

Annual Report 2007

Regional Office for Latin America and the Caribbean



# About the Regional Office

To ensure that the regional priorities are reflected in the ICSU strategic plan and develop sound regional scientific programs.

### **About ICSU**

### Vision

The long-term ICSU vision is for a world where science is used for the benefit of all, excellence in science is valued and scientific knowledge is effectively linked to policy-making. In such a world, universal and equitable access to high quality scientific data and information is a reality and all countries have the scientific capacity to use these and to contribute to generating the new knowledge that is necessary to establish their own development pathways in a sustainable manner.

### Mission

ICSU's mission is to strengthen international science for the benefit of society.

To do this, ICSU mobilizes the knowledge and resources of the international science community to:

- Identify and address major issues of importance to science and society
- Facilitate interaction amongst scientists across all disciplines and from all countries
- Promote the participation of all scientists regardless of race, citizenship, language, political stance, or gender in the international scientific endeavour
- Provide independent, authoritative advice to stimulate constructive dialogue between the scientific community and governments, civil society, and the private sector.



### Joint Message from the Director of the Regional Office and the Chair of the Regional Committee

We are pleased to present the first Annual Report of the ICSU Regional Office for Latin America and the Caribbean, covering the activities of 2007.

Although formally inaugurated in April 2007, the Regional Office initiated its activities in January. Hosted by the Brazilian Academy of Sciences and supported by the Brazilian Government, ICSU and CONACYT, México, the Regional Office is now fully operational.

Established as part of the new ICSU strategy for reinforcing its activities in developing countries, the ICSU Regional Offices are aimed at promoting the development of science in the context of regional priorities, and to support the work of ICSU and its Scientific Unions, National Members in the Region, Interdisciplinary Bodies as well as its partners such as UNESCO and the Academy of Sciences for the Developing World (TWAS).

It gives us, therefore, great satisfaction to introduce the present document that clearly shows the achievements of the Regional Office for Latin America and the Caribbean and the important strides made towards those objectives in its first year of activity.

The Regional Committee for Latin American and the Caribbean was appointed by ICSU to provide scientific guidance to the actions developed by the office. The Committee has gathered since the end of 2006, and has established a collaborative and friendly working relationship with the Regional Office, leading to the implementation of jointly discussed decisions.

During this first year, two activities must be highlighted. The first is related to the inauguration ceremony and the preceding International Symposium held at the Brazilian Academy of Sciences in Rio de Janeiro, Brazil. The ICSU Regional Office for Latin America and the Caribbean was formally inaugurated on 18th April in the presence of H.E. Sérgio Rezende, the Minister for Science and Technology of Brazil; in a ceremony attended by ICSU authorities and distinguished guests from Brazil, Latin America and the Caribbean.

"The International Symposium Priorities in Science and Technology for Latin America and the Caribbean: planning future action", brought together distinguished regional specialist to present the four priority areas selected by the Regional Committee for the development of regional scientific collaboration programs: Mathematics Education, Biodiversity, Sustainable Energy and Natural Disasters and gave the first guidelines for the work of the Office.

The second central activity in 2007 is related to the appointment and start of activities of the Scientific Planning Groups (SPGs), responsible for the development of the four Science Plans in the defined priority areas. By the end of 2007, all Scientific Planning Groups had been appointed and two first meetings were held. This was an auspicious start for an effort we hope will influence the development of science in the region in the years to come.

During its first year, the Regional Office engaged in strengthening relations with the large and complex ICSU family, and in extending its contacts with several international organizations to explore future collaboration possibilities.

We are certain that the activities in 2007 give a sound basis for the work of the Regional Office in the forthcoming years.

Rio de Janeiro and Mexico, May 30th, 2008.

Alice Abreu

Director of ICSU-LAC

José Antonio de la Peña Chair of the Regional Committee for LAC

## Inauguration of the ICSU Regional Office for Latin America and the Caribbean



Thomas Rosswall, José Antonio de la Peña, Eduardo Krieger, Sergio Rezende, Alice Abreu, Hernan Chaimovich and Jacob Palis.

The ICSU Regional Office for Latin America and the Caribbean was formally inaugurated on 18<sup>th</sup> April in the presence of: the Minister for Science and Technology of Brazil, H.E. Sérgio Rezende; President of the Brazilian Academy of Sciences, Eduardo Krieger; President Elect of the Brazilian Academy of Sciences, Jacob Palis; Vice President for External Relations of ICSU, Hernan Chaimovich; Chair of the Regional Committee for Latin America and the Caribbean, José Antonio de La Peña; and the Director of the Regional Office, Alice Abreu, in a ceremony attended by distinguished guests from Brazil and Latin America and the Caribbean at the Brazilian Academy of Sciences in Rio de Janeiro, Brazil.

Also present was the Executive Director of ICSU, Thomas Rosswall, and the members of the Regional Committee for Latin America and the Caribbean: Juan Asenjo, Chile; Carmen Samayoa, Guatemala; Elena Vigil, Cuba; Tara Dasgupta, Jamaica; Mahabir Gupta, Panama; and

Belita Koiler, representing the Brazilian Academy of Sciences. The Directors of the Regional Committees for Africa and for Asia & Pacific, Gabriel Ogunmola and Anupam Varma; and the Chair of the ICSU Policy Committee for Developing Countries, Marian Addy, also attended the ceremony.

Furthermore, several representatives of the ICSU family were present: the Mexican Academy of Sciences; the Cuban Academy of Sciences IUFost (International Union of Food Science and Technology); SBCTA (Sociedade Brasileira de Ciência e Tecnologia de Alimentos), International Union of Physiological Sciences; IGBP (International Geosphere and Biosphere Programme). Fellow international organizations like the Inter American Institute for Global Change Research (IAI), the CRECTEALC (Centro Regional de Educação em Ciência e Tecnologia), and the Pan American Health Organization sent representatives.

Several Brazilian authorities participated in the event, representing FINEP (Financiadora de Estudos e Projetos), FAPERJ (Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro), CGEE (Centro de Gestão e Estudos Estratégicos); O ECO (news agency on ecology and environment), IBGE (Instituto Brasileiro de Geografia e Estatística), the Catholic University of Rio de Janeiro, the Federal University of Rio de Janeiro, COPPE, among others.

The ICSU Vice President for External Relations opened the ceremony, followed by the Director of the Regional Office, who addressed the meeting and highlighted the special responsibility of the Regional Offices in promoting local scientific and technological capacities, through the coordination of regional scientific programs. The Chair of the Regional Committee for the Latin America and the Caribbean celebrated the ICSU initiative to open Regional Offices in developing countries.

Eduardo Krieger, speaking as the outgoing President of the Brazilian Academy of Sciences, described the increasingly important participation of the Academy in the international scientific community and emphasized the satisfaction of the Brazilian Academy of Sciences in hosting the ICSU Regional Office for Latin America and the Caribbean.

As the last speaker, Minister Sergio Rezende pointed out that the Regional Office was established in an especially auspicious time, coinciding with the increasing recognition of the importance of the international cooperation between Latin American and Caribbean countries. The Minister also reaffirmed that the Brazilian Ministry of Science and Technology will support this collaboration in a concrete way, since it recognizes science and technology international collaboration as one of the priority areas for the region.



