). Professor of Basic Hydraulics at La
Plata University. Past President of the IAHR Latin
American Council. Member of the National Academy
of Engineering (Argentina), the National Academy
of Physical and Natural Sciences (Argentina), the
Buenos Aires Academy of Engineering and the PanAmerican Academy of Engineering.

Fabián López, Argentina

Under-Secretary of Water Resources of Argentina. Ph.D. in Civil Engineering from University of Illinois at Urbana-Champaign, USA (1996) and Civil Engineer of the National University of Cordoba Argentina (1987). Director of the Provincial Department of Water and Sanitation of Province of Cordoba and Regular Tenured Professor of Fluid Mechanics at the National University of Cordoba and Scientific Researcher at National Council of Scientific and Technical Research of Argentina.

Abel Mejia, USA

Abel Mejia is an international water consultant. Water Manager at the World Bank until 2009. Civil Engineer from Catholic University in Caracas, MS in Civil and Industrial Engineering from Stanford, and Executive training at Harvard.

J.Michael Miltenberger, Canada

Legislative Assembly of the Northwest Territories. Reelected to his fourth consecutive term as the Member for Thebacha representing Fort Smith. Appointed to Cabinet in 1999, re-appointed in 2001, and 2003. Served on Cabinet on portfolios, including: Education, Culture and Employment, Health and Social Services, and Environment and Natural Resources. Served as the Minister responsible for the Workers Compensation Board, Northwest Territories Housing Corporation and the Minister responsible for Seniors, the Disabled, and the Homeless.

Victor Pochat, Argentina

M.S. in Engineering, University of California; Civil Engineer, Univ. Nacional de Cuyo. Regional Consultant in charge of UNESCO IHP for Latin America and the Caribbean; Professor, Graduate Courses on Water Resources Management. Formerly: International Consultant on Water Resources Planning and Management; Undersecretary for Water Resources; President, Hidroeléctrica Norpatagónica S.A.; President, National Institute for Water Science and Technology.

R. Maria Saleth, India

Currently the Director of Madras Institute of Development Studies, Chennai, India. Previously with the International Water Management Institute, Colombo, Sri Lanka. Works in the areas of water resource management, water institutions, agricultural policies, and impact assessment.

*Bob Sandford, Canada

EPCOR Chair of the Canadian Partnership Initiative in support of the United Nations Water for Life Decade. Director of the Western Watersheds Climate Research Collaborative in Canada.

Speakers

Tushaar Shah, India

Economist and public policy specialist, former director of the Institute of Rural Management at Anand in India. Research interests in water institutions and policies in South Asia with extensive publications. Notable contributions in comparative analyses of groundwater governance in South Asia, China and Mexico. Interests in comparative analyses of water institutions and policies across Asia and between South Asia and Sub-Saharan Africa. Outstanding Scientist award of the Consultative Group of International Agricultural Research (CGIAR) in 2002. Senior Fellow of the Colombobased International Water Management Institute

Hector Timerman, Argentina

Politician and journalist, designated by the Ministry of Foreign Affairs, International Trade and Worship of Argentina since June 2010. Recently, Argentina's Ambassador to the United States of America.

José Galizia Tundisi, Brazil

Graduated in Biology in 1962, at the University of S. Paulo; in Oceanography (MsC) in 1965, at the University of Southampton; in Ecology (PhD) in 1969, at the University of S.Paulo. Chairman of the IAP Water Programme and co-chair of IANAS Water Programme for the Americas (jointly with Dr. Blanca Jiménez), since 2004. All countries of the Americas joined the IANAS Water Programme and 60 countries of the world joined the IAP Water Programme.

Katherine Vammen, Nicaragua

Ph.D in Philosophy and Letters from the University of Salzburg, Austria, specializing in biochemistry. Currently Deputy Director of the Nicaraguan Research Center for Aquatic Resources at the National Autonomous University of Nicaragua involved in research on water management in the main watersheds, and IANAS member.

Oktay Aksoy, Turkey

Graduate of Law Faculty, University of Ankara. Served as Turkish diplomat at Turkish Missions in Geneva and New York and at Turkish Embassy in Moscow and as Turkish Ambassador in Helsinki, Amman and Stockholm.Participated at many UN General Assemblies and ECOSOC meetings, and international conferences including UNIDO II Lima, UNCTAD IV Nairobi, Law of the Sea Conferences N.Y. & Geneva, Earth Summit Rio de Janeiro and Rosenberg Fora since 2002.

Antonio Embid, Spain

Professor in the Faculty of Law, Univesity of Zaragoza. Researcher in the Alexander von Humboldt Foundation. Worked in the Max Planck Institute in Heidelberg (Germany). Author or coauthor of 20 books and over 100 articles in major national and international journals. Doctor honoris causa for the University National of Cuyo (República Argentina, 2008) y Mendoza (República Argentina, 2009) and has the Gran Cruz de Alfonso X el Sabio (2007).

