

International Symposium

Enhancing Water Management Capacity in a Changing World:

Science Academies Working Together to
Increase Global Access to Water and Sanitation

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Cameroon

Mathias Fru Fonteh

Mathias Fru Fonteh (call him Mat) is an agricultural engineer specializing in water resources management, with a Bachelors degree from Cranfield University, a Master of Science degree from the University of Newcastle Upon Tyne, both in the UK, and a doctorate degree from Colorado State University, Fort Collins, in the USA. He is a Cameroonian national and currently an Associate Professor and Head of the Department of Agricultural Engineering, in the Faculty of Agriculture at the University of Dschang in Cameroon. Mat is the coordinator of the post graduate program in water resources management at the University of Dschang, a program he initiated in 1996.

Mat has over 25 years of experience as a faculty member, teaching, conducting research and outreach in water resources management. He has supervised numerous theses both at the undergraduate and post graduate levels and is the author of several publications. As the chairperson for Global Water Partnership (GWP) in Cameroon he supervised and facilitated the process for elaborating an Integrated Water Resources Management strategy for Cameroon. He is also the rapporteur of the Scientific and Technical Committee of the GWP in Central Africa. Mat is a steering committee member of the Network of African Science Academies (NASAC) water program. He is the author of the Cameroon Water Development Report which was a contribution to the African Water development report. From September 2011 to May 2012 he was briefly the National Director of Water Resources with the Ministry of Water Resources and Energy in Cameroon.

Mat has worked as a consultant for the Global Water Partnership Organization; the European Union; the Food and Agricultural Organization; the Economic Commission for Africa; the International Water Management Institute, the African Development Bank and the United Nations Industrial Development Organization.

All the above have given him very good insights into the challenges of water resources management with regards to policy, research and training.



Kenya

Daniel Olago

Daniel Olago is a Senior Lecturer at the Department of Geology, University of Nairobi. Following his selection as RHODES Scholar for Kenya in 1990, he obtained his Doctor of Philosophy degree in Physical Geography at the University of Oxford, England. Prior to that, he was a DAAD Scholar at the University of Nairobi.

His research interests are in the following areas: Environmental geology and hydrogeochemistry, Palaeoclimatology, Geolimnology and water resources, and Human impact on the environment. He has published widely in these fields of research and in 1998 won the International START Young Scientist Award for the research paper "Long-term temporal characteristics of palaeomonsoon dynamics in equatorial Africa" that was published in the international journal *Global and Planetary Change*.

Dr. Olago has been involved in multi-disciplinary research, training and capacity building activities on global environmental change in sub-Saharan Africa for about 20 years. He is currently a member of the International Lake Environment Committee (ILEC). He serves

on the Editorial Boards of the following international journals: Quaternary International, The Holocene, and Palaeoecology of Africa. He is immediate past Chairman of the Geological Society of Kenya, and member of the Kenya National Academy of Sciences, focal point for Water.



Mauritius

Sunita Facknath

Sunita Facknath obtained her graduate and Masters Degree from the University of Pune in India. She then obtained two doctorates, one from Middlesex University in the UK, and later on, one from the University of Mauritius. She joined the University of Mauritius as an Assistant Lecturer/Lecturer and went on to become a Professor at the Faculty of Agriculture, University of Mauritius. Her area of expertise is in Sustainable Agroecosystems and Climate Change.

While she headed the Department of Agriculture and Food Science, she was an active researcher, led several research teams, and supervised a large number of students. Her research interests are mainly in the fields of sustainable ecosystems (including agro- and forest ecosystems), biodiversity, and climate change. She has teamed with other researchers in areas such as water management in agriculture, rainwater harvesting for agroecosystems, land use, land cover change, and many more. Within these areas of specialization, Prof Facknath has published a large number of papers in national, regional and international journals, in addition to conference proceedings, chapters in books, technical reports, and articles in practitioner magazines, newspapers and newsletters.

Prof Facknath has been invited to a large number of international conferences/symposia in many parts of the world, and has also completed several consultancies for EU, FAO, UNDP, UNEP, Government of Mauritius, as well as for private companies.

Prof Facknath is also very active in social projects: she is a founder member of the Rotary Club of Ebene Mauritius, and presently Chairperson of the Rotary Foundation Committee and a member of the Project Services Committee.



Senegal

Cheikh Bécaye Gaye

Cheikh Bécaye Gaye was born in Louga, Sénégal, in 1950. He has a MSc degree in Geology and a PhD in Hydrogeology (UCAD, Senegal, 1990), as well as a degree of specialist in isotope hydrology from the University of Paris VI (1976). He is a Full Professor and chair of the Hydrogeology since 1994. He is currently responsible for the Doctorate program in Hydrogeology within the framework of the doctoral school "EDEQUE" which includes all aspects of water, ranging from hydrology and hydrogeology to water usages and water law.

From 1999-2006, Dr. Gaye was an isotope hydrology expert at the International Atomic Energy Agency in Vienna, Austria. In that role, he brought together networks of international experts to share information and research and promote the use of isotope tools to manage water resources throughout Africa. He also provided leadership in scientific training and integrating isotope hydrology into teaching curricula.

He is currently the President of the Senegalese national committee for the UNESCO IHP and he is the coordinator of the G-WADI for Sub-Saharan Africa (a UNESCO project dedicated to networking for information on water resources in the arid and semi-arid regions). He was elected full member of the National Academy of Sciences and Technology of Senegal in 2007. He is a member of the Steering Committee of the

NASAC water programme and has coordinated a desktop study on water issues in western Africa with the academies of Ghana and Nigeria.

Dr. Gaye is a member of several scientific and professional associations and has been an associate editor of the Hydrogeology Journal for several years. He has authored or co-authored more than 120 scientific publications in scientific journals and conference proceedings.



Senegal

Salif Diop

Salif Diop is a Senior Staff Member of UNEP, in the Scientific Assessment Branch - Division of Early Warning and Assessment (DEWA). He is a water expert with broad experience in various aspects of scientific assessment of freshwater, coastal and marine resources and coastal oceanography as well as in areas related to the management and sustainable development of the environment.

Prof. Diop holds a Third Cycle Doctorate (PhD) from the University Louis Pasteur (Strasbourg, France), defended in 1978, and a "State Doctorate" (Doctorat D'Etat) that he defended in the Same University in 1986. He spent a sabbatical year (1986-1987) in his capacity as Senior Fulbright Scholar at RSMAS (Rosenstiel School for Marine and Atmospheric Sciences), University of Miami, USA, at the Division of Biological Sciences and Living Resources.

Diop is a member of the National Academy of Sciences and Techniques of Senegal (ANSTS), since February 2006; the African Academy of Sciences (AAS) - based in Nairobi, Kenya, since Dec 2009; and the Academy of Sciences for the Developing World (TWAS). He is also a member of numerous Societies and Scientific Committees, Commissions and Working Groups, among which are: the special committee IGBP/ICSU – Global Change programme (1987/90); UNESCO/UNEP Task Team on the Impact of expected climatic change on mangroves ecosystems (1992-1994); Working Group Chairman of UNEP's Washington Conference on GPA/LBA (Oct. 1995); IPCC Working Group II on impacts of Climate Change on African coastal and marine resources (since 1997); CBD Experts Group on marine and coastal biological diversity (since Feb. 1997); National Experts Group on biodiversity strategy of Senegal; Chairman of the Experts meetings on Environment and Development in Coastal regions and Small islands – UNESCO, Paris (Nov. 96 and Nov. 98); Member of the Editorial Board of Wetlands Ecology and Management Journal - Kluwer Academic Publishers - Dordrecht/Boston/London; Member of the NEPAD Water Task Team for the creation of Centers of Excellencies on water sciences and technology (2005-2006); President of the ISME (International Society for Mangrove Ecosystems) based in Okinawa, Japan (from 2005 to 2007 and from 2008 to 2011); Member of 10th Term of the Scientific Committee of International Lake Environment Committee Foundation based in Shiga, Japan (from April 1, 2010 to March 31, 2013).

Prof. Diop has more than 40 referred publications with 5 Books as main author and co-author. Other 120 publications can be added to his own list as technical documents, research work, *monographs, thesis, abstracts and book reviews.*



South Africa

Rivka Kfir

Rivka Kfir is currently serving as a senior advisor to the University of Pretoria Water Institute. From 2001-2011 she held the position of the CEO of the South African Water Research Commission (WRC). In 2000, she joined the National Research Foundation as an Executive Director: Knowledge Management. From 1996-2000, she served as the CSIR's Technology Manager and from 1994-1996, she was acting Director of the Division of Water Technology at the CSIR. From 1986-1994, she was acting as a Leader of the Microbiology Group and thereafter as the Programme Manager of the Health Programme, both at the CSIR.

Prof Kfir has a Ph.D. from the University of Pretoria and MSc (*Cum Laude*) in Management, from London Business School. Her doctorate study compared indirect and direct re-use of water focused on direct reclamation of sewage effluent into water of potable quality. Thereafter, she was involved in a wide range of researches on water and health issues, including research on *Microcystis* (a prominent blue-alga) bloom, land and water uses (from domestic to agricultural use), water microbiology, chemical toxicology and biotoxicology.

Dr Kfir authored and co-authored about 80 refereed publications and more than 200 business reports. She co-supervised both PhD and MSc students. She has served on national research committees, presented many papers and keynote addresses and was a guest speaker at numerous local and international conferences. She has served on numerous international committees and Boards and chaired a number of global initiatives such as the Streams of Knowledge and a coalition of resource centres, addressing water and sanitation. She has actively been involved in NEPAD's initiative aiming at building centres of excellence for water research in Africa, and has been representing South Africa's Academy in many gatherings addressing water research.



Uganda

Albert Rugumayo

Albert Rugumayo studied civil engineering at the University of Zambia and later specialized in hydrology and water resources engineering at the University College, Galway, Republic of Ireland and at Washington International University.

He worked with Gauff Consulting Engineers as a design and supervision engineer on water and road infrastructure projects for over ten years before joining Government. First, with the Ministry of Health he was responsible for health infrastructure and later with the Ministry of Natural Resources he worked as a Technical Advisor for a World Bank funded rural water supply project. He then served in the Ministry of Education and Sports as a Coordinator for technical education programmes and in the Ministry of Energy and Mineral Development as the Coordination Manager for the World Bank funded Energy for Rural Transformation project Phase One.

Dr. Rugumayo lectures at Ndejje and Makerere Universities. He has done numerous consultancies, conducted research and published widely in hydrology, water resources engineering, sanitation, sustainable development and renewable energy. He has supervised over one hundred and fifty undergraduate and postgraduate students over the past fifteen years.