Eduardo Krieger, Minister Sergio Rezende, Alice Abreu and Hernan Chaimovich

### International Symposium "Priorities in Science and Technology for Latin America and Caribbean: planning future action"

The International Symposium "Priorities in Science and Technology for Latin America and the Caribbean: planning future action", preceded the inaugural ceremony of Regional Office and presented the four priority areas being considered for the development of regional scientific collaboration programs: Mathematics Education, Biodiversity, Sustainable Energy and Natural Disasters. The Symposium was supported by FAPERI (Fundação Carlos Chagas Filho de Amparo a Pesquisa do Estado do Rio de Janeiro).

Firstly, the Executive Director of ICSU, the ICSU Vice President for External Relations, and the Chair of the ICSU Regional Committee for Latin America and the Caribbean, presented the International Council for Science and its Regional Office for Latin America and the Caribbean, and informed of the activities of the Regional Committee for Latin America and the Caribbean.

Two roundtables followed, to discuss "Recent Developments and Future Action" in the four priority areas being considered. Mary Kalin Arroyo, from Chile, made a presentation on biodiversity and the importance of the theme for Latin America and the Caribbean, while Décio Luiz Gazzoni, from EMBRAPA, Brazil, presented the ICSU initiatives related to sustainable energy and considered the regional potentialities in this area. The theme on natural disasters was presented by Allan Lavell, from Costa Rica, who discussed the relevance of the theme for Latin America and the importance of regional collaboration to develop the science needed to understand and mitigate these phenomena. Carlos Nobre, from INPE, Brazil, clearly showed the linkages between global change and natural disasters and stressed the need to increase our knowledge of the region through a consistent and substantive science project. José Antonio de la Peña, Chair of the ICSU Regional Committee for Latin America and the Caribbean and Deputy Director of CONACYT, Mexico, and Elon Lages Lima, from IMPA in Brazil, showed the dismal situation of basic mathematic proficiency of Latin-American students, in general, and the importance of developing regional actions to revert this.

Finally, the Director General of CONACYT, Mexico, Juan Carlos Romero Hicks and Jacob Palis, elected president of the Brazilian Academy of Sciences and President of TWAS, discussed the relevance of international cooperation for the scientific and technological development of the region.



Juan Carlos Romero Hicks and Jacob Palis



Carlos Nobre

Juan Asenjo, Carmen Samayoa and Elena Vigil

### Regional Committee for Latin America and the Caribbean

To assist the Regional Office in its mission, a Regional Committee for Latin America and the Caribbean was appointed in late 2006, composed of distinguished scientists from the region.

In 2007, the Regional Committee held two meetings. The 2<sup>nd</sup> Meeting of the Regional Committee for Latin America and the Caribbean was held at the Brazilian Academy of Sciences in Rio de Janeiro, Brazil, two days before the inauguration ceremony. The Regional Committee reviewed the documents produced by invited scientists on the selected priority areas and refined the definition of the scope for each area. The methodology to appoint the Scientific Planning Groups for each priority area was also defined. Also discussed, were the role the Regional Office regarding the ICSU Scientific Unions members and the Regional Disciplinary Networks that are especially important in Latin America.

The 3<sup>rd</sup> Meeting of the ICSU Regional Committee for Latin America and the Caribbean took place in Mexico City, Mexico, on September 27th and 28th, 2007, with the generous support of CONACYT Mexico. The Regional Committee members discussed an extensive agenda including the preparation of the 29th General Assembly of ICSU and the progress report of the four Scientific Planning Groups in the priority areas.



Juan A. Asenjo, Enrique P. Lessa, Patricia Ocampo-Thomason, José Antonio de la Peña, Alice Abreu, Elena Vigil, María del Carmen Samayoa, Mahabir P. Gupta and Tara Dasgupta

### ICSU Regional Committee for Latin America and the Caribbean

### José Antonio de la Peña - Chairperson (2006-2009)

José Antonio de la Peña, from México, is the Deputy Director for Scientific and Academic Development of CONACYT, the National Council for Science and Technology of Mexico and Professor of Mathematics at the Institute of Mathematics at the Autonomous University of Mexico (UNAM), where he has been a researcher since 1986. From 1984 to 1986 he held a postdoctoral position at the University of Zurich. He was President of the Mexican Mathematical Society (1989-1990), President of the Mexican Academy of Sciences (2002-2004) and Director of the Institute of Mathematics at UNAM (1998-2006).

His main area of research is algebra. He has published more than 100 scientific articles, several textbooks for different educational levels and books on popularization of science. He has been distinguished with the National University Prize for Young Researchers in 1991, the Prize of the Mexican Academy of Sciences in 1994, the TWAS Prize in 2002, the National Prize in Science of Mexico in 2005 and the Humbolt Award in 2006.

### Juan A. Asenjo (2006-2008)

Juan A. Asenjo is a chemical engineer from the University of Chile and obtained his PhD from University College London in 1978. In 2004 he was awarded the Chilean National Science Prize. He is Vice President and the Foreign Officer of the Chilean Academy of Sciences. His research work in biotechnology is shown by 165 international scientific publications, six international patents and four books edited.

He was Associate Professor and Director of the Biochemical Engineering Laboratory at Columbia University (New York) and created such a laboratory in the University of Reading in England (1986-1994). He is also a member of the Editorial Committee of six international scientific journals in biotechnology and bioengineering, and obtained the Presidential Chair in Sciences (1997) and is an active member of IANAS and participates in the Long Term Programmes Committee of IAP.

### Tara Dasgupta (2006-2008)

Tara Dasgupta holds a Masters degree from the University of Bihar and Doctoral degrees from the University of Calcutta, India. He concluded his post-doctoral studies at the University of Buffalo, Boston University and University College London.

President of the Caribbean Academy of Sciences, he was elected Fellow of the Royal Society of Chemistry and of the Caribbean Academy of Sciences and worked nearly 34 years at the Department of Chemistry at the University of West Indies Mona.

He has published more than 120 research articles in top international refereed journals and his list of honors include the Vice-Chancellor's award, Principal's award and the Jamaican Society of Scientists and Technologists.

### Sandra Díaz (2006-2009)

Graduating in 1984 and holding a PhD since 1989 at the National University of Cordoba, she is Associated Professor of the Biological Diversity and Ecology Department, Full Professor at the National Council for Scientific and Technical Research at the same university and Senior Permanent Research Fellow of the National Council of Scientific and Technical Research (CONICET).

She was visiting fellow in several prestigious institutions and is the leader of the Inter American Collaborative Research Network on Functional Biodiversity and Sustainability (IAI CRN II). She is also an active member of the Scientific Steering Committee of the IGBP Global Land Project and of DIVERSITAS. She has also been Associate Editor of the Journal of Vegetation Science, becoming Chief Editor in 2003; Associate Editor of the Austral Ecology since 1998; Review Editor for the IPCC; and Coordinating lead Author in the Millennium Ecosystem assessment.