Mercedes Arellano, Cuba

Geophysical Engineer; Geological Sciences PhD. From 1972 to 1998, worked in groundwater prospecting and contamination activities. From 1999, working in the Environmental Agency as Director of Cuban Gov./UNDP-GEF Project devoted to biodiversity protection and conservation. National Focal Point IANAS Water Programme member.

Margaret Catley-Carlson, Canada

Works on Boards to support improved water resource management agricultural productivity and rural development: WEF Council on Water, Foresight Advisory Committee for Group Suez Environment, UN Secretary General's Advisory Board on Water, Rosenberg Forum, Canadian Water Network, Global Water Partnership. Chairs Board Crop Diversity Trust, on Council of Advisors of the World Food Prize, and Syngenta Foundation, IFDC (Fertilizer Management). Former Chair of CIDA, #2 of UNICEF. Officer Order of Canada, various honorary degrees.

Eduardo Charreau, Argentina

President, National Academy of Exact, Physical and Natural Sciences of Argentina, Senior Investigator of the National Research Council. Ph.D in Chemistry at Buenos Aires University; began his scientific career under the supervision of Bernardo Houssay, the first Nobel Prize laureate to South America. During 2002-2008, President of the National Research Council of Argentina (CONICET). Presently, Director of the Institute of Biology and Experimental Medicine-IBYME (CONICET), a prestigious center of reference in molecular endocrinology.

Michael Clegg, USA

Research specialty in population genetics and molecular evolution. Elected Foreign Secretary of the US National Academy of Sciences in 2002 and reelected in 2006 and 2010. Associate Fellow of the Academy of Sciences of the Developing World, a corresponding Member of the National Academy of Exact Physical and Natural Sciences and of the Academia de Agronomia and Veterinaria of Argentina.

Osiris de Leon, Dominican Republic

Geologist, expert in ground water exploration using geophysical methods. Member of the board of directors of the Academy of Science of Dominican Republic, and
President of the natural
sciences and environment
comission of the Academy of Science.

*Ariel Dinar, USA

Department of Environmental Sciences, University of California, Riverside, USA. Previously worked as Lead Economist in the Development Research Group, World Bank, Washington DC. Focus on Economic and institutional aspects of water management at regional and international levels.

Dan Dooley, USA

Senior Vice President, University of California System for Agriculture & Natural Resources and External Relations. Director of the Agricultural Experiment Station and Cooperative Extension

Elias Fereres, Spain

Professor, Univ. of Córdoba, Spain, and Researcher, Institute of Sustainable Agriculture, (IAS-CSIC, Cordoba). Dr. Agr. Engn., Polytech. Univ. of Madrid; Ph.D. Ecology, Univ. of California, Davis. Expertise includes water sciences and engineering in relation to agriculture and the environment. Research interests focused on water use and food production and on the sustainability of water-limited agriculture.

*Alberto Garrido, Spain

Professor of Agricultural and Natural Resource Economics (1999-). Director of the Research Centre for the Management of Agricultural and Environmental Risks (CEIGRAM) of the Technical Univ of Madrid (2010-).

Ernesto J. Gonzalez, Venezuela

Researcher from the Faculty of Sciences, Central University of Venezuela (UCV). Biologist (UCV-1987) and Dr. in Ecology (UCV-1996). Chief of the Laboratory of Limnology (UCV).

Piet Heyns, Namibia

Professional Civil Engineer and water consultant. Past Head of the Dept of Water Affairs in Namibia and served in five water commissions on the border rivers of Namibia. Chaired the Water Resources Technical Committee of the Water Division of the Southern African Development Community, member of the World Bank Advisory Group on Water Resource Management in Africa and member of the first Steering Committee of the Global Water Partnership. Degrees in Science and Water Engineering from the University of Stellenbosch in South Africa, member of the South African Institute of Civil Engineers and an Associate of the Desert Research Foundation of Namibia. Published 20+ papers, wrote numerous articles, contributions to books and edited publications on water matters.

Hugo Hidalgo, Costa Rica

Professor from the University of Costa Rica, Surface Water Hydrology and Water Resources Hydroclimatic variability and change

Keith Hipel, Canada

Professor of Systems Design Engineering, University of Waterloo in Canada. Coordinator of the Conflict Analysis Group, and Senior Fellow with the Centre for International Governance Innovation. Major research interests are the development of conflict resolution, multiple objective decision making and time series analysis techniques from a systems engineering perspective with water resources applications.