Dr. Rugumayo has also been actively involved in the Uganda Institution of Professional Engineers where he has held the post of President. He is a Registered Engineer in Uganda, Chartered Engineer in the UK, a Fellow of the Uganda Institution of Professional Engineers, a Fellow of the Institution of Civil Engineers in the UK, a Member of the National Sustainable Development Think Tank of the National Environment Management Authority; a Corresponding Editor for the *Journal Municipal Engineer* published by the Institution of Civil Engineers and a Member of the Uganda National Academy of Sciences. He is currently the Dean of the College of Engineering at Ndejje University.



Zimbabwe

Christopher Magadza

Christopher H.D. Magadza was born in Zimbabwe (Southern Rhodesia) in 1939. He graduated from High school from St Augustine's, an Anglican Mission school. In 1963 he enrolled at The University College of Rhodesia and Nyasaland and obtained his Bachelor of Science and his Master of Philosophy degree from the University of London. After graduation he worked in Zambia as an entomologist in the tsetse (*Glossina morsitans*) eradication programme. In 1970 he enrolled at the University of Auckland, New Zealand and obtained his Doctorate in 1973. On returning to Zambia he set up the first limnology laboratory and worked on the limnology of Zambian lakes with the National Council for Scientific Research. In 1976 he was employed by the now University of Zimbabwe and worked on Lake Kariba and Lake Chivero. In 1986 he became the Director of the University of Zimbabwe Lake Kariba Research Station.

In 1986 he was invited to join the International Lake Environment Committee (ILEC), where he served for about 25 years. Chris Magadza has also served on the Intergovernmental Panel on Climate Change (IPCC) in the Second, Third, and Fourth Assessments and is a co-recipient of the 2007 Nobel Prize, awarded to the IPCC and former Vice President Al Gore. During the tenure of Ms. Elisabeth Dowdsell, Prof Magadza served on the UNEP advisory committee to the General Director of UNEP.

Professor Magadza is a founding fellow of the African Academy of Sciences and the Zimbabwe Academy of Sciences. He is a grandfather to the two sons of his two daughters. Occasionally he writes poetry which can be read at www.poetryinternational/Zimbabwe.org.

AMERICAS



Argentina

Raúl Lopardo

Raúl Lopardo is a Hydraulic Engineer (1964) and Civil Engineer (1966) trained at the La Plata National University (Argentina). He then went to Toulouse University, in France, where he obtained a Ph.D. in Physical Sciences (1968).

Since 2006, Dr. Lopardo is the President of the National Water Institute (INA), where previously he occupied the posts of Head of a Research Team (1969-1986), Director of the Hydraulics Laboratory (1986- 1992), and Scientific Manager (1992-2006).

His teaching activities were mainly developed at the La Plata National University, where he is Chair Professor of Basic Hydraulics since 1983. He has been the Director of the Hydraulic Engineering Branch, Member of the Academic Council of Engineering, Co-Director of the Master Degree in Ecohydrology, Professor of post-graduate courses and Director and Evaluator of thesis in Argentina and other countries.

He is responsible for great contributions on the studies for the verification and optimization of hydraulic models, of most of the hydraulic structures designed or constructed in Argentina in the last forty years. He served as Rapporteur of UNESCO for “Experimental facilities on water resources education” (1979-1983), as Consultant of PNUD in Poona, India (1985), as President of the Committee for Knowledge and Technology Transfer for the International Hydrological Programme - UNESCO (1992), and as President of the Latin-American Council of the IAHR (2000-2002).

Among important awards received by Dr. Lopardo are the “Bernardo Houssay” Award, CONICET, Argentina (1987); “Ingeniero Enrique Butty” Award, National Academy of Engineering, Argentina (1988); and “Ingeniero José S. Gandolfo” Award, National Academy of Sciences, Argentina (1993).

He was incorporated in 1991 as Full Member of the Buenos Aires Province Academy of Engineering; in 1994 as Full Member of the National Academy of Engineering (Argentina); and in 1996 as Full Member of the National Academy of Physical and Natural Sciences (Argentina), where he served as Vice-President (2004-2008).

Author of more than two hundred publications on several aspects of Hydraulic Engineering and Research, some of them cited as references as “classic publications” in subjects such as macroturbulent flows, cavitation, local scour and hydraulic modeling.



Bolivia

Fernando Urquidi-Barrau

Fernando Urquidi-Barrau is a Bolivian Geological Engineer (Universidad Mayor de San Andrés – La Paz, Bolivia) with a Ph.D. degree on Applied Geochemistry, obtained at the Imperial College of Science and Technology, London, England. He also has two Master of Sciences degrees, one in Business Administration and Management of Industrial Corporations (Universidad Mayor de San Andrés – La Paz, Bolivia) and another in Security, Defense and Development (Universidad Militar de las FF.AA. de la Nación – La Paz, Bolivia). He is also Certified in National Advanced Studies (DAEN), Certified in Superior Public Administration, has a Certificate of Proficiency in English (University of Michigan), and Training courses in laboratory techniques (U.S.G.S.), Photogeology and Regional Mapping (GEOBOL).

He has worked in several public organizations, among which are, the Bolivian Geological Survey (GEOBOL), the Bolivian Ministry of Mines, and the La Paz Municipal Government. He also worked for over 20 years as a Senior Economic Adviser (Senior FSN) for the American Embassy in La Paz, reporting on the mining and hydrocarbons sectors, and on science and technology. He has also worked as a local General Manager for two Canadian mining companies.

Dr. Urquidi-Barrau was a part-time Professor (1974 -1981) at the Universidad Mayor de San Andrés – La Paz, Bolivia. Since 2001, he is a Full Member of the Bolivian National Academy of Science, currently occupying the position of Treasurer. He is the country's Focal Point for IANAS' Water Programme.

He is also active in several national and international professional associations: as Honorary Member of the Bolivian Engineer Society (SIB), member and Former President of the Bolivian Geological College - Professional Association, a member of the International Association of Exploration Geochemistry, the Association of Geoscientists for International Development (AGID), the Bolivian Association for the Advancement of Science (ABAC) and the Bolivian Association of Planning.

He is the author and/or co-author of more than twenty publications regarding diverse geological topics including water resources, geochemistry, mining strategy and special projects.



Brazil

Carlos Eduardo de Mattos Bicudo

Carlos Eduardo Bicudo graduated in Natural History from the University of São Paulo (USP, 1962). He obtained his Master of Science, from Michigan State University, East Lansing, Michigan, USA (1965), and his Doctor of Science-Botany, from USP (1973). His Post-doctor degree was earned at the University of Montana, Bigfork, Montana, USA (1977-1978) and at the University of Alabama, Tuscaloosa, Alabama, USA (1994).

Dr. Bicudo worked as a scientific researcher for the Botanical Institute, of the São Paulo State Department of Environment (1963-2003), conducting studies on freshwater algae. He continues at the institute until today, after retirement, as an Associate Researcher.

During his scientific life, he published 162 articles in peer reviewed Brazilian and foreign scientific journals, 16 chapters in books edited in Brazil and abroad, 18 books, and the translated to Portuguese version (together with Dr. Jefferson Prado) of the International Code of Botanical Nomenclature (Saint Louis and Vienna editions). Dr. Bicudo supervised 38 Master of Science Theses and 36 Doctoral Dissertations at Brazilian and South American Universities. He is an Honorary Professor at the National University of Trujillo and at the National University of the Peruvian Amazonia, both in Peru.

During his career he has been awarded the title of Distinguished Member by the Brazilian Botanical Society and the Brazilian Association of Limnology. His research is conducted along two lines: (1) taxonomy of freshwater algae, mainly the desmids and (2) phytoplankton ecology of reservoirs. He is a member of the editorial board of several Brazilian scientific journals and others from abroad (Chile, Germany, Mexico, United States). He has participated in more than 300 presentations in conferences and round-table discussions at national and international meetings.



Brazil

Carlos Tucci

Carlos Tucci is a Civil Engineer (1971). He obtained his M.Sc. in Water Resources (1975) from UFRGS, Brazil and his Ph.D. in Water Resources Engineering from the Colorado State University, USA (1978).

He was a Full Professor at the Institute of Hydraulic Research, UFRGS (1972-2003); the Coordinator of the Research Activities in Urban Water Management and Modeling; and the Head of the Graduate Program on Water Resources (1993-1997). He retired as a civil servant in September of 2003, and has been an invited Professor since then. Since 2009 he has also been a Professor at Feevale University.

Dr. Tucci has worked in the fields of: Hydrology and Hydraulics, Simulation of water resources systems, Urban water management, Water resources management, Climate variability and flow forecasting and Integrated Environment assessment.

He was the Secretary of the Water Resource Investment Fund of the Ministry of Science and Technology of Brazil (2001-2003); President of the Brazilian Water Resource Association, (1993-1995); Vice- President of IAHS International Association of Hydrology Science (2001-2003); President of South America Technical Advisory Committee of the Global Water Partnership (2003-2005); Main editor of the Brazilian Water Resource Journal and the Latin American Water Management Magazine, among others.

He was awarded the Medal of Civil Defense of the State of Rio Grande do Sul (1985); won the Best book on Science and Technology in 1994 from the Book Editor Society of Rio Grande do Sul for "Hydrology"; he also won the Brazilian Water Resource Association Prize 2005; the Meteorology Prize by the National Institute of Meteorology in 2006 and 2011, and the International Hydrology Prize of IAHS/UNESCO/WMO. He has an impressive number of publications among books, papers, reports and citations.

Dr. Tucci has also been a consultant on a broad range of topics world-wide for many national and international organizations and companies including UNDP, UNESCO, WMO and the World Bank.



Brazil

Eduardo Mario Mendiondo

Dr. Eduardo Mario Mendiondo was born in 1968, in Villa Ocampo, Santa Fe, Argentina. He graduated as a Water Resources Engineer from the Universidad Nacional del Litoral, Argentina and then got his Master of Science in Civil Engineering, supervised by Prof Carlos Tucci. He received his Doctor Degree in Water Resources and Environment from the Federal University of Rio Grande do Sul, Brazil, supervised by Prof Robin Clarke.

He was an invited researcher at the Department of Hydraulics & Water Resources Management of the University of Kassel, Germany, supervised by Prof Frank Toensmann. He developed a Post-doc and was senior Researcher at the Center for Environmental System Research at the University of Kassel, supervised respectively by Prof Petra Doell and Prof Joseph Alcamo. Since 2002 he is lecturing at the Department of Hydraulics and Sanitation of São Carlos, College of Engineering, University of São Paulo in São Carlos, Brazil. He developed research and development missions in Asia, Europe, Africa and America.

His experiences and works focus on adaptation strategies for water resources systems, emerging hydrologic theory and prediction in ungauged basins, urban waters, hydraulic uncertainties, ecohydrology, river restoration, future scenarios of water extremes, water resilience, water insurance, flash-flood forecasting, water vulnerability at challenging regions, water pricing related to water footprint and environmental services.