She has published more than 96 scientific and pedagogic papers and was honored, among others, with the Guggenheim Fellowship in 2002; the Biennial Award "Lorenzo Parodi" of the Argentine Society of Botany in 1998; and the "Ten Outstanding Young People" Award of the Trade Association of Cordoba in 1995.

### Mahabir Gupta (2006-2009)

Graduated at the University of Rajasthan and Master in Pharmaceutical Chemistry at Banaras Hindu University, Prof. Gupta he was awarded his PhD at Washington State University in 1971. His professional experience includes: Alexander von Humbolt Research Fellowship at University of Munich, Professor and Researcher at the University of Panama, Founding Director of the Center for Pharmacognostic Research on Panamanian Flora, and Dean of the School of Pharmacy at the University of Panama.

He was International Coordinator of the Ibero-American Program of Science and Technology for Development's (CYTED) Natural Products Drug Recovery Program, Research Associate with the Smithsonian Tropical Research Institute, and Executive Director of the INTERCIENCIA Association.

He is member of the Royal Academy of Pharmacy in Spain, the Latin American Academy of Sciences, the National Commission of Biodiversity in Panama, Rho Chi, Sigma XI, the American Society of Pharmacognosy, the German Research Society on Medicinal Plants, the Phytochemical Society of Europe and founding member and Secretary of the Panamanian Association for the Advancement of Sciences. Gupta is the recipient of the AAAS Award for International Scientific Cooperation.

### Enrique P. Lessa (2006-2008)

Enrique Lessa graduated in 1981 in biological sciences at the Universidad de la Republica, Montevideo, Uruguay. In 1987, he concluded his PhD at the New Mexico State University, USA, and was a postdoctoral Fellow at the University of California, Berkeley, between 1987 and 1992.

Professor at the Faculty of Sciences of the Universidad de la Republica, Uruguay, since 1992, his main area of research is biological sciences and zoology. Moreover, he is corresponding member of the National Academy of Exact, Physical, and Natural Sciences of Argentina since 2004. In 1999, he was awarded a John Simon Guggenheim Memorial Foundation fellowship.

### Maria del Carmen Samayoa G. de Arriola (2006-2008)

Graduating from the University of San Carlos in 1969, Samayoa concluded her Masters in Toxicology at the University of Sevilla in 2005. Specializing in biochemistry, with a professional life dedicated to applied research, she is President of the Guatemala Academy of Medical, Physical and Natural Sciences and Secretary of the Caribbean Scientific Union Board.

She has held important positions: Associated Researcher, Chief of the Natural Products' Chemistry Department, Head of the Chromatography II Laboratory, Member of the Quality Control Team for trust in laboratories, Coordinator of the laboratory services unit and Head of the Chromatography Laboratory of ICAITI; Coordinator of the production at the Biological and Chemistry Research Institute and Annalist of the Toxicology Laboratory at the Chemistry Sciences and Pharmacology School of University of San Carlos since 2007.

The author of 89 publications in international scientific journals, Samayoa is also a member of several international organizations such as: Academy of Physical and Natural Sciences of Guatemala, Third World Academy of Sciences, Women Scientists Association, Committee Member of COGUANOR, National Council of Science and Technology, Executive Committee of IANAS.

### Elena Vigil Santos (2006-2009)

Elena Vigil Santos graduated with a Masters in Physics at the Fairleigh Dickinson University in 1965, and completed her Doctorate studies at the University of Havana (UH) in 1984. Her career includes the positions of Associated Director of Research at the Physics School, and Vice-Director of Research at IMRE. She is Full Professor and Researcher at UH and President of the Solar Energy Cathedra and of the Cuban delegation at Cubasolar; and is devoted to the study of solar energy, in particular, new solar cell materials and structures. Elena Vigil is a member of several organizations including: ACC, a Merit Member since 2006; ICSU Regional Committee for Latin America and Caribbean; and Cubasolar. She has received many honors, including: Frank País and Carlos J. Finlay Medals, in 2003 and 2005 respectively; Illustrious Member of the Cuban Physics Society; Distinction from the MES Minister in 1991 and 2005; Acknowledgment of Academic Excellence in Sciences and Material Engineering Teaching by the Autonomous University of Madrid in 2002; and Sofia Kovaleivskaya Award in 2005. Moreover, she is the author of more than 70 scientific articles, 150 presented works and four granted patents.

### **Ex-officio**

#### Belita Koiller

Belita Koiller graduated from the Pontifical Catholic University of Rio de Janeiro in 1971 with a degree in physics, and earned a PhD from the University of California, Berkley in 1975.

Full Professor at the Federal University of Rio de Janeiro, her area of expertise is physics with emphasis in condensed matter physics. Her research focuses mainly on: semiconductors, nanostructures, quantum computing and electronic properties of disordered systems.

During her professional life, she has been honored with the Guggenheim Fellow in 1982, received a nomination of Commander of the National Order of Scientific Merit by the Ministry of Science and Technology and by the Presidency in 2002 and was awarded with the UNESCO/L'ORÉAL Prize for Women in Science in 2005. She has been a Full member of the Brazilian Academy of Sciences sicne 1996.

#### Thomas Rosswall

Thomas Rosswall is Executive Director of the International Council for Science (ICSU). Formerly he has been Director of the International Foundation for Science (IFS), Rector (President) of the Swedish University of Agricultural Sciences, Director of the International START Secretariat, Executive Director of the International Geosphere-Biosphere Programme (IGBP) and Professor of Water in Nature and Society at the Universities of Stockholm and Linköping, Sweden. He has also served on numerous international and national committees and boards and is an elected member of six learned societies including the Royal Swedish Academy of Sciences, Academia Europaea and the Academy of Sciences for the Developing World.

Thomas Rosswall has been instrumental in the development of microbial ecology, both nationally and internationally. His leadership in three major ecosystem projects has been important not only for ecosystem sciences in Sweden, but also for the development of international networks, which have fostered intensive collaboration between scientists in many countries. His work on carbon and nitrogen cycling has ranged from microcosm studies to the globe and has linked deep process understanding to modelling efforts of entire systems at all scales.

#### Alice Abreu

Alice Rangel de Paiva Abreu is the Director of the ICSU Regional Office for Latin America and Caribbean. She received her Doctoral Degree in Sociology from the University of São Paulo, Brazil in 1980, and her MSc in Sociology from the London School of Economics and Political Science at the University of London in 1971.

Full Professor of Sociology from the Federal University of Rio de Janeiro until 2005, Professor Abreu is a former Vice President of the Brazilian National Research Council for Scientific and Technological Development and Director of the Office of Education, Science and Technology of the Organization of American States.

She received the National Order of Scientific Merit from the Ministry of Science and Technology of Brazil in 2001, and was awarded with the "Palmes Académiques" from the Ministry of Youth, National Education and Research of France in 2003. At present Alice Abreu is a Member of the Gender Advisory Board of UNCSTD, of the Executive Committee of the International Sociological Association, of the Iniciativa del Milenio de Chile, of the Agence inter-établissements de recherche pour le développement and a Member of TWOWS - Third World Organization for Women in Science.