Holger Hoff, Sweden

Research fellow at the Stockholm
Environment Institute (SEI) and at
the Potsdam Institute for Climate Impact
Research (PIK). Coordinates the Green-Blue Water
Initiative for bridging science and water resources
management and development. Co-chairs several EU
projects with a focus on eco-hydrological modeling,
ecosystem services and climate vulnerability. Advises
development agencies on climate proofing and
adaptation.

*Helen Ingram, USA

Research fellow at the Southwest Center, University of Arizona and Professor Emerita at the University of California at Irvine. Among her numerous books and articles on water policy are several related to the U. S./Mexico border.

Bill Jury, USA

Emeritus Distinguished Professor of Soil and Water Sciences, Dept of Environmental Sciences, University of California, Riverside. Conducts research on water and chemical movement and reactions in soil and groundwater, and global water resources. Published 225 papers and 4 books. Fellow of the American Association for the Advancement of Science, the Soil Science Society of America, and the American Geophysical Union, and elected to the U. S. National Academy of Sciences in 2000. Served as Department Chair, Vice Provost for Academic Personnel, Interim Executive Vice Chancellor and Provost at UCR, and was the inaugural chair of the Faculty Academy of Distinguished Teaching.

Rivka Kfir, South Africa

M.Sc degree in Life Science from Weizmann Institute of Science, Rehovot, Israel and a D.Sc in Medical Microbiology, University of Pretoria. From 1978 to 1996 worked at the Council for Scientific and Industrial Research (CSIR), as Senior Research Officer at the National Institute for Water Research then to Programme Manager (Health Programme) and later Acting Director of the Division of Water Technology. Technology Manager in the CSIR and In 2000 joined the NRF as Executive Director: Knowledge Management and Strategy. Since July 2001, Chief Executive Officer of the Water Research Commission (WRC).

Julio Kuroiwa, Peru

Civil engineer specialized in water resources, hydraulic infrastructure and environmental control. Currently Director of the National Hydraulics Laboratory, which is a research center of the Universidad Nacional de Ingenieria (UNI- Lima, Peru) and Associate Professor at the School of Civil Engineering. Conducts applied research and specialized consulting at UNI and in the private practice. He is a member of the American Society of Civil Engineers. Graduated B.Sc. at UNI in 1990; M.Sc. (Colorado State University, 1993); Ph.D. (Colorado State University, 1999)

Ramon Llamas, Spain

Emeritus Professor of Hydrogeology at the Complutense University. Fellow of Spain's Royal Academy of Sciences. Author or co-author of one hundred books or monographs and about two hundred scientific papers. President of the International Association of Hydrogeologists (1984-1989). Vice-president of the International Water Resources Association (2001-2003).

Rodrigo Maia, Portugal

Ph.D in Civil Engineering, Associate Professor at the Faculty of Engineering of the University of Porto and currently the Vice-President of EWRA (European Water Resources Association). Author/co-author of 4 chapters in books with more than 70 publications in international periodicals with referee and papers in conference proceedings. In the last years, involved in several national and international projects, namely European Projects (5th, 6th and 7th Framework Programme) dedicated to water resources management. Currently responsible for the creation of a Drought Early Warning Management System for the Portuguese National Water Authority.

Ken Matthews, Australia

Retired Chair and CEO of Australia's National Water Commission. Previously, Secretary (CEO) of the Australian Federal Department of Transport, and also the Department of Agriculture. James McPhee Chile Civil Engineering degree in 1999 from Universidad de Chile, and a PhD from UCLA in 2004. My interests include surface water hydrology and water resource systems. Currently I am an Assistant Professor at the Department of Civil Engineering, Universidad de Chile.

Abdel Fattah Metawie, Egypt

Chairman of the Nile Water Sector and Permanent Joint Technical Committee (PJTC). Governor of the World Water Council, Vice President of the Mediterranean Water Institute Marseille-France, the Hydrological Advisor of the World Meteorological Organization in Egypt and Member of the Technical Advisory Committee for Nile Basin Initiative.

*Paul Perkins, Australia

Independent chair Iof research and waste management organizations in Australia. An Adjunct professor at the Australian National University, he has a long history of leadership in environmental policy and operational management with emphasis on water.

John Pomeroy, Canada

Director of the Centre for Hydrology at the University of Saskatchewan, Canada and an expert on cold regions hydrology, climate and hydrological prediction in ungauged basins.

*Ayman Rabi, Palestine

More than 20 years experience in water and its related issues. Participated in several local, regional and international research related to water and environment and was a member of Sustainable Water Supply Committee for the Middle East, sponsored by the US National Academy of Sciences.

Silvia Rafaelli, Argentina

Doctorate in Engineering Sciences. Involved in water resources management projects of national and international basins in South America. Recently, acted as Advisor of the Argentinean Water Resources Under-Secretariat. International technical coordination of the regional GEF project:

A Framework for Sustainable Water Resources Management in La Plata Basin, during the designing phase (2003-05).