Dr. Eduardo Mario Mendiolo is an Invited Fellow of international and regional initiatives, i.e: Millennium Ecosystem Assessment, Brazilian Panel of Climate Change, Academic Member of UNEPFI (Financing Initiative), Board Member of Brazilian Network of Capacity Building on Water Resources, CapNet Brazil; consultant of World Bank NLTA/Brazil of adaptation of water resources under climate change. He is also a Member of CYTED/Prohimet Hydrological Monitoring and Forecasting Network and WMO Flood Forecasting Initiative. Currently he is supporting INCLINE Center of Climate Change (USP) and FAPESP Climate Change and Adaptation Strategies for Water Resources.



Brazil

Fernando Spilki

Fernando Rosado Spilki is a Brazilian virologist. He began his scientific career early during his undergraduate studies on Veterinary Medicine, which was concluded at the Federal University of Rio Grande do Sul (UFRGS, Brazil) in 2001. He earned his master's degree in Veterinary Sciences from UFRGS also in the area of virology, in the year of 2004, supervised by Dr. Paul Michel Roehle. His doctoral studies in Genetics and Molecular Biology-Microbiology were concluded at the State University of Campinas – Brazil (UNICAMP, 2006), under the guidance of Dr. Clarice Weis Arns.

After a period working in the private sector in the area of production and development of veterinary vaccines, he returned to Unicamp for a Postdoctoral Fellow and then moved to the University Feevale, Novo Hamburgo, Brazil. At this institution he nowadays holds the position of Full professor and coordinates the Graduate Program in Environmental Quality.

Throughout his training he worked with viruses of cattle, poultry, pigs and human beings. As a researcher of the Brazilian National Research Council (CNPq), he currently coordinates studies on the microbiological contamination of water both in rural and urban settings, its relation to environmental impact and human and animal health. These research projects have financial support from CNPq, as well as from the national Coordination for the Improvement of Higher Level Personnel (CAPES) and the Foundation for Research Support of Rio Grande do Sul (FAPERGS). These studies resulted in 80 articles published in peer reviewed scientific journals, book chapters and more than two hundred conference presentations.



Brazil

Francisco Barbosa

Francisco Antônio Rodrigues Barbosa was born on June 1949 in Prudente de Morais, state of Minas Gerais, Brazil. He was initially trained as a Freshwater Biologist, then obtaining a MSc. in Ecology and Natural Resources from the Federal University of São Carlos in 1979, and a Doctor of Science degree in Sciences-Ecology in 1981. He developed his post-doctoral studies at the Institute of Freshwater Ecology/Freshwater Biological Station, Cumbria, England, during the period of 1987-1989, studying eco-physiology of plankton flagellates.

Dr. Barbosa was a research fellow of CNPq level 1-B up to 2011 and he is Full Professor of Ecology/Limnology in the Department of General Biology of the Institute of Biological Sciences of the Federal University of Minas Gerais since 1995. He was the Coordinator of the Brazilian Long-Term Ecological Research Programme (PELD) from 2000 to 2010. At present he is the Representative of the Site's Coordinators at the Brazil's LTER Programme Board as well as the Deputy of this Programme at the International Long-Term Ecological Research Programme (ILTER), where he is a member of the Coordinating Committee.

He is also the co-Chair of the National Institute of Science and Technology “Mineral resources, water and biodiversity-INCT-Acqua”, a programme created by the Ministry of Science, Technology and Innovation (MCTI) of Brazil’s Government, and also a member of the Management Board of this Institute.

He was the President of the Brazilian Association for Limnology (ABL), former Brazilian Limnological Society (SBL), for two periods (1984-1986 and 1995-1997).



Brazil

Ivanildo Hespanhol

Ivanildo Hespanhol is a Civil and Sanitary Engineer. Born in São Carlos, São Paulo, Brazil, in July 1944, he received his Ph.D. in Public Health from the University of São Paulo (USP) in 1968, and his M.Sc. and Ph.D. in Environmental Engineering from the University of California at Berkeley, USA, in 1972 and 1975, respectively.

He joined USP in 1962 and has been a Full Professor since 1998, at the Department of Hydraulics and Environmental Engineering Polytechnic School. He joined the WHO as a Scientific Member in 1987, and remained until 1995, within the Urban Environmental Health Unit, Division of Environmental Health, Geneva, Switzerland (on leave of absence from USP), collaborating with the preparation of guidelines for water reuse, and as a Coordinator of the UNEP/WHO GEMS/WATER (1991-1994).

Dr. Hespanhol was the Founder and first President of the Brazilian National Committee of the International Association on Water Pollution Research and Control (presently IWA). He was also the Founder and is currently the CEO of the International Reference Centre on Water Reuse – IRCWR/CIRRA, USP, a non-profit organization working on water resources management, particularly on water conservation and reuse. He was a Member of the SAMTAC/GWP, CEPAL/UNESCO, in the preparation of documents on water supply and sanitation and water resources development in Brazil.

He is currently a Temporary Adviser to the WHO, PAHO, the Brazilian Water National Agency (ANA) and other public and private organizations in Brazil and in South America. He is also an adviser to the State of São Paulo Foundation for Research Support (FAPESP); CAPES; FINEP and CNPq, the last two from the Ministry of Science and Technology;

In addition, Dr. Hespanhol is a consultant to the Centre for Studies and Strategic Management (CGE), from the Ministry of S&T, in association with the Sectorial Fund for Water Resources, and is also a Consultant to the Federation of Industries of the State of São Paulo (FIESP), on reuse programs and as a permanent member of the Judging Committee for the annual FIESP award on Industrial Water Conservation and Reuse.

He has published around 80 national and international documents including, books, book chapters as well as technical and scientific papers.



Brazil

José Antônio Marengo Orsini

Jose A. Marengo, B.Sc. Met. Eng., M.Sc. Ph.D. was born in 1958 in Lima, Peru. He got his B.Sc degree in Meteorology from the Universidad Nacional Agraria La Molina in 1981, and his M.Sc degree in Water and Land Resources Engineering at the same University in 1987. His Ph.D. in Meteorology was obtained at the University of Wisconsin – Madison, in 1991 in the USA. He did his post doctoral training at the NASA-GISS/Columbia University in New York with a grant from the US National Research Council/National Academy of Sciences, and at the Florida State University in Tallahassee, Florida, also in the USA.

He started to work at the National Institute for Space Research (INPE) in 1995, as researcher and leader of the Climate Studies Group at CPTEC (Center for Weather Forecast and Climate Studies) at INPE until 2009, and currently he is the Chair of the CCST (Earth System Science Center also from INPE). His work is related to seasonal climate prediction, climate studies, climate and global change. He is a professor at the INPE's post graduate programs in Meteorology and Earth System Science.

Dr. Marengo is also a member of various national and international panels on climate, hydrology and earth sciences of the Brazilian Government and the United Nations, in addition to being a member of the editorial boards of seven international journals on earth sciences. He is the author of more than 200 publications including journal articles, books, book chapters, internal reports and notes for magazines, and is leading various national and international projects on climate change, impacts, vulnerability assessments and adaptation.

He is Lead Author, Review Editor and Coordinating Lead Author of the IPCC Fifth Assessment Report AR5 (working groups 1 and 2), the IPCC Special report on Extremes, and from the Second, Third and Fourth Assessments reviews from IPCC since 1998. He is also a member of the Scientific Coordinating Committee of the Rede Clima, Vice-coordinator of the International Institute for Science and Technology (INCT) for Climate Change and member of the Scientific Council of the Brazilian Panel on Climate Change (PBMC). He is researcher level 1-A from the Brazilian CNPq, and recently he was elected Member of the Brazilian Academy of Sciences (ABC).



Brazil

José Galizia Tundisi

José Galizia Tundisi was born in 1938. He is a retired Full Professor of the University of São Paulo, School of Engineering at São Carlos. He is a Member of the Brazilian Academy of Sciences and of the Staff of the Ecology Institute "Excellence in Ecology", in Germany. He was a member of the Scientific Committee of ILEC (Japan, 1986-2006), the Executive Vice-President of the International Council for Science (ICSU, 1999-2000), and President of the National Research Council of Brazil (1995-1999). Currently he is the President of the International Institute of Ecology, São Carlos, and the Chairman of the IAP Water Committee since 2005, and Coordinator of the UNESCO Latin-American Memorial Chair.

Tundisi's main research activities are: Limnology of lakes and reservoirs, Water Resources Management, and Watershed Management. He worked as a consultant in 40 countries, and he is the co-chairman (with Prof. Blanca Jimenez) of the IANAS Water Programme. He has published 340 scientific papers and 34 books. He received Doctor Honoris Causa Degrees from the University of Southampton, U. K. in 1998 and from the University of Engineering of Peru, in 2008, and the Brazilian Scientific Medal, Class Grand Cross, from the Brazilian government, in 1994.

Tundisi has also received the Gold Medal Augusto Ruschi, from the Brazilian Academy of Sciences; the Anisio Teixeira Prize, from the Ministry of Education of Brazil; and the Bouthros Galli Prize of the United Nations (1995). He was also awarded the Water Prize from the Conrado Wessel Foundation, in 2005, for Achievements in Science applied to Water Management.



Brazil

Marcos Cortesão Barnsley Scheuenstuhl

Marcos Cortesão Barnsley Scheuenstuhl is an economist graduated in 1988 from the State University of Rio de Janeiro. He later obtained his Masters degree at the same university and then obtained his Ph.D at the Federal University of Rio de Janeiro.

For many years he worked at the State University of Rio de Janeiro, focused on Higher Education Policies and Funding of Higher Education in Latin America. He also worked for the Inter-Union Department for Socioeconomic Studies and Statistics, where he developed studies on the Brazilian national financial system. He was also an adviser to the Rector of the State University of Rio de Janeiro. Throughout his professional career he has dedicated much attention to institutional capacity building and networking.

In 2000 he was invited to help organize the Office of International Affairs of the Brazilian Academy of Sciences. Within the Office he took responsibility over the Americas, playing a role in the structuring of the Inter-American Network of Academies of Sciences (IANAS), where he served as Executive Secretary from its establishment up until 2010. When in 2004 the Brazilian Academy of Sciences was designated lead Academy to the Water Programme of the InterAcademy Panel on International Issues (IAP), he was invited to act as Programme Director. For the last 8 years he has been working with networking of water researchers and managers, aiming at the enhancement of water management capacity in the developing world.

In addition to the work he develops within the international scenario of the Brazilian Academy of Sciences, he also plays an active role in the coordination of several national programs and initiatives, most of these in the areas of Science Education, Health and Environmental Issues.



Brazil

Marcos Gomes Nogueira

Marcos Gomes Nogueira was born on May 1964 in São Paulo, Brazil. He has a Bachelors degree in Biological Sciences from the Federal University of São Carlos (1987), a Ph.D. in Hydraulics and Sanitary Engineering (1990) and a Doctorate in Environmental Sciences (1996) from the University of São Paulo. Dr. Marcos Nogueira specialized in Lake Water Quality and Management (1997), at ILEC, Japan, and concluded his Post Doctorate at the Institute of Freshwater Ecology in the UK. He is an Associate Professor at the State University of São Paulo (UNESP/Botucatu) and is currently the Head of the Department of Zoology (Biosciences Institute).