### IV Meeting of the ICSU Policy Committee on **Developing Countries (PCDC)**

The 4th Meeting of the Policy Committee for Developing Countries was held in Rio de Janeiro, Brazil, on April 18th, 2007, at the Brazilian Academy of Sciences. Hernan Chaimovich, Vice President of ICSU and Alice Abreu, Director of the Regional Office were present at the event, and participated in the discussions which centered on how to integrate the Regional Committees and Offices in the PCDC in order to specifically address the balance between regional and global activities.

### Joint Meeting of the ICSU Regional Committee for Latin America and the Caribbean (RCLAC) and the Policy Committee on Developing Countries (PCDC)

The Joint Meeting of the ICSU Regional Committee for Latin America and the Caribbean (RCLAC) and the Policy Committee on Developing Countries (PCDC) took place on April 17th, 2007, at the Brazilian Academy of Sciences, Rio de Janeiro, Brazil. The two committees met for the first time and exchanged information on their priorities and activities.

### Scientific Planning Groups of ICSU-LAC

The central activity of the Office in 2007 related to the appointment of the Scientific Planning Groups (SPGs) and the commencement of their activities. The four priority areas, based on the ICSU Strategic Plan 2006-2011 defined by the ICSU Regional Committee for Latin America and the Caribbean for its activities in the period between 2007 and 2010 are:

#### Mathematics Education;

**Biodiversity:** knowledge, preservation and utilization of biodiversity of all countries of the Latin American and Caribbean region, and to ensure that the scientific community of the smaller countries of the region are fully integrated in DIVERSITAS;

Natural disasters: prevention and mitigation of risks specially of hydrometeorologic origin with special attention to the necessary social science research; and

**Sustainable energy**: assessment of the existing capacities in the LAC region and the social impact of the use and development of new energy resources.

In 2007, the SPG in Mathematics Education held its First Meeting on October 1<sup>st</sup> and 2<sup>nd</sup>, in Mexico City and the SPG in Natural Disasters met in December 5<sup>th</sup> and 7<sup>th</sup>, in Manizales, Colombia.

All SPG members have been appointed and will prepare a proposal that will:

Review the current status of the priority area in the region, taking into account the major R&D&I activities. Interests of the ICSU Scientific Unions, Interdisciplinary Bodies and Joint Initiatives should also be incorporated in this exercise; (2) Formulate a set of detailed objectives for the priority area based on the ICSU Strategic Plan of 2006-2011; (3) Identify targeted areas of research in the given time frame, and define milestones that should be reached during the life span of the proposed program; (4) Define capacity building needs; (5) Define concrete actions with a high social impact and visibility to be promoted by ICSU and its Regional Office and propose ways by which the ICSU family and its strategic partners can be involved in implementing the proposed actions; (6) Recommend ways by which the results of the research can be made available to policy makers and other stakeholders in the region; (7) Suggest fund-raising strategies and possible funding sources for the area programs; (8) Propose a mechanism for guidance and oversight of the program/projects of the priority area.

A preliminary report will be submitted to the ICSU Regional Committee for Latin America and the Caribbean by the beginning of 2008 and a final report by mid 2008.



### **Biodiversity**

(RCLAC liaison - Mahabir Gupta)



### Mary T. Kalin Arroyo (Chile) - Co-Chair

Graduated at University of Canterbury, New Zeland, in 1967, Mary Kalin received her PhD degree in 1971 at University of California, Berkeley, and undertook postdoctoral studies in 1972 at Stanford University/Missouri Botanical Garden. She is currently Full Professor of Biology at the University of Chile and the Director of Institute of Ecology and Biodiversity (IEB). During her professional career, she has received several international and national awards and honors such as the: BBVA Foundation Prize for Research in Conservation Biology (2004) and Volvo Environment Prize (2005), John Simon Guggenheim Fellowship (1984), Presidential Science Chair (Chile) (1997-1999), "Angel Faivovich" Prize (1982), President's Medal, University of Chile (1998), "Amanda Labarca" Merit Condecoration (1996), Chile. She is a member or fellow of the Linnean Society of London (1989), Royal Society of New Zealand (1998), World Technology Network (2006), Corresponding member of the Botanical Society of America (1995), Academy of Sciences of Chile (2003), Foreign Member of the United States Academy of Sciences (1999), and Third World Academy of Sciences (TWAS) (2004).

### Rodolfo Dirzo (Mexico/US) - Co-Chair

Rodolfo Dirzo graduated from the University of Morelos, México, in 1974 with a degree in biology and he received his MSc and PhD in ecology from the University of Wales, in 1977 and 1980 respectively. He currently teaches at the Department of Biological Sciences, at Stanford University.

He has held several key positions at the National University of Mexico ,including: Main Instructor, Associate Researcher at the Biology Institute, Director of the Los Tuxtlas Tropical Research Station, Coordinator of the Ecology Postgraduate Studies and Researcher, Department Chair and Professor of the Ecology Institute.

He is a Member of the Scientific Committee and Vice-Chair of the International Program on Biological Diversity (DIVERSITAS) since 2002.

### Carlos Alfredo Joly (Brazil)

Carlos Alfredo Joly graduated from the University of São Paulo in 1976, completed his MSc in Plant Biology at the State University of Campinas (UNICAMP) in 1979, and received his PhD from the Botany Department, University of Saint Andrews, Scotland, in 1982. He also held a post doctoral position in Bern University, Switzerland, in 1994.

Full Professor of Plant Ecology in UNICAMP since 1998, he is the Head of the Botany Department of the Biology Institute/UNICAMP and a member of Steering Committee of the PhD Programme in Environment and Society (IFCH & NEPAM/UNICAMP).

One of the creators of the BIOTA/FAPESP Programme, he was member of BIOTA's Steering Committee, Editor in Chief of BIOTA NEOTROPICA and Coordinator of the Thematic Project Biota Gradiente Funcional. He won the Henry Ford Prize in 1999, the Brazilian Academy of Science "Ordem do Mérito Científico" in 2002, the Von Martius Environmental Award in 2005 and the Honour Mention of the Young Scientist Award from CNPq in 2007.

### Juan Carlos Castilla (Chile)

Juan Carlos Castilla graduated in Chemistry and Natural Sciences at the Pontifical Catholic University of Chile and specialized in marine ecology and management and conservation of coast resources. He received his PhD in Marine Biology at the University of Wales, Great Britain, in 1970.

His main lines of research refer to rocky intertidal community structure and dynamics and the role played by humans as resource users. Additionally, his focus is placed on the establishment of Marine Coastal Preserve Areas (MCPAs) and Management Exploitation Areas (MEAs) in Chile. He is also involved in coastal inshore oceanography in Chile, a recently developed area of research.

### Francisco Cejas Rodrigues (Cuba)

With a PhD in Biological Sciences, he is Director of the National Biodiversity Center (CeNBio) and member of the IUCN Cuban Plants Specialists group, supports the establishment of Cuban Biological Databases Networks and coordinates the Clearing-house Mechanism in Cuba and the Cuban Biodiversity Information Network. As Chief Researcher he was involved in the following projects: Biological databases systems for environmental change studies in 1997; integrated management of information contained in botanical collections in 1997; and digitization of type specimens from the main Cuban biological collection data in 2003 and 2004.