Raymond R. Reid, Jamaica

Graduate from the University of the West Indies, Mona, Kingston, Jamaica, West Indies with over 15 years of research experience in water and waste analyses. Working on positve impacts on water conservation and use in the environment.

Gabriel Roldan, Colombia

Director Grupo de LimnologiaUniversidad Catolica de OrienteCampo de trabajo: limnologia de embalses y bioindicadores de calidad del agua.

Marcos Scheuenstuhl, Brazil

Project Director at the Office of International Affairs of the Brazilian Academy of Sciences. Program Director of the IAP Water Program and Executive Secretary of the Inter-American Network of Academies of Sciences (IANAS), 2004-2010. Worked with the network of water researchers and managers, aiming at the enhancement of water management capacity in the developing world. Background in economics.

*Moti Shechter, Israel

Professor (Emeritus), Department of Economics; Chair, Graduate Department of Natural Resource & Environmental Management, School of Management (until October 2010); Director, Natural Resource & Environmental Research Center, University of Haifa, Israel. October 2010, Dean, School of Sustainabilty, Inter-Disciplinary Center. Served as Rector (Provost), Dean of Research, Economics Department Chair, and Senior Faculty Association Chair. President of Tel-Hai Academic College. Taught and published extensively on environmental economics and management, natural resource economics, and public sector economics.

Lorne Taylor, Canada

Minister of Environment for the Gov't of Alberta and presently the Chair of the Alberta Water Research Institute as well as a member of the Premier's Council On Economic Strategy. Fernando Urquidi Bolivia Full Member (Treasurer) of the National Bolivian Academy of Science. IANAS Focal Point for Bolivia. Geologist. Ph.D in Applied Geochemistry. Research carried out in underground waters.

Peter van Niekerk, South Africa

Water Resources Expert in the Dept of Water Affairs, South Africa, specialist advisor and representative at international commissions on shared rivers. Role includes enhancing the image of the Department's water resources component and assists in activities shaping its direction. Two Masters Degrees: University of Stellenbosch and Stanford University, California. He is an elected Fellow of the South African Institution of Civil Engineers as well as the South African Academy of Engineering.

*Henry Vaux, USA

Professor of Resource Economics, Emeritus, at the University of California. Served on the faculty for over 40 years. Also served as Associate Vice President of the UC System. Chair of the Rosenberg International Forum on Water Policy.

Alexander J.B. Zehnder, Switzerland

Scientific Director of the Alberta Water Research Institute (AWRI) in Edmonton, Canada, founder and director of triple Z Ltd., Professor emeritus of ETH Zurich, and former president of the ETH Board, the governing board of the ETH-system. He has been on the faculty of Stanford University, Wageningen Agricultural University, the Netherlands, and directed for 12 years EAWAG, the Swiss Water Research Institute.



Andres Rodriguez, Argentina

Dirección Nacional de Conservacion y Proteccion de los Recursos Hidricos

Agueda Suarez de Menvielle, Argentina

Dirección Nacional de Relaciones Internacionales del Ministerio de Ciencia, Tecnologia e Innovación Productiva

Marta Rovira, Argentina

Consejo Nacional de Investigaciones Cientificas y Tecnicas

Diego Tettamanti, Argentina

Ministerio de Relaciones Exteriores Culto y Comerccio Internacional de la Nacion

Silvia Merega, Argentina

Ministerio de Relaciones Exteriores, Comercio Internacional y Culto

Juan Carlos Bertoni, Argentina CONAPHI

Edgardo Atilio Bortolozzi, ArgentinaEnte Nacional de Obras Hidricas de Saneamiento

German Enrique Gracia, Argentina Consejo Hídrico Federal-COHIFE

Jorge Victor Pilar, Argentina Arg Cap-NET

Jorge Grandi, Argentina, Paraguay, Uruguay UNESCO

Carlos Humberto Ben, Argentina

Agua y Saneamientos Argentinos S.A.

Enrique Genzone, Argentina Siemens Argentina S.A.

Fernando Huergo, Argentina Fundacion SIEMENS

Conrado Bauer, Argentina

Centro Argentino de Ingenieros

Bruce Barnbaum, USA Artist-in-Residence.

David Hill, CanadaAlberta Water Research Institute

Val Mellesmoen, Canada Alberta Water Research Institute

* 2010 Rosenberg Forum Advisory Committee Member

We would like to thank the sponsors of the 7th Biennial Rosenberg Forum:























Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura Oficina Regional de Ciencia para América Latina y el Caribe







THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

Forum Coordinator: Kimberly Lane-Beaird, University of California

Local Coordinator: **Gabriela Galante, ANCEFN**

Local Organizing Committee: Eduardo Charreau, Raul Lopardo, Victor Pochat, Silvia Rafaelli