Dr. Marcos Nogueira also works as a consultant for Brazilian research agencies such as Fapesp, CNPq and CAPES. In addition, he's a consultant for national and international periodic scientific publications, and for the Ministry of Environment on the La Plata River Basin Project – Sustainable Management of Transboundary River Watersheds from Argentina, Bolivia, Brazil, Paraguay and Uruguay. Dr. Nogueira also consults on programs of environmental licensing and management of public and private enterprises.

He is a partner of HidroLógica, a company that provides services on aquatic resources analysis and monitoring (physical, chemical and biological parameters). He has experience in ecology, with emphasis on inland water ecosystems – general limnology, plankton communities, water quality evaluation and hydropower reservoirs management. He is a member of the editorial board of the Brazilian Journal of Biology and has published more than fifty scientific publications and supervised several academic studies. Dr. Marcos Nogueira is also an associated researcher of the National Council of Research and Development (productivity Fellowship of CNPq).



Brazil

Pedro Roberto Jacobi

Pedro Robert Jacobi is a Sociologist. He obtained his Master degree from Harvard University, in 1976, in Urban and Regional Planning. His Ph.D. in Sociology was obtained at the University of São Paulo, in 1986.

Dr. Pedro Roberto is a Full Professor at the School of Education and Graduate Program on Environmental Science at the University of São Paulo. He is also the Coordinator of the Graduate Program in Environmental Science for the period of 2010-2012, in addition to being a CNPq 1A Researcher.

Currently Dr. Pedro Roberto is the Coordinator of GovAmb USP, a Research Group on Environmental Governance composed by researchers focused on relations between State and Society on different areas of environmental policies in Brazil and Latin America. Their main areas of focus are: Social Learning and Water Governance; Management, Sustainability and Education; Water Footprint and Private Sector Production; Environmental Valuation, Climate Change and Public Policies. He is a Member of USP's Interdisciplinary Research Group INCLINE (Investigation on Climate Change) and of the Research Group Araça Project (Coastal Management).

Dr. Pedro Roberto has concluded several research projects in the last years. He was the Coordinator of GovAgua Project (2005-2009), a research on Water Governance in Peri-Urban Areas, supported by the Alfa Program (European Union), composed by six Latin American Universities and four European Universities; he was also part of the Negotiation of Water Conflicts in Peri Urban Basins, (EC-2002-2006); and was part of the Environmental Participation in Water Management in Metropolitan São Paulo, CIDA/Canada, 2003-2007).

He has been the Editor of the *Ambiente e Sociedade* journal since 1997, and has published the following: *Environmental Education and Social Movements* (2010); *Water Governance in Latin America and Europe – 3 volumes* (2009); *Social Actors and Water Governance in the State of São Paulo* (2009); co-author of the book on *Social Inclusion and Management of Solid Waste in the Metropolitan Region of São Paulo* (2009); *Selective Collection of Solid Waste, Recycling Policies in Brazil* (2008).

He is the President of the Board of ICLEI- Local Governments for Sustainability in Brazil in addition to being the President of the Board of Instituto 5 Elementos -Educação para a Sustentabilidade. He was also a Member of the Board (2006-2010) and former President (2000-2004) of the National Association of Graduate Studies and Research in Environment and Society of Brazil (ANPPAS).



Brazil

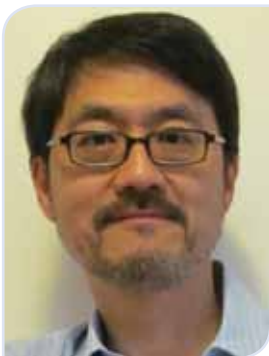
Renato Ciminelli

Renato Ciminelli (58) is a Chemical and Materials Engineer with post-graduate training programs at University of São Paulo – USP, UNICAMP and Penn State University. In the last 10 years he has been leading international projects with highly prestigious universities and research centers as a R,D&I manager.

Renato Ciminelli currently performs leading positions in the following initiatives and organizations that work to induct a more sustainable territorial future, also promoting national and local cultures: at Geopark Quadrilatero Ferrífero, he is the President of the Steering Committee (associated to the Global Geopark Network of Unesco); he is the Executive Director of the Multiinstitutional and International Program “Mineral & Metallurgic Pole of Excellence” (associated to the State Secretariat of Science, Technology and Higher Education of Minas Gerais – Brazil); he is also a Special Business Advisory for the Trade & Investment of the Australian State of Queensland in Brazil; and the President of the Consulting Board of INCT Acqua – Brazilian National Institute for Science and Technology in Mineral Resources, Water and Biodiversity,

Renato Ciminelli is a Member of the Editorial Board of the Mining Journal (*Brasil Mineral*). He is a Member of the Steering Committee of the Technological Park of the Alto Paraopeba Region, and the General Coordinator of the Reference and Qualification Center for Sustainability in the Alto Paraopeba Region in Minas Gerais. Renato Ciminelli is the President of the Project "Artistic Ceramic and Innovation" for the North of Minas Gerais State (objecting local social and economic development). He is also the Coordinator of Cooperation Committees Minas Gerais – Queensland/Australia and Minas Gerais – Nord Pas de Calis/France.

His first 20 years of professional career was dedicated to the private sector as a marketing and innovation specialist and executive in a broad industrial spectrum with multiple segments. In the last 10 years Ciminelli has been engaging himself in projects and programs, articulated with all segments of society, intended to build more sustainable environments, improving integrated and participative territorial management systems.



Ricardo Hirata

Ricardo Hirata is a Certified Geologist from UNESP, Brazil. He has a MSc from USP, Brazil, and a DSc also from USP, Brazil. He obtained his Post Doctorate from the University of Waterloo, Canada, in the field of hydrogeology.

He is currently a Professor at the University of São Paulo (USP), aside from being the Director of CEPAS (Groundwater Research Center, USP). Dr. Ricardo Hirata is a former member of the Groundwater Management Advisory Team of World Bank (GW-MATE), an adviser for the International Atomic Energy Agency (IAEA) and UNESCO, and a member of the Hydrogeologist Without Boarder Council in addition to being a 1B-Level Brazilian CNPq Research Fellow.

Dr. Hirata has 29 year of experience working intensively in many aspects of groundwater and water resources for private and government companies in more than 20 countries in areas that include, among others, groundwater contamination, groundwater resource development, water resource management and governance, and groundwater protection policy.

He was also a Chief Hydrogeologist for the São Paulo Geological Institute (Environmental Secretariat of São Paulo State) and for the Water and Energy Department (DAEE, Water Resource Secretariat). He was also a research associate at the Earth Science Department of the University of Waterloo (Canada), where he did his post-doctoral fellow. Dr. Hirata also served as a hydrogeologist for the World/Pan American Health Organization and was a Professor at the University of Costa Rica (CARAS Program: a Canadian Graduate Program for Central and South America).

Dr. Hirata has been a coordinator in a large number of research projects involving many national and international institutions, which have resulted in a significant number of trained high level students (MSc and DSc). He is also responsible for several publications, including some reference manuals for WHO/PAHO, World Bank and UNESCO.

Brazil



Brazil

Sandra Azevedo

Sandra M. F. O. Azevedo, was born on July 15th, 1956 in São João da Boa Vista, SP, Brazil. Her educational background was done at the Federal University of São Carlos where she got her Bachelor in Biological Science (1978); her Master degree (1982) and her Ph.D. degree (1988) in Ecology and Natural Resources.

She has been a Full Professor at Carlos Chagas Filho Biophysics Institute – Federal University of Rio de Janeiro (UFRJ), since June of 2011. Her academic activities as student's supervisor involved: 21 students in the M.Sc. program (19 have graduated and 02 are current); 14 students in the Ph.D program (12 have graduated and 02 current); and 10 students in the Post Doc program of which eight have finalized and two are current.

Her current research interests are related with environmental impacts of eutrophication in freshwater aquatic ecosystems; ecophysiology and ecotoxicological studies with toxic cyanobacteria in water supplies and effects of cyanobacterial toxins in aquatic organisms as well as in human health.

Dr Sandra Azevedo has been a Visiting Scientist with the Department of Biological Sciences, at Wright State University - USA, working on Cyanobacterial Ecotoxicology at Prof. Wayne Carmichael's Lab., from May to July of 1991, July 1993, and June 1995. She has also been a Scientific and Academic Consultant for several International Organizations such as WHO, PAHO, UNESCO, and US-EPA.

Dr. Sandra Azevedo is a Member of the Scientific Committee of the International Lake Environment Committee Foundation (ILEC), since 2006. She was the Chairperson at the First Latin American Congress on Toxic Cyanobacteria: water quality and public health, held in Rio de Janeiro, Brazil, on November 05-07, 2001. She was also the Chairperson at the International Conference of Toxic Cyanobacteria (VII ICTC), held in Rio de Janeiro, Brazil, from August 5-10, 2007.

She was the Regional Associate Editor of Environmental Toxicology, from 2000 to 2005. Her research activities led her to publish more than 60 full scientific papers in international journals; 11 book chapters and one book.



Brazil

Silvio Crestana

Silvio Crestana is a physicist with a Master's and Ph.D. from the Institute of Physics and Chemistry of São Carlos/USP. At the University of California, Davis, USA, he concluded his first post-doctoral in Soil Science and Environmental Sciences. He then did his second post-doctoral at the Agricultural Research Services - USDA, in Beltsville, Maryland, EUA in Hydrology. As a Master's and Doctorate advisor, accredited by USP, he advised about 25 students.

He is a guest Professor and advisor of the Post Graduate program on Sciences of Environmental Engineering at the School of Engineering of São Carlos – USP, at the Center for Water Resources and Applied Ecology of the Department of Hydraulics and Sanitation. He teaches the subjects Impacts of Agricultural Activities on Earth and Water Resources, and Transport of Solutes in the Non-saturated Region of the Soil.

He was also a Member of the Steering Committee of the Agribusiness Sector Fund of the Brazilian Ministry of S&T and of the Board of Directors of the National Fund for Scientific and Technological Development (FNDCT). Since 2005, Silvio Crestana is a Member of the Hassan II Academy of Science and Technology of Morocco.

Silvio Crestana was the Managing Director of Embrapa from January 2005 to July 2009, having worked as a researcher for the Company since 1984. He was the

coordinator and the person responsible for the pioneer implementation of Embrapa's Virtual Laboratory Abroad (Labex).

As a scientist, he became internationally renowned for his pioneer work of introducing computed tomography in the Science of Soil. He is the author and co-author of more than 150 scientific papers, published in journals and presented in national and international congresses. He has also participated in numerous master's and doctorate evaluations in Brazil and abroad.