### Natural Disasters

(RCLAC liaison - Carmen Samayoa)



### Omar Dario Cardona (Colombia) - Chair

Omar Dario Cardona is a Civil Engineer at the National University of Colombia and Doctor of Earthquake Engineering and Structural Dynamics of the Technical University of Catalonia. He has a degree in Earthquake Engineering, Disaster Prevention and Risk Mitigation from the Institute of Earthquake Engineering and Engineering Seismology (Macedonia), Oxford Polytechnic and Colorado State University.

He is a founding member of the Latin American Network of Social Studies on Disaster Prevention and former President of the Colombian Association for Earthquake Engineering; Professor of Integrated Disaster Risk Management of the Institute of Environmental Studies at the National University of Colombia; Visiting Professor of the European University Center, of "i Beni Culturali" and of the doctoral program on Civil Engineering of the Technical University of Catalonia; Leader of the Virtual Graduate Course e-learning/e-training on Integrated Risk Management of CIMNE and Structuralia for Ibero-America.

### Juan Carlos Bertoni (Argentina)

Juan Carlos Bertoni is a Water Resources Engineer at the Littoral National University, Santa Fe, Argentina, and National Technical Builder at the Superior Industrial School at the same University. Bertoni received his Master's degree in Hydric Resources from the Hydraulic Research Institute at the Federal University of Rio Grande do Sul, Brazil, and his Doctoral degree in Hydric Sciences at the Sciences University of Montpellier II, France.

He is Director of the Plan for Action During Emergencies (PADE) Project and Full Professor of hydrological and hydraulic processes at National University of Cordoba, Argentina. His professional experience includes many other positions including: Director of the GENOM Network, International Coordinator of the Project OAS/BID White Helmet Commission, Coordinator of the National Committee's (CONAPHI) actualization and Project's Representative by Argentina at the Associated Program for Management Floods in Urban Areas.

### Michel Hermelin (Colombia)

Michel Hermelin is a Geology and Petroleum Engineer at the National University of Medellin, Colombia and holds a Masters Degree in Sciences from Colorado State University and a Masters in Arts from Princeton University.

Professor at EAFIT University since 1992 and President of the Professional Council for Geology since 2002, his professional career includes several positions, including: Professor and Dean of the School of Sciences at the National University of Medellin, Director of the Colombian Geological Survey, Member of AGID board and of the IUGS Commission on Geology for Environmental Planning, and President of the Colombian Society of Geology. He was elected Member of the Colombian Academy of Sciences in 2007, and also participates in numerous other scientific societies, such as: Colombian Societies of Soil Science, for Science Progress and of Geology; Sigma Xi; Geological Society of America; American Geophysical Union.

### Tony Gibbs (Barbados)

Secretary General of the Council of Caribbean Engineering Organizations, Tony Gibbs graduated at Queen's University of Belfast, in 1961, and completed his Post-Graduate studies at the University of Leeds, in 1964. His professional experience includes: President of The Barbados Association of Professional Engineers, Vice President of The Institution of Structural Engineers of United Kingdom, Associate Project Manager for the Caribbean Uniform Building Code, Deputy Chairman of the Barbados National Council for Science & Technology, Chairman of the Barbados Building Standards Authority Advisory Committee and Director of the American Association for Wind Engineering.

He has received many honors including: Fellow of The Institution of Civil Engineers of United Kingdom and of The American Society of Civil Engineers; the Lewis Kent Award from The Institution of Structural Engineers of United Kingdom for services to engineering and to the institution, in 2003; and the UN-ISDR Sasakawa Award for Disaster Reduction in 2007.

### Allan Lavell (Costa Rica/UK).

Allan Lavell graduated in geography from University College London, and was awarded an MSc (1967) and a PhD (1971) in Economic Geography at the London School of Economics and Political Sciences.

He is coordinator of the Social Studies Program on Risk and Disaster at the Secretariat General's office of the Latin American Social Science Faculty-FLACSO and a founding member of the Latin American Network for the Social Study of Disaster (LA RED). Most recently, he was principle researcher and coordinator of the IAI-LA RED sponsored project on ENSO and disaster risk in the Americas, a project that covered eight countries. His past professional activities have included: Director of the Research Program at the Central American University Confederation-CSUCA, San Jose, Costa Rica; Associate Professor at the Demographic and Urban Centre at El Colégio de México, México, D.F.; and Associate Professor and Researcher at the Environmental Studies Centre at the Autonomous Metropolitan University-UAM-Atzcapotzalco, México.



Tony Gibbs, Allan Lavell, Omar Cardona, Michel Hermelin, Alice Abreu and Carmen Samayoa

### Sustainable Energy

(RCLAC liaison - Elena Vigil)



### Décio Luiz Gazzoni (Brazil) - Chair

Gazzoni is an Agronomist, graduating from the Federal University of Rio Grande do Sul in 1971, where he concluded his MSc in Entomology, in 1974. He held several positions at the Brazilian Corporation for Agricultural Research (Embrapa), having been Head of Western Agriculture and Livestock Research Center (Dourados), Head of the National Soybean Research Center (Londrina) and Technical Director of the National Headquarters.

Currently he occupies the posts of: Researcher at Embrapa, Member of the International Panel on Renewable Energy (ISPRE ICSU), International Consultant at the Interamerican Development Bank, Coordinator of the Brazilian Biodiesel Technology Network and Executive Secretary of the Brazilian Biodiesel Chamber.

He received many prizes and tributes including the Frederico Menezes Veiga Award.

### Claudio Estrada (México)

Graduating in Physics at the Sciences School of the Autonomous University of Mexico (UNAM), he holds an MSc and PhD in Mechanical Engineering from the State University of New Mexico. In 2001, he won the León Bialik Award for Technological Innovation.

He has been Director of the Energy Research Center of UNAM since 2004, is Associate Editor of the Journal Solar Energy of the International Society of Solar Energy, and held the positions of Secretary General, Vice President and President of the National Association of Solar Energy. Other activities include:

participating in the Solar Concentration Coordination of the Energetical Systems Department, President of the Specialized Commission in Energetic Engineering and also a member of the Mexican Society of Physics, the American Society of Mechanical Engineers, the International Society of Solar Energy, the National System of Researchers, the Mexican Academy of Sciences and of the Engineering Academy.

### Gabriel Blanco (Argentina)

Gabriel Blanco graduated as a Mechanical Engineer from University of Buenos Aires, Argentina, in 1989, and completed his MSc in Mechanical Engineering at the University of Massachusetts, USA, in 2001.

In 1995, he became Full Professor at the Electromechanical Department of the College of Engineering at the National University of Buenos Aires District (UNICEN). Since then, he has dedicated himself to the area of renewable energy resources and climate change. He is Coordinator of the Climate Change Office of the Secretary of Environment and Sustainable Development of Argentina and member of the Expert Group on Technology Transfer of the UNFCCC and represents Argentina in both the IPCC and UNFCCC.

### Isaías Macedo (Brazil)

Isaías Macedo graduated as Mechanical Engineer from the Aeronautics Technological Institute (ITA) in 1967, where he also received his master degree in 1969. He concluded his PhD at the University of Michigan, Ann Arbor, in 1971, in thermic sciences, having done post doctoral studies at the same university.

He is currently a researcher at the Interdisciplinary Center for Energy Planning (NIPE), UNICAMP, where his main field of research is energy, mainly in renewable energy systems. He has also held positions as Professor at Aeronautic Technological Institute ITA and at the Campinas State University (UNICAMP), and of Director of research at the Technology Center Copersucar.

### Iván Azurdia Bravo (Guatemala)

Iván Azurdia Bravo graduated from the San Carlos de Guatemala University (USAC) in 1982, received his Master's Degree at the University of Pennsylvania in 1987 and achieved his PhD in 2001 at the Rafael Landívar University in Guatemala.

Executive Director at the Solar Foundation since 1995 and Member of the Academy of Science of Guatemala since 2006, he has held several key positions including: Support Engineer at ALGA Construction Company, Field Engineer and rural micro enterprises supervisor at CEMAT - Mesoamerican Center for the Study of Appropriate Technology; Design Engineer and Manager of the rural micro enterprises project at ICAITI - Central American Institute for Research and Industrial Technology; and Specialist, Adviser and Manager at the NRECA/CARES PROGRAM. He is also a member of VITA - Volunteers in Technical Assistance, Friends of the Forest Association, Lake Atitlan's Friends Association and ASOREMA - Association of Organizations of Environment and Natural Resources.



### **Mathematics Education**

(RCLAC liaison - Juan Asenjo)



### Carlos Bosch (Mexico)- Chair

Carlos Bosch is a Mathematician, graduating from the Sciences School of the Autonomous University of Mexico. He also holds a PhD in Mathematics from the Claude Bernard University, Lyon, France. As a researcher, he received the National Prize for Science Divulgation in Mexico in 1995 and the TWNSO Award of the Mexican Academy of Sciences in 1998.

Having organized the Mexican Mathematical Olympiads for many years, Carlos Bosch coordinates the Mathematics Competitions for children under 15 years old and "La Ciencia en Tu Escuela", oriented to primary and secondary school teachers; both programs of the Mexican Academy of Sciences.

### Lilliam Alvarez (Cuba)

Lillian Alvarez graduated from the Academy of Science in Moscow with a degree in Mathematics and a PhD in Physics and Mathematics. She is a Full Member of the Third World Organization of Women in Sciences (TWOWS-TWAS), the Cuban Academy of Sciences and the Caribbean Academy of Sciences. She is also a member of the Permanent National Jury for PhD Theses on Mathematics and of the Executive Board of the Cuban Mathematical Society, and Cuban representative in the Iberoamerican Program "Science and Technology for Development", (CYTED).

She is President of the TWOWS National Chapter and Head of the Commission of Women in Sciences in the Cuban Academy of Sciences, Director of Sciences in the Ministry of Sciences, Technology and Environment of Cuba, and is the Cuban Focal point of the UNESCO Cathedra for Gender, Science and Technology, in Buenos Aires.

### Rafael Correa (Chile)

Rafael Correa graduated as a Mathematics Engineer from the University of Chile in 1971, and he also holds a Doctorate in Engineering and a PhD in Mathematical Sciences from the Blaise Pascal University, in 1983.

He specialized in applied mathematics and has held several important positions, including: Full Professor of the Mathematics Engineering Department at University of Chile since 1975; Director of the Center for Mathematical Modeling at the same University since 2000; Executive Director of CONICYT between 1990 and 1994; International Relations Director of CONICYT from 1994 to1997; and Director of the Educational Research Program at Chile University since 2006.



Juan A. Asenjo, Alice Abreu, Suely Druck and Rafael Correa

### Suely Druck (Brazil)

Suely Druck received her Teacher's and Bachelor's Degree in Mathematics from the Federal University of Rio de Janeiro (UFRJ), was awarded a Master's Degree from the National Institute for Pure and Applied Mathematics (IMPA), in 1977, and was granted a PhD at the Pontifical Catholic University of Rio de Janeiro in 1984.

From 1985 to 1987 she was a Post Doctoral researcher at Orsay University Paris XI, France, and was a Visiting Professor at the Paul Sabatier University, Toulouse, France. Professor at Federal Fluminense University (UFF). She coordinated the Post Graduate Program at UFF and has been a consultant in several Brazilian agencies such as CAPES, MEC, MCT, FAPERJ. She created an event focusing on the teaching of Mathematics – SBM Biannual – and the Brazilian Math Olympiad of Public Schools (OBMEP).

### Raymond McEachin (Jamaica)

Raymond McEachin holds a Bachelor's degree in Mathematics from Michigan State University and a PhD in Mathematics from the University of Illinois at Urbana-Champaign. He held positions as Research Associate at the University of Toronto and Visiting Assistant Professor at Purdue University (Fort Wayne), and is currently a Lecturer at the University of the West Indies, a regional university with campuses in Trinidad and Tobago, Barbados and Jamaica, where he serves as Head of the Mathematics Section. He served as a judge for a mathematical problem-solving competition between local high schools and serves as external examiner for the mathematics courses taught in the Bachelor of Education program offered by the local Teachers' Colleges.



Carlos Bosch, Lilliam Alvarez Diaz, Juan A. Asenjo, Suely Druck and Rafael Correa

### Strengthening relations with the ICSU family

The first year of activity of the Regional Office was important for strengthening relations with the large and complex ICSU family. ICSU's range of activities is extensive and it is important to clearly understand how the Regional Office's activities can be effectively integrated into ICSU's international strategy. Participating in meetings organized by ICSU and by members of the ICSU family, including Interdisciplinary Bodies and Scientific Unions, has helped to disseminate information about the new Regional Office and were important for gaining a greater understanding of how ICSU functions.

### Relations with the ICSU Family- 2007

"Conferência Cooperação Científica Brasil, América Latina e Caribe" (ABC-TWAS-ICSU-IANAS). January 24th and 25th. Brazilian Academy of Sciences, Rio de Janeiro, Brazil

International Polar Year (IPY) Launching. March 1st. Brasilia, Brazil

I Brazilian Symposium on Global Environmental Change IGBP/INPE]. March 11th and 12th. Rio de Janeiro, Brazil.

Executive Meeting of IGBP and IHDP. March 12th to 18th. Angra dos Reis, Brazil

Global Scientific Challenges: Perspectives from Young Scientists. April 2<sup>nd</sup> to 8<sup>th</sup>. Lindau, Germany.

Meeting International Cooperation on the South Atlantic Biodiversity Information - CAML. April 20th. Rio de Janeiro, Brazil.

ICSU Unions Meeting. April 25th and 26th. Rome, Italy.

95th Executive Board Meeting – ICSU. April 27th and 28th. Rome, Italy.

CODATA Workshop on Strategies for Permanent Access to Scientific Information in Latin America: Focus on Health and Environmental Information for Sustainable Development, and Joint Meeting with Inter Academy Panel (IAP) Digital Knowledge in Latin America. May 10th and 11th. Atibaia, Brazil.