In 2010, Silvio Crestana was honored by the private sector, through the Union of Bioenergy Producers – UDOP, during the celebrations of the 25th anniversary of its foundation. He received the Agroenergy Medal, for his relevant contributions to the development of the agroenergy sector. Also in 2010, he was awarded the title of Commander of the National Order of Scientific Merit, in the area of Agricultural Sciences, granted by the Ministry of Science, Technology and Innovation. He is a Member of the Agribusiness Superior Council of the Federation of Industries of the State of São Paulo – FIESP.



Virginia Ciminelli

Virginia S. T. Ciminelli is a Chemical Engineer trained at the Federal University of Minas Gerais, Brazil. She obtained her M.Sc at the same university, and then concluded her Ph.D in 1987 at Penn State, USA. She is currently a Professor of the Department of Metallurgical and Materials Engineering – UFMG, and had supervised 43 M.Sc. and Dr. theses (concluded), and post-doctoral fellows.

She is a level 1A researcher for the National Council for Scientific and Technological Development (CNPq). She is also a Member of Brazilian Academy of Sciences, and was admitted to the National Order of Scientific Merit. She is the Chair of the National Institute of Science and Technology on Minerals, Water and Biodiversity, and leads partnerships with a large number of institutions in Brazil and abroad.

Dr. Virginia Ciminelli has over 200 publications. She has received the GEMS Alumni Achievement Award in addition to the GEMS Earth and Mineral Science Alumni Achievement Award from the Pennsylvania State University in 2004. She was also granted the 2008 FUNDEP Award (Foundation for the Development of Research/Federal University of Minas Gerais), for her significant contributions to the progress of Science, Literature and Arts and for leading the development of the field. She operates in the development and implementation of hydrometallurgical processes and treatment of wastewater. Emphasis is given to modeling thermodynamic, kinetic and molecular reactions, dissolution, sorption, precipitation, in particular, phenomena associated with the oxidation of sulfides.

Her research interests are on the development and application of processes involving sorption and precipitation to water and effluent treatment in mining and metallurgy; Hydrometallurgy of precious and base metals; Thermodynamic and Kinetics Modeling; Syntheses and Modification of Materials for the Immobilization of Inorganic Species; Molecular Modeling of Sorption and Precipitation Processes applied to Treatment of water and mining Effluents; Development of protocols for the analyses of trace element in environmental samples; Oxidation of sulfides; and Acid Mine Drainage: diagnosis and treatment.

Brazil



Canada

Corinne Schuster-Wallace

Corinne Schuster-Wallace is the officer for the Water-Health Nexus programme at UNU-INWEH, the Coordinator of the Water Without Borders Joint Collaborative Graduate Programme with McMaster University, and adjunct faculty member in the School of Geography and Earth Sciences at McMaster University. Corinne obtained her Ph.D. in glacial hydrology from the Cold Regions Research Centre, Wilfrid Laurier University, Canada, following an undergraduate degree in physical geography at the University of Leicester, England.

Her background cuts across water resources, meteorology, climate change, waterborne disease, health and wellbeing. She has broad experience at the water-health nexus, including examining environmental factors for climate change impacts and context of outbreaks of waterborne disease, local knowledge, attitudes and practices, and linkages with human health and wellbeing.

Prior to joining the United Nations University, she was a Research Associate in the School of Engineering at the University of Guelph in Canada and worked as a water-environment specialist for the Public Health Agency of Canada's Foodborne, Waterborne and Zoonoses Division.

In addition to publishing journal articles, book chapters and reports, Corinne consulted to the Provincial Commission of Inquiry into the Walkerton, Ontario (Canada) drinking water tragedy of 2000, consolidating information on water treatment technologies, multi-barrier approaches, best management practices and integrated water management strategies. Research interests include links between high impact weather events and waterborne illness; failure in drinking water systems and consequent impacts on public health; development of vulnerability indices; and, community based tools to facilitate engagement and ownership of water issues and their solutions.

Dr. Corinne Schuster-Wallace co-lead the World Water Forum 6 theme on protecting health and hygiene through water and sanitation (1.3) with Dr. Robert Bos of WHO, and currently represents the United Nations University in Sanitation and Water for All, UN-Water's Thematic Programme Area on Drinking Water and Sanitation, and on the planning committee for the Sanitation For All: the Drive to 2015.



Canada

Robert Gillham

After earning his Ph.D. from the University of Illinois, Dr. Gillham spent over thirty years as a professor of hydrogeology in the Department of Earth and Environmental Sciences at the University of Waterloo, Ontario. His primary research focus concerns the fate, transport and remediation of contaminants in groundwater. Notably, he pioneered the use of granular iron for in situ remediation of water contaminated by chlorinated organic compounds and holds six patents on this technology. The technology was commercialized and is being applied in over 200 sites throughout the world.

Robert Gillham served as Department Chair from 1993 to 1997 and 2005 to 2007, was Director of the Waterloo Centre for Groundwater Research (1987 to 1992), Scientific Director of the Canadian Water Network (2000 to 2003) and held the NSERC Industrial Research Chair in Groundwater Remediation from 1997 to 2007. Dr. Gillham has over 150 refereed publications and has supervised close to 100 graduate students.

Significant honours include the Thomas Roy Award of the Canadian Geotechnical Society (1988), the Miroslaw Romanowski Medal of the Royal Society of Canada (1996), Fellow of the Royal Society of Canada (1997), honorary Doctor of Science, University of Guelph (1988), inducted as a member of the Order of Canada (2002), recipient of the Queen Elizabeth II Golden Jubilee Medal (2002) and in 2006 received the M. King Hubbert Award of the National Ground Water Association.

Currently Dr. Gillham is a Distinguished Professor Emeritus at the University of Waterloo and is the Executive Director of the Water Institute, University of Waterloo.



Ernesto Brown

Ernesto Brown Fernández, was born on February 1944, in Santiago, Chile. He is a Civil Engineer with specialization in Hydraulic Engineering from the School of Engineering, University of Chile (1968).

His graduate work, from 1970 to 1972, took place at the University of California, Los Angeles, USA, where he majored in Water Resources Systems Analysis, and earned his academic degree of Master of Science in Engineering. He then returned to the University of Chile, as a member of the academic staff of the Civil Engineering Department.

During his academic career at the University of Chile he was the Chair of the Department of Civil Engineering from 1984 –1986, and later became the Director of the School of Engineering (1990-92). He was promoted to Full Professor in 1987.

Dr. Ernesto Brown Fernández was the Director of the Chilean Society of Hydraulic Engineering from 1981 to 1989, and President of the Society from 1986 to 1989. In the year 2000 he received the distinction of being named Honorary Director.

His research work has been mostly in the field of Water Resources Analysis and Hydrology, including systems modeling, both for surface and groundwater; for the mining industry, hydroelectric power, urban water use, and more.

At present he is still a Professor of the Department of Civil Engineering, University of Chile, (part time), in addition to being a Consultant in Hydrology and Water Resources, working for Government Agencies and Private Companies in Chile.

Chile



Hugo Hidalgo

Hugo Hidalgo is a professor and researcher of surface water hydrology with special interest in hydroclimatology. His research is related to climate variability and climate change at a regional level. For example, he has participated in studies of detection and attribution of climate change in the Western United States, statistical downscaling studies, low frequency climate variability and hydrological modeling in the Central America region.

Dr. Hidalgo obtained a Bachelors degree from the University of Costa Rica (1992), and a Master of Science (1998) and Ph.D. (2001) in Civil and Environmental Engineering with emphasis in Water Resources from the University of California, Los Angeles. He has worked at the University of California in the campuses of Los Angeles, Berkeley and San Diego (Scripps Institution of Oceanography) and currently he is a professor of the School of Physics of the University of Costa Rica.

His current research is related to the modeling of climatic and hydrological variability and change in Central America. Specifically, he has been working with climate change projections from General Circulation Models that have been statistically downscaled and used as input into the Variable Infiltration Capacity hydrological model.

He received the 2004 Journal of the American Water Resource's Association's Outstanding Reviewer Award and in 2009 he received the "Contributions to Creativity and Excellency Award" from the Florida Ice and Farm Company. He is the author of more than 30 diverse publications and has participated in more than 100 conferences, seminars and workshops.

Costa Rica



Cuba

Daniela Mercedes Arellano Acosta

Daniela Mercedes Arellano Acosta graduated as a Geophysics Engineer from the Higher Polytechnic Institute José A. Echeverría, in Havana, Cuba, in 1971. Then in 1986 she got a Ph.D. in Geological Sciences from the Faculty of Natural Sciences, Charles University, Prague, Czech Republic.

During the period of 1972-1989, she worked on geophysical studies applied to the hydrogeology of karstified aquifers, with the use of natural isotopes and geoelectrical methods. Later, and up to 1998, she was the Director of the National Center of Hydrology and Water Quality in the National Institute of Hydraulic Resources. From 1999 and up to 2003, she was an Adviser to the President of the Environment Agency of the Ministry of Science, Technology and Environment of Cuba.

From the end of 2003 up to today, she is the Director of a Project financed by the Cuban Government in conjunction with the Global Environmental Fund. This project aims at the development of actions to ensure the conservation of biodiversity in an important Cuban ecosystem, the Sabana Camaguey, characterized by higher biodiversity values of global and national importance.

As a researcher, she has more than 30 national and international technical publications related to isotopic hydrology and hydrogeochemical of the karstic systems. At present she is devoting special scientific attention to the aspects related to the relation existing between terrestrial water management and biodiversity conservation in coastal ecosystems, more specifically on the conceptual issues related to the volume of terrestrial water needed, to maintain ecosystem productivity to the effect of fisheries and tourism uses with economic purposes, including communities participation.

Since 2003 she is a member of the Water Commission of the Cuban Academy of Sciences and its National Focal Point in the IANAS Water Program.



Dominican Republic

Rafael Osiris de León

Rafael Osiris de León graduated as a Geological Engineer from the Pontificia Universidad Católica Madre y Maestra, 1979. For twelve years he was a Counselor Scientist of the National Commission for the Environment of the Dominican Republic. He is a member of the Board of Directors of the Academy of Sciences of the Dominican Republic and has been the Coordinator of the Commission of Natural Science and the Environment.

He has presented at international conferences in Mendoza, Argentina; La Havana, Cuba; San Juan, Argentina; Lima, Peru; Guayaquil, Ecuador; Alicante, Spain; Bogota, Colombia; Antigua, Guatemala; Santa Cruz, Bolivia; La Paz, Bolivia; San Jose of Costa Rica; at the USGS, Washington DC; at the University of Sao Carlos, Brazil; Managua, Nicaragua; in Cartagena de Indias, Colombia; Cancun, Mexico; San Salvador, El Salvador; and Columbia University, New York.