FAPESP – BIOTA SP – IMoSEB. August 2<sup>nd</sup>. São Paulo, Brazil.

II Oficina Latinoamericana for the Census of Antarctic Marine Life - II OLA CAML, September 24th. . Brasília, Brazil.

Visit to CONICET. July 20th . Buenos Aires, Argentina.

IUPAP Council and Commission Chairs Meeting, October 6th. Rio de Janeiro, Brazil.

CTCAP (Ciencia y Tecnologia Centro America y Panama). Guatemala City, Guatemala. Represented by Carmen Samayoa.

Meeting of the F committee of the International Union of Radio Science URSI. October 31st. Rio de Janeiro, Brazil.

Brazilian IMoSEB Consultation "Consulta Nacional sobre Mecanismos de Assessoramento Cientifico à Convenção de Biodiversidade e ao Governo Federal". November 21st and 22nd. Brasília, Brazil.

ICSU Spanish Commission. Ministry of Education and Science of Spain. November 27th. Madrid, Spain.

### Reaching out to International Organizations

During the first year of its activities the Regional Office extended its contacts to several international organizations, making known the proposed development of the priority areas defined by the Regional Committee and exploring possibilities for future funding and support.

Reaching out to international Organiza	Reaching out to International Organizations	2007
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World Bank	Global Forum on Building Science, Technology and Innovation Capacity for Sustainable Growth and Poverty Reduction. World Bank in cooperation with CIDA, DFID, IADB, UNCTAD, UNESCO, Global Research Alliance. February 13 <sup>th</sup> to 16 <sup>th</sup> . Washington DC. USA.
ISA International Sociological Association	Meeting of the Executive Committee of the International Sociological Association. May 31st to June 1st. Recife, Brazil.
UNESCO	Visit to UNESCO Montevideo. August 21st to 24th. Montevideo, Uruguay.
IDRC International Development Research Centre	Visit to IDRC Regional Office. August 21st to 24th. Montevideo, Uruguay.
Millennium Scientific Initiative	Meeting of the Executive board of the Millennium Scientific Initiative of Chile. October 5 <sup>th</sup> and November 19 <sup>th</sup> Santiago, Chile.
OEA POPCYT MAST	Curso de Popularização da Ciência. October 16th. Rio de Janeiro, Brazil.
IRD Institut de Recherches pour le Developpement	Meeting "Inauguração do Simpósio Brasil-França: Cooperação Científica na área da Saúde". October 29 <sup>th</sup> . Salvador, Brazil. Meeting of the Conseil d´Orientation (COrA) of the AIRD Agence Inter-établissements de la Recherche pour le Développement. November 27 <sup>th</sup> . Paris, France.
OEI Organization of Iberoamerican States	Visit to the Organization of Iberoamerican States. November $28^{\text{th}}$ . Madrid, Spain.
CONICIT/Chile, IADB, OAS	Seminar Gender Science and Technology. December 11th and 12th. Santiago, Chile.

### Secretariat

The Regional Office for Latin America and the Caribbean is hosted by the Brazilian Academy of Sciences.

The addition of a Professional Officer, Sybelle de Jongh who joined the Office in June 2007, has provided much needed support to the Director.



Sybelle de Jongh and Alice Abreu

#### Director

Alice Abreu (alice.abreu@icsu-lac.org)

#### **Professional Officer**

Sybelle M. M. De Jongh (sybelle.jongh@icsu-lac.org)

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Site: www.icsu-lac.org

### Financial Summary

The Regional Office main funding comes from the Brazilian Government, through one of the agencies of the Ministry of Science and Technology, the Financiadora de Estudos e Projetos, FINEP. The Office received a 30000€ grant from ICSU. A US\$ 25000 grant from CONACYT Mexico, was used to partly fund the meetings of RCLAC3 and SPGME1. A grant was received from FAPERJ specifically to fund the International Symposium "Priorities in Science and Technology in Latin America and the Caribbean: planning future action", held together with the inauguration ceremony.

In 2007, the Regional Office also received important non-budgetary support from many other institutions. The meetings of the RCLAC and of the SPG in Mathematics Education were generously supported by CONACYT Mexico and the Mexican Academy of Sciences, which funded accommodation and covered all local expenses. The SPG in Natural Disasters meeting was supported by the Instituto de Estudios Ambientales IDEA, at the National University of Colombia in Manizales, Colombia, which provided the meeting venue and the necessary infrastructure.

The audited report used the daily official exchange rate from the Brazilian Central Bank to find the US dollar equivalent of all credits and expenses. The documents and official records are filed at the Brazilian Academy of Sciences and are available for consultation.

ICCLLIAC	Inco	ome	Expenses		
ICSU-LAC	Reais (R\$)	(US\$)	Reais (R\$)	(US\$)	
ICSU	96 005	45 93 1	107 631	53 992	
FINEP	295 392	167 058	53 405	29 905	
CONACYT	46 125	24 942	44 040	24 570	
FAPERJ	20 400	10 681	20 400	10 649	
TOTAL	457 922	248 612	225 476	119116	
Balance in 31/12/2007	232 446	129 496			
Meetings and Programs					
RCLAC2+RCLAC3					
Travel			35 827	18 709	
Accommodation			12 182	6 360	
SPGs (SPGME1+SPGND1)					
Travel			18 310	10 180	
Accommodation			681	380	
ICSU-LAC Secretariat					
Staff			76 579	40 799	
Taxes and Obligations			19610	10 449	
Internships			6 952	3 736	
Bank Charges			3 070	I 674	
Other Services			17 023	8 423	
Office Supplies			I 924	I 007	
Equipments			2 250	I 268	
Secretariat Travel Expenses			25 883	13 206	
Reimbursement ABC			5 184	2 925	
			225 475	119 116	

Financial Summary 2007













### Benefits of joining ICSU

The benefits of membership in ICSU are manifold and Members make use of the opportunities available to them according to their wish. The main difference between full National membership and that of Associates status is that Members may vote and thus help determine ICSU's future direction.

- All Members receive copies of ICSU publications: the electronic newsletter ICSU Insight, Annual Reports, and any other publications or series of publications produced (e.g. the report produced during the preparation of ICSU's Strategic Plan 2006-2011 or the series produced in connection with the World Summit on Sustainable Development (WSSD)
- Members have access to the Member Zone on the ICSU website and thus to documents not made available to the general public and can search the ICSU database. Members also benefit from access to different committees of ICSU, for example, the Committee on Freedom and Responsibility in the conduct of Science which, inter alia, helps solve visa problems for scientist wishing to attend scientific meetings and gives advice to organizers of international meetings. Even more importantly, Members gain access to the world scientific community and the enormous network scientist comprising the membership of ICSU, and the prestige afforded by the ICSU umbrella.
- ICSU's International Scientific Unions and National Scientific Members (National Academies of Science or National Research Councils for the most part) meet every three years in the ICSU General Assembly. Members get an excellence cross-discipline opportunity for the exchange of ideas and also gain access to a wide spectrum of scientific expertise which enables Members to address major international, interdisciplinary issues, which they could not undertake alone.
- For full information on the range of ICSU's activities, see website: www.icsu.org.

### **ICSU** Interdisciplinary Bodies

#### **Assessment Bodies**

Scientific Committee on Problems of the Environment (SCOPE)

#### Thematic Bodies

Committee on Space Research (COSPAR)

International Polar Year (IPY)

Scientific Committee on Antarctic Research (SCAR)

Scientific Committee on Oceanic Research (SCOR)

Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)

### Global Environmental Change Programmes

DIVERSITAS: An International Programme of Biodiversity Science

International Geosphere-Biosphere Programme (IGBP)

International Human Dimensions Programme on Global Environmental Change (IHDP)

World Climate Research Programme (WCRP)

### Monitoring/Observation Bodies

Global Climate Observing System (GCOS)

Global Ocean Observing System (GOOS)

Global Terrestrial Observing System (GTOS)

Integrated Global Observing System (IGOS)

#### **Data and Information Bodies**

Committee on Data for Science and Technology (CODATA)

Federation of Astronomical and Geophysical Data Analysis Services (FAGS)

International Network for the Availability of Scientific Publications (INASP)

Scientific Committee on Frequency Allocations for Radio Astronomy and Space Science (IUCAF)

Panel on World Data Centres (WDC)

### **ICSU Members**

#### Scientific Unions

International Astronomical Union (IAU)

International Brain Research Organization (IBRO)

International Geographical Union (IGU)

International Mathematical Union (IMU)

International Union for Quaternary Research (INQUA)

International Society for Photogrammetry and Remote Sensing (ISPRS)

International Union of Anthropological and Ethnological Sciences (IUAES)

International Union of Biochemistry and Molecular Biology (IUBMB)

International Union of Biological Sciences (IUBS)

International Union of Crystallography (IUCr)

International Union of Food Science and Technology (IUFoST)

International Union of Forest Research Organizations (IUFRO)

International Union of Geodesy and Geophysics (IUGG)

International Union of Geological Sciences (IUGS)

International Union of the History and Philosophy of Science (IUHPS)

International Union of Materials Research Societies (IUMRS

International Union of Microbiological Societies (IUMS)

International Union of Nutritional Sciences (IUNS)

International Union for Pure and Applied Biophysics (IUPAB)

International Union of Pure and Applied Chemistry (IUPAC)

International Union of Pure and Applied Physics (IUPAP)

International Union for Physical and Engineering Sciences in Medicine (IUPESM)

International Union of Pharmacology (IUPHAR)

International Union of Physiological Sciences (IUPS)

International Union of Psychological Sciences (IUPsyS)

International Union of Soil Sciences (IUSS)

International Union of Theoretical and Applied Mechanics (IUTAM)

International Union of Toxicology (IUTOX)

Union Radio Scientifique International (URSI)

#### Scientific Associates

Academia de Ciencias de America Latina (ACAL)

Federation of Asian Scientific Academies and Societies (FASAS)

International Federation of Surveyors (FIG)

International Association of Hydraulic Engineering and Research (IAHR)

International Arctic Science Committee (IASC)

International Cartographic Association (ICA)

International Commission for Acoustics (ICA)

International Council for Laboratory Animal Science (ICLAS)

International Commission for Optics (ICO)

International Council for Scientific and Technical Information (ICSTI)

International Federation for Information Processing (IFIP)

International Federation of Library Associations and Institutions (IFLA)

International Foundation for Science (IFS)

International Federation of Societies for Microscopy (IFSM)

International Institute for Applied Systems Analysis (IIASA)

International Union for Vacuum Science, Technique and Applications (IUVSTA)

International Water Association (IWA)

Pacific Science Association (PSA)

Academy of Sciences for the Developing World (TWAS)

### National Members

The list includes full Members, National Associates\* and Observers\*\*. Members from Latin America and the Caribbean are highlighted.

Argentina	National Scientific and Technological Research Council	Ethiopia	Ethiopian Science and Technology Agency	
Armenia	National Academy of Sciences of the Republic of Armenia	Finland	Delegation of Finnish Academies of Science and Letters	
Australia	Australian Academy of Science	France	Academy of Sciences	
Austria	Austrian Academy of Sciences	Georgia*	Georgian Academy of Sciences	
Azerbaijan**	Azerbaijan National Academy of Sciences	Germany	German Research Foundation	
Bangladesh	Bangladesh Academy of Sciences	Ghana	Ghana Academy of Arts and Sciences	
Belarus**	National Academy of Sciences	Greece	Academy of Athens	
Belgium	Royal Academies for Science and the Arts of Belgium	Guatemala*	Academy of Medical, Physical and Natural Science	
Bolivia	National Academy of Sciences of Bolivia	Hungary	Hungarian Academy of Sciences	
Botswana	Ministry of Communications, Science and Technology	India	Indian National Science Academy	
Brazil	Brazilian Academy of Sciences	Indonesia	Indonesian Institute of Sciences	
Bulgaria	Bulgarian Academy of Sciences	Iran	University of Tehran	
Burkina Faso*	National Centre for Scientific Research and Technology	Iraq**	Ministry of Science and Technology	
Cameroon	Cameroon Academy of Sciences	Ireland	Royal Irish Academy	
Canada	National Research Council of Canada	Israel	Israel Academy of Sciences and Humanities	
Caribbean1*	Caribbean Academy of Sciences	Italy	National Research Council	
Chile	Chilean Academy of Sciences	Jamaica	Scientific Research Council	
China: CAST	China Association for Science and Technology	Japan	Science Council of Japan	
China: Taipei	Academy of Sciences located in Taipei	Jordan*	Royal Scientific Society	
Colombia	Colombian Academy of Exact, Physical and Natural Sciences	Kazakhstan*	National Academy of Sciences of Republic of Kazakhstan	
Costa Rica**	National Academy of Sciences	Kenya	Kenya National Academy of Sciences	
Côte d'Ivoire*	Federation of Scientific Associations of Côte d'Ivoire	Korea, Democratic	State Academy of Sciences	
Croatia	Croatian Academy of Sciences and Arts	People's Republic of**	•	
Cuba	Academy of Sciences of Cuba	Korea, Republic of	National Academy of Sciences, Republic of Korea	
Czech Republic	Academy of Sciences of Czech Republic	Latvia	Latvian Academy of Sciences	
Denmark	Royal Danish Academy of Sciences and Letters	Lebanon	National Council for Scientific Research	
Egypt	Academy of Scientific Research and Technology	Lesotho	Lesotho Department of Science and Technology	
Estonia	Estonian Academy of Sciences			

<sup>1</sup> The following countries are covered: Antigua and Barbuda, Bahamas, Barbados, Dominica, Grenada, Guyana, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

Lithuania	Lithuanian Academy of Sciences
Luxembourg	National Research Fund

Macedonia, Former Macedonian Academy of Sciences and Arts

Yugoslav Republic of

Madagascar\* Ministry of Higher Education and Scientific Research

Malawi National Research Council of Malawi

Malaysia Academy of Sciences Malaysia Mauritius Mauritius Research Council Mexican Academy of Sciences Mexico

Moldova\*\* Academy of Sciences of Moldova

Monaco Scientific Center Monaco

Mongolian Academy of Sciences Mongolia