He is the Dominican Focal Point for the Water Program of the InterAmerican Network of Academies of Sciences (IANAS). Among his publications are: *Environmental issues of Aggregates Extraction of Rivers in the Dominican Republic and Alternative Sources of Quarry in a Dry Land* (Geological and Mining Institute of Spain); *Mining and Environment, Big Mining and the Environment in the Dominican Republic, the Landmines order in the Dominican Republic* (CYTED Publications, 2002); *Geology of the Sierra de Bahoruco; Geological Conferences, Geological and hydrogeological aspects of the Southwest Region; Diagnosis of Dominican environmental situation; and Water and Sanitation in the Dominican Republic* (IANAS 2012).



Mexico

Ricardo Sandoval Minero

Ricardo Sandoval-Minero is a Civil Engineer, with a Master Degree in Operations Research, Water Finance and Economics from the National Autonomous University of Mexico (UNAM). He also took an International Course on Leadership for Environment and Development (LEAD Programme), and obtained a Master on “Modeling, Optimization, Decision and Organizations” from the University Paris Dauphine (Paris IX). He is currently working on his Ph.D. thesis on information and water governance for the sustainable management of water resources and water supply and sanitation.

He has worked at environmental and water management consulting firms, as well as on water finance research at the Mexican Institute for Water Technology. He was the Deputy Manager for Planning Systems at the National Water Commission’s headquarters (1996-1998), and Planning General Director (1998-2000) and Executive Secretary (2000-2006) at the Guanajuato State Water Commission. From 2009 to 2010 he was the General Director at the Guanajuato Municipal Water and Sanitation Utility. He has been a member of the Board and a consultant to the Presidency of the National Association of Water Utilities (ANEAS). He is a member of the Board of the InterAmerican Water Resources Network.

He has been a short-term consultant for the World Bank and the United Nations on water governance, water ethics, climate change adaptation in the water sector and efficiency in the water supply and sanitation sector. Presently he is the Academic coordinator for a Diplomatic Course on Water Utility Management for UNAM, sponsored by ONU-Habitat and ANEAS. Since 2008 he works as an associate consultant for the private firm MAV, S.C.

He participated as a co-editor on the book “Towards an integrated water management model in Mexico” (2004) and as a coordinator on the book “Water supply in Mexico: Recent history, actors and processes” (2008).



Nicaragua

Katherine Vammen

Katherine Vammen has a doctorate degree in Biochemistry and Genetics from the University of Salzburg, Austria, and is a specialist in aquatic microbiology. Currently, she is the Deputy Director of the Nicaraguan Research Center for Aquatic Resources of the National Autonomous University of Nicaragua (CIRA/UNAN). She founded and coordinates the Regional Central American Master’s Programme in Sciences of Water, which has received accreditation from the General Secretariat of the Higher Council of Central American University (*Secretaria General Consejo Superior Universitario Centroamericano –CSUCA*) and has successfully completed four cycles of study with students from Nicaragua and other Central American countries.

Dr. Vammen is the representative for Nicaragua in the Water Programme of the InterAmerican Network of Academies of Sciences (IANAS). She was the coordinator and co-author of the chapter “Water Resources in Nicaragua: a Strategic View”, published in a book edited by IANAS called *Water Diagnosis in the Americas*. Her most recent publications include themes such as Climate Change and Water Resources for CEPAL and “Supply and Sanitation: How Are the Unserved to Be Served? Serving the Rural Unserved” for the International Rosenberg Forum.

She has also coordinated research projects involving studies of rivers and lakes of Nicaragua, which have been used by central and municipal governmental authorities as a contribution to management plans in different watersheds of Nicaragua. Dr. Vammen is also coordinating research projects in Nicaragua in Regional Projects of the International Atomic Energy Agency such as “Designing and Implementing

Systems for Early Warning and Evaluation of the Toxicity of Harmful Algal Blooms in the Caribbean Region, Applying Advanced Nuclear Techniques, Radioecotoxicological Evaluations and Bioassays (ARCAL CXVI)“.



Peru

Julio Kuroiwa

Julio M. Kuroiwa graduated as a Bachelor of Science in Civil Engineering from the Universidad Nacional de Ingenieria (UNI) in Lima, Peru, in 1991. He obtained his graduate degrees in Civil Engineering from the Colorado State University (M.Sc., 1993; Ph.D., 1999), in the program of Hydraulic Engineering.

Dr. Kuroiwa is currently the director of the National Hydraulics Laboratory and associate professor at the School of Civil Engineering at UNI, where he teaches courses on water resources at the undergraduate and graduate levels. His research mostly focuses on sediment transport, interaction between hydraulic structures and river systems, design optimization of hydraulic structures, rainfall-runoff relations, erosion control, environmental control at mine sites, and lately, water consumption of human activities. He has also conducted consulting jobs that include hydrologic and hydraulic studies for the design of hydropower plants, road drainage structures, erosion control works in fluvial environments, irrigation structures and other infrastructure related projects. These activities have been carried out in Peru, El Salvador, Nicaragua, and Ecuador.

He has presented results of his research in conferences and meetings of the American Society of Civil Engineers (ASCE), International Association of Hydraulic Research (IAHR), American Geophysical Union (AGU), and specialized conferences in his home country, where he chaired the Second National Water Congress. Other publications include chapters of books related to water resources in Peru and hydropower development. Dr. Kuroiwa has been invited to present lectures on water resources strategies for the Strategic Planning Center (CEPLAN), the Ministry of Production, National Meteorology and Hydrology Service (SENAMHI), and other Peruvian government agencies.

Currently, he is the Focal Point for the IANAS Water Program. He is an associate member of the American Society of Civil Engineers (ASCE), the International Association of Hydraulic Research (IAHR) and a full member of the Board of Engineers of Peru (*Colegio de Ingenieros del Peru*, CIP), where he is registered as a Professional Engineer (P.E.) and has served as an officer of the Lima Region Chapter of Civil Engineers.



Uruguay

Zelmira May

Zelmira May is an Agronomy Engineer (UdelaR, Uruguay) and holds a M.Sc. in Water and Environmental Management from WEDC, Loughborough University of the UK. Along her professional life, Ms. May has worked in the field of water resources management in several international organizations acquiring wide experience in the execution and implementation of water programmes at a global and regional level.

Over the past ten years she has been working at the Division of Water Science of UNESCO based in the Regional Office for Science for Latin America and the Caribbean, being presently responsible for the implementation of the International Hydrological Programme (IHP). The IHP is the only scientific intergovernmental water programme in the UN System. As coordinator for the implementation of UNESCO water programme in the region, she is responsible for the development and execution of water initiatives, and for fostering and strengthening the network of the IHP, composed by its National Committees, UNESCO water-related Centres and Chairs, and other relevant partners in the region.

She acted as Executive Secretary of the Global Water Partnership in Uruguay, an organization aiming at fostering the integrated management of water resources. Moreover, she was the Executive Secretary of the Interamerican Water Resources Network, a network of organizations and individuals working on water in the Americas.

Furthermore, Ms. May is the Executive Director of the AquaLAC scientific journal and guest editor in the Special Journal Issue on Sciences in Cold and Arid Regions for Water and Development Information for Arid Lands – a Global Network (G-WADI). In addition she is member of the Board of Directors of the Water Web Consortium.



Henry Vaux

Henry Vaux, Jr. is Professor Emeritus of Resource Economics at the University of California, Berkeley, and the University of California, Riverside. He is also Associate Vice President Emeritus of the University of California System where he served as the Chief Operating Officer for all of the University's programs in agriculture and natural resources. Professor Vaux's academic field is the economics of water resources. He has published over 100 book chapters, journal articles and papers on topics ranging from the economics of water quality to water markets. He is considered an expert in the economics of agricultural water use, water marketing and water policy. Professor Vaux was formerly Director of the University of California Water Resources Center. He continues to chair the Rosenberg International Forum on Water Policy for the University. Prior to joining the University in 1970, Professor Vaux worked on federal water programs at the Office of Management and Budget and as a staff member for the National Water Commission.

Professor Vaux is a National Associate of the U.S. National Academy of Sciences. He served as Chair of the Water Science and Technology Board of the National Research Council and has been a member of many committees appointed by that Board. He has led scientific delegations to Iran, Tunisia and Mexico on behalf of the National Research Council and continues to serve on the InterAmerican Network of Academies of Science's Water Committee. Professor Vaux is President Emeritus of the Board of Directors of the California-based Water Education Foundation. He has received numerous honors including the Warren A. Hall Medal from the Universities Council on Water Resources.

USA



Walter Rast

Walter Rast is a Professor of Aquatic Resources, and the Director of the International Center for Watershed Studies at the Texas State University, where he has worked since 2001. He previously was the Chief of the Freshwater Unit, and subsequently Deputy Director of the Integrated Water Branch at the United Nations Environment Programme (UNEP), headquartered in Nairobi, Kenya, from 1993 to 2000. Prior to his UNEP activities, he was a research hydrologist with the Water Resources Division, U.S. Geological Survey, focusing on lakes and reservoir studies in California and Texas during the period from 1982 to 1992. He also served as a Limnologist at the Great Lakes Regional Office of the U.S.-Canada International Joint Commission in Windsor, Ontario, Canada, and subsequently was senior environmental advisor to the U.S. Headquarters section in Washington, D.C. during 1977 to 1982.

He is the author or co-author of approximately 100 publications, including scientific articles, government reports and United Nations documents. He currently is the Vice-Chair of the Scientific Committee of the International Lake Environment Committee (ILEC), headquartered in Shiga Prefecture, Japan. His previous ILEC activities included

USA

chairing the international working group that produced ILEC's *World Lake Vision*, and primary involvement in the development of ILEC's Integrated Lake Basin Management (ILBM) Platform. Most recently, he was a coordinating lead author of the Water chapter in UNEP's Global Environment Outlook -5. He is the Editor-in-Chief of ILEC's Journal (*Lakes and Reservoirs - Research and Management*), and also serves on the editorial advisory board of the Brazilian Journal of Biology. He has participated and made presentations at many international and national conferences and workshops, with particular interest in the governance elements related to the sustainable use of linked lentic-lotic water systems and their ecosystem services, including the scientific and management implications.



Venezuela

Ernesto González

Ernesto González graduated in Biology from the Universidad Central de Venezuela (UCV, 1987), having obtained his Doctor of Science degree in Ecology, UCV (1996). He has worked as a researcher at the Los Roques Scientific Foundation (FCLR, 1987-1990), conducting studies on phytoplankton primary production and physicochemical characterization of the waters in a coral reef system. He then worked as an Assistant Professor at the National Center for Improving Science Education (CENAMEC, 1990 - 1993), and soon became a Professor-Researcher at the Institute of Experimental Biology (IBE), Faculty of Sciences, at the Central University of Venezuela (UCV, 1993 - present), where he is currently a Professor. Since 1996, he is the Head of the Laboratory of Limnology and since July 2011 he has served as Director of the IBE.

His research interests are: the limnology of reservoirs, phytoplankton-zooplankton interactions and eutrophication of water bodies. With 85 presentations which include conferences in national and international meetings, he has conducted 19 Special Works of Graduation and two Doctoral Theses. Dr. González has participated and directed eight Research Projects, and has lectured in Lakes and Reservoirs Management Training Workshops in Colombia, Costa Rica, El Salvador, Guatemala, Honduras and Panama.

Dr. González has published a book on Field Work in Aquatic Environments, Basic Education, edited by CENAMEC, and has 34 papers in national and international scientific journals, 14 technical reports and an article on the Internet. Currently he is the National Focal Point of Venezuela in the water program of the Inter-American Network of Academies of Sciences (IANAS).

ASIA



Armenia

Marine Nalbandyan

Marine Nalbandyan was born on October 1964 in Yerevan, Armenia. She is a Doctor in Biology and a specialist in Hydrochemistry and Geoecology, acting as senior researcher and water research team leader since 2001.

She received her Ph.D. in Biology in 1993 in Yerevan, from the Sevan Institute of Hydroecology and Ichthyology, of the National Academy of Sciences of Armenia. She developed her Ph.D. thesis working with "Ecological assessment of biogen elements output from different soils of lake Sevan watershed".

Dr. Nalbandyan was the Head of the Water Quality Monitoring Department of ArmHydromet (2000-2001). She worked as the main specialist of NATO SFP/OSCE South Caucasus River monitoring regional project (N 977991) from 2002 until 2008.

Marine Nalbandyan is the president of the Ecological Group "Aquamarin" ECA NGO, a member of the American Society of Civil Engineers, ASCE (2010-2011), of the International Association of Hydrological Science, IAHS (since 2010 to present) and of Cambridge - Yerevan Sister City Association, YCSCA (since 2000 to present).

She has lectured in more than 20 International Congresses in Armenia, South Caucasus, North America, Europe and Asia, and has worked abroad in Norway and Germany. Dr. Nalbandyan received the Visiting International Fellowship Award in 2010 for attendance in the "World Environmental and Water Resources Congress: Challenges of Change", held in Providence, Rhode Island, USA, where she delivered a presentation on "River water pollution modelling under climate change in Kura-Araks basin for watershed management".

Marine Nalbandyan has extensive experience in teaching different ecological disciplines in Universities and Institutes, particularly "Ecological Security", "Sustainable nature use", "Environmental risk management" and others. She serves as a National Expert of State Committee of Science and also has experience in implementation and management of educational projects, professional trainings and workshops.



China

Jun Xia

Jun XIA is the General Director of the Research Institute of China Water Strategy and Leading Professor on Hydrology & Water Resources in the State Key Lab of Water Resources & Hydropower Engineering Sciences of the Wuhan University. He is also the Chair Professor on Hydrology & Water Resources, the Director of the Center for Water Resources Research, of the Chinese Academy of Sciences (CAS), and the Director of the Key Lab. of Water Cycle & Related Land Surface Processes, CAS.

Dr. Xia's major research fields are on the complexity of water system, hydrological processes on changing environment in basin scale, impact of climate change to water security, sustainable use of water and water governance. He is the leading

Professor of several State key research projects in China, such as the National Basic Research Program of China (2010CB428406), entitled “*The Impact of Climate Change on Terrestrial Water Cycle, Water Resources Security and the Adaptation Strategy for East Monsoon Area of China*”, State Water Key Project “*Integrated Water quality and Quantity Management & Water System Operation in Huai River Basin, China*”, among others.

He was awarded the National Labor Award, on May 1st, 2001 by the Chinese Government; the Natural Science Award of Hubei China, in 2004; and the Science & Technology Advanced Award of Xinjiang and Anhui and others, in China, during the period between 1999 and 2010. The Third World Centre for Water Management awarded its *International Prize for Outstanding Contributions to Water Management* to Prof. Jun Xia on October, 2011. He was recognized for his “*outstanding and lifelong achievements and contributions to improve water management in the world in general, and in China in particular*”. Dr. Xia is the first winner of this Prize.



Chandrakant Damodar Thatte

Chandrakant Damodar Thatte has a Ph.D. in Civil Engineering (Hydraulic Modeling) and rose to the apex level of Secretary in the Ministry of Water Resources of the Government of India (Gol), from where he retired in 1993. Earlier he worked as Chairman of the Central Water Commission. Later he worked as Secretary General for the International Commission for Irrigation & Drainage, from 1997-2003. Since 2004 he has been working in Honorary capacity for Gol, Supreme Court of India, State Governments, National/International organizations, and is based in Pune (Maharashtra State).

India

During his long career, he has worked in the following aspects of Water Resources Development and Management: surveys/investigations, planning/designing, R&D, construction, operation & maintenance, dam safety, retrofitting infrastructure, negotiations, problem solving, training and advising. Some of his recent activities include: Serving as a Member Secretary of Gol Task Force for Inter-Linking of Rivers, Member of Supreme Court’s Empowered Committee for Periyar Dam, Chairman of the Expert Committee on Lower Subansiri and Dibang projects, BIS Committees, ICOLD’s Technical Committee on Dams and Water Transfer, Member of the DST Expert Committee for Water Shortage, Member of the Editorial Board of Water International, Reviewer for the Journal of Environmental Management (Elsevier).

In recent past, he served as: the Chairman of the Research Council for the Government of Kerala, Chairman of 2 Expert Committees of Maharashtra, Adviser for the Lower Siang Project Designs, Expert Advisor to Gol in MoWR for the Baglihar Project, Chairman of the Review Team for ICAR’s Water Technology Centre, National Expert for Kalpsar Project, Narmada Planning Group of Gujarat.

Dr Thatte has written over 140 papers for national and international events during his 55 years of professional career, has edited ICID’s publications, and made contributions to International Journals, aside from those to the Governments of India and Gujarat State for which he worked. He conducted several training programmes for the in-service engineers. He has lectured extensively in India and abroad for national and international events. He has been awarded and honoured several times by different fora around the country.



Israel

Uri Shamir

Uri Shamir is Professor Emeritus in the Faculty of Civil and Environmental Engineering, and Founding Director of the Stephen and Nancy Grand Water Research Institute at the Technion - Israel Institute of Technology.

Prof. Shamir holds a BSc (1962) from Technion and a Ph.D. (1966) from the Massachusetts Institute of Technology. He teaches, conducts research and consults in Israel and around the world, on hydrology and water resources management. Since 1992 he has been a consultant to the Israeli Water and Sewage Authority (IWA) on matters of planning and policy, and previously (1967-92) he was a consultant to Mekorot, the National Water Supply Company. He is a member of the IWA core team that is preparing the new Water Master Plan for Israel, a member of the negotiating team with Israel's neighbors on water, chairs the Steering Team for Monitoring the Kinneret and its Watershed, and member of the Isrel-4 Steering Committee for rainfall enhancement by cloud seeding.

He was Chairman of the Israeli Association of Hydrology, President of the International Association of Hydrological Sciences, Vice President and President of the International Union of Geodesy and Geophysics, Member of the Executive Board of the International Council of Science (ICSU) (2005-2011), and Chair of the Technical Advisory Committee of the World Water Assessment Programme for the preparation of the third and fourth editions of the World Water Development Report (2009 and 2012).

Dr. Shamir is Fellow of the American Geophysical Union, Fellow of the American Society of Civil Engineers, Foreign Member of the Spanish Academy of Science, Honorary Member of the Israel Water Resources Association, recipient of the 2000 International Hydrology Prize awarded by IAHS, UNESCO and WMO, and recipient of the 2003 Julian Hinds Award for significant contributions to water resources management from the American Society of Civil Engineers.



Japan

Masahisa Nakamura

Born in 1945, Masahisa Nakamura graduated from Hokkaido University, Japan (1968), received his Ph.D. in Environmental Engineering from the University of Illinois, Urbana-Champaign, U.S.A. (1977), and taught at the University of Louisville, Kentucky, U.S.A. (1977-1980). He assumed the post of Environmental Systems Engineer, with the World Health Organization (1980-1986), stationing in Kuala Lumpur, Malaysia, where he was in charge of environmental policy and planning, particularly with respect to water resources management, environmental systems analysis in sanitation and solid waste management in the Western Pacific Region, mainly for East Asia, South East Asia and the Pacific Island nations. He returned to Japan in 1986.

Since his return to Japan, he led the environmental policy research projects at Lake Biwa Research Institute (LBRI, currently Lake Biwa Environmental Research Institute or LBERI), assuming the post of Deputy Directorship in 1994, and later the post of Directorship from 1994 to 2005. He was appointed as a member of the Scientific Committee of the International Lake Environment Committee Foundation (ILEC), Japan, in 1995, and then assumed the post of Chairmanship in 2005, which he occupies until today. He has also been a Professor (2005-2010) and the Director (2007-2010) of the Research Center for Sustainability and Environment (RCSE-SU), at the Shiga University the Japan. He is currently a Professor by Special Appointment at RCSE-SU.

Over the past decades, he has been leading the research projects on development of the conceptual framework for Integrated Lake Basin Management (ILBM). He

is currently working on conceptualizing Integrated Lentic and Lotic Resources Management (ILLRM), an adjunctive concept allowing IWRM to pay greater attention to the lentic water systems on the globe that constitute more than 90% of all of the readily available liquid freshwater on earth.



Jordan

Nisreen AL-Hmoud

Nisreen Daifallah Al Hmoud obtained a Ph.D. in Microbiology from the University of Abertay Dundee/Scotland in 2002. In 2003, she joined the *Royal Scientific Society* (RSS) of Jordan as a Researcher at the *Environment Research Centre* (ERC) and served as the Head of the *Water Quality Studies Division* (WQSD) at ERC (2006-2010).

She is an environmental microbiologist with experience in biofouling, bio-solids, grey water and water & food safety. In August 2007, she was nominated to represent the Hashemite Kingdom of Jordan in two technical meetings at the United Nations headquarters in New York for updating the *Technical Guidelines and Procedures for the Investigation of Alleged Use of Chemical, Biological, or Toxin (CBT) Weapons*.

Since January 2009, she has been heading the group on Bio-safety at ERC and is a member of the *National Bio-safety Committee* and the *National Committee for Science and Technology Ethics* in Jordan. She is also a member of the “*Task Force on the Technical Dimensions of a Weapons of Mass Destruction Free Zone (WMDfZ) in the Middle East*” and the President of the *Biosafety and Biosecurity International Conference* (BBIC) Steering Committee since May 2010.

Currently, Dr. Al-Hmoud is the Division Head of Environmental laboratories at RSS. Besides working at RSS, she has teaching experience in *Medical Microbiology* at the University of Jordan and was appointed as an Assistant Professor at Princess Sumaya University for Technology (PSUT), teaching a *Master Program of Environmental Technology and Management*. Since September 2010, she has been the Head of Environment Management Department at PSUT. Dr. AL-Hmoud has written and supervised or co-authored a number of peer-reviewed papers, technical reports and chapters in books.



Malaysia

Salmah Zakaria

Salmah Zakaria is a Fellow of the Academy of Science of Malaysia (ASM), a member of the ASM Water Group, and chairs the ASM Task Force on Climate Change Adaptation. She is currently a water specialist in ESCAP, Bangkok. Her current interests include policy research on Water-Food-Energy Nexus, Economic-Food-Water Security, MIR in the Water Sector and Green Growth in Climate Change Adaptation. She is a Steering Group member of the APWF/ADB Water Knowledge Hub for Climate Change Adaptation (WKHCCA) and ESCAP’s alternate focal point in UN-Water. She was the chair of AguaJaring SEA, and was an SC with GWP. She served for more than 30 years in the Malaysian government, holding various positions, of which the last three are detailed below.

As the Director General of NAHRIM, 2005-2008, she steered research in hydraulics and hydrology, including climate change projections and the development of water related capacity in Malaysia and SEA. NAHRIM became one of the Regional Water Knowledge Hubs for Climate Change Adaptation (WKHCCA), within APWF under her tenure.

As the Director of the Corporate Development of the Department of Irrigation and Drainage (DID), Malaysia, 2002-2005, she was responsible for the overall monitoring of the DID national development budget and departmental generic policies. These included IWRM/IRBM initiatives, restructuring of DID and international relationships.

As the Director of River Engineering, DID, Malaysia 1999-2002, her focus was on the development of river management national policies and implementation programs, river basin studies and construction management. The Malaysian Storm Water Management Manual (SWMM) was also produced during her tenure.



Russia

Alexander Zinoviev

Alexander Timofeevich Zinovyev was born on January 1959, in Barnaul, Russia. He was educated in Altai and Novosibirsk State Universities, where he obtained a BSc. degree in Thermal Physics (1980). He was a postgraduate student at Thermal Physics department of Novosibirsk State University (1983-1986) and in 1987 he received his Ph.D. in *physical and mathematical sciences*, from the Institute of Thermal Physics, SB RAS, Novosibirsk (1987).

His current research interests are related to the theory of turbulence, mathematical modeling of hydrophysical and ecological processes, ice-thermal processes, computational hydraulics, hydrological research, limnological research, stream processes, water quality and application of GIS in hydrological study. Dr. Zinovyev has participated in more than 30 International Conferences in Asia, Europe and North America.

He is the Scientific Secretary of the International Program "Clean Water – A Step Forward", implemented by the Association of Academies of Sciences in Asia (AASA), and also of the Siberian section of the Scientific Board of RAS "Water inland resources". He is the Russian representative at the IAP Water Programme, having organized two regional symposia of the programme in Central Asia.

Dr. Zinovyev was the winner of the All-Russian scientific competition in the field of the innovation technologies (START-2005). At present he is the Head of the Laboratory of Hydrology and Geoinformatics and the Deputy Director for Science for the Institute for Water and Environmental Problems of the Siberian Branch, RAS.

EUROPA



France

Jean-Marie Fritsch

Jean-Marie Fritsch is a French hydrologist. He got his training at the universities of Strasbourg and Montpellier, where he passed his doctorate dissertation in 1990, on the effects of deforestation on flow regimes and erosion, assessed on small experimental catchments located in the French Guyana.

Since 1970, he has been employed by the French Institute of Research for Development (formerly ORSTOM, nowadays IRD). As such, the largest part of his professional career took place in countries of the South. He has been posted in Tunisia, Brazil (Northeast), French Guyana, Thailand and South Africa for several years.

He was the director of IRD engineering division (1987-92) and as such, participated in a number of research contracts and expertise in sub-Saharan Africa and South-East Asia for the EU, the UN and the World Bank. From 1993 to 1999, he was the director of the IRD research unit on large rivers.

He was seconded by France to the World Meteorological Organization – WMO (Department of Hydrology and Water Resources), for implementing the WHYCOS programme (World Hydrological Observing System) in West Africa and Southern Africa.

From 2004 to 2010, based in South Africa (Johannesburg), he was the regional permanent representative of IRD for Southern Africa (Botswana, Mozambique, Namibia and the Republic of South Africa). He developed a number of research projects with research institutions of these countries, involving NEPAD, the EU and the French bilateral cooperation.

He has been nominated Emeritus Director of Research in 2011. He is associated with Research Unit 055 (CNRS, IRD and University of Montpellier)

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Germany

Christiane Diehl

With a background in Development, Political Theory and Analytical Ethics, Dr. Diehl has been active on the interface between development policy and science before moving to EASAC – and thus into the delivery of science-based policy advice to the institutions of the EU by the EU National Academies of Science. EASAC has a focus on Energy, Environment and Biosciences and became the regional affiliated network for Europe of IAP in 2011. It has since increased its contacts with other IAP regional networks, notably the network of African Science Academies (NASAC).

The improvement of political processes for the benefit of societies is the key to many challenges of today. Global problems require new and global approaches and policy-makers and representatives of civil society are trying to find ways of rational decision-taking for the collective good that adequately reflect the scientific and technological potential of modern societies.

Together with the EASAC's President and other senior members of the organisation, she tries to use her role as Executive Director to position the EU National Academies

in Brussels as a prime source of independent expert advice. Furthermore, together with members and staff of the EASAC academies, she tries to improve the cooperation within the network and to support individual academies in building up capacities to give science-based statements and advice to their policy-making community and the wider public.

She is very much looking forward to this first direct encounter with IANAS, the IAP regional affiliated network for the Americas, hosted by the Academy of Sciences of Brazil.



Germany

Henning Steinicke

Henning Steinicke graduated in biology (equivalent to a Master of Science), from the Martin-Luther-University Halle-Wittenberg, Germany, with specialisation in the field of ecology (population ecology and conservation of reptiles). After this he further developed the concept of national responsibilities for the conservation of species, evaluating the responsibility of Germany for the conservation of amphibians and reptiles. This complementary tool to red lists improving the definition of conservation and research priorities, have been further improved and were implemented by the Federal Agency for Nature Conservation into German conservation concepts.

In 2003 he joined a Brazilian-German cooperation project between the Helmholtz Center of Environmental Research UFZ and the University of São Paulo USP. The focus of his work laid on population ecology of amphibians in the fragmented landscape of the Atlantic Forest at the Plateau of São Paulo, investigating selected species at population level. Within this project he did his Ph.D. in the field of ecology.

After this step he focused again on conceptual problems in the conservation of species and coordinated the EU-project “SCALES – Securing the Conservation of biodiversity across Administrative Levels and spatial, temporal, and Ecological Scales”. This project aims to improve and test conservation guidelines at the different scales of the European Union and brings together 29 European research institutions that are active in conservation research.

In 2011 he moved to the National Academy of Sciences, Leopoldina, to a recently established department responsible for the science based advice on policy and society. As scientific officer in the field of life sciences he plays an active role in the dialogue between science, policy, and society.



Poland

Katarzyna Izydorczyk

Katarzyna Izydorczyk graduated in environmental protection, from the University of Lodz in Poland (M.Sc., 1997), where she also obtained the degree of Doctor of Science in Ecohydrology (Ph.D. 2003). She worked as a researcher at the University of Lodz (2003-2005) conducting studies on phytoplankton ecology and biotic/abiotic regulations of toxic cyanobacterial bloom intensity.

Since 2006, Dr. Izydorczyk has worked in the International Institute of the Polish Academy of Sciences European Regional Centre for Ecohydrology, under the auspices of UNESCO. Currently she is the Deputy Director of the Institute.

Her research interests are in the areas of applied fluorescence technique for cyanobacterial bloom monitoring, implementation of ecohydrological processes in reservoir rehabilitation, and development of ecohydrological biotechnologies for reduction of diffuse pollution. She has participated in six research projects supported by European Commission and is co-author of 46 publications in national and international scientific journals and book chapters aside from having performed 52 presentations at conferences.



Spain

Manuel Ramón Llamas

M. Ramon Llamas is currently Emeritus Professor of Hydrogeology at the Complutense University of Madrid. Since 1986 he is a Fellow of Spain's Royal Academy of Sciences and in 2005 he also became a Fellow of the European Academy of Science and Arts.

He is author and/or co-author of nearly one hundred books and monographs and almost four hundred scientific papers. He received the Cannes International Great Prize for Water in 2006.

Prof. Llamas is a Member of the French Academie de l'Eau (2006) and was President of the International Association of Hydrogeologists (IAH) from 1984 to 1989. In 1992 he was appointed Honorary Fellow of the Geological Society of the United Kingdom. He has been a coordinator of the UNESCO Working Group on the Ethics of the use of Fresh Water Resources (1998-1999) and was a Member of the Scientific Advisory Committee of the International NGO "Action against Hunger" (1999-2004).

Since 1998 he is the Director of the Water Observatory of the Spanish Foundation Botin (www.fundacionbotin.org/agua.htm).



United Kingdom

Richard Graham Taylor

Richard Taylor is a Reader in Hydrogeology at UCL and adjunct Professor at Makerere University (Uganda). He has more than 20 years of experience engaged in research assessing the impacts of development as well as climate change and variability on aquatic ecosystems and catchment-scale hydrology with a strong focus on basin storage (groundwater, soil, glaciers).

He has led large multidisciplinary investigations on the impact of climate change and variability on hydrology and ecosystems in Africa, South Asia and the UK. He has secured grants totalling more than two million Pounds Sterling, as a Principal Investigator from UK research councils (NERC, EPSRC), UK DFID, NSF (USA), NSERC (Canada), IDRC (Canada) and The Royal Geographical Society.

Dr. Taylor organised and led the international conference *Groundwater & Climate in Africa*, held in 2008 in Kampala (Uganda) - the first and largest meeting to discuss groundwater and climate change in Africa. He has also led and chaired sessions on water and climate at major international meetings including COP15 in Copenhagen, 3rd World Climate Congress (Geneva) and the 5th World Water Forum (Istanbul). He is Co-Chair of the *IAH Commission on Groundwater & Climate Change* and UNESCO-IHP GRAPHIC (*Groundwater Resources Assessment under the Pressures and Humanity and Climate Change*) programme.

He has over 50 refereed publications and held numerous technical advisory positions with UNDP, World Bank, EU, DANIDA, African Medical Relief Foundation and Canadian Physicians for Aid & Relief. As part of all of these activities, Dr. Taylor has trained a large number of personnel from universities, governments, and NGOs under a wide variety of conditions that include rebel insurgency in northern Uganda (1994 – 1995) and genocide in Rwanda (1994). This has included supervision of 5 Post-doctoral Research Fellows and 12 Ph.D. students from Uganda, Nigeria, India, Bangladesh, China and the UK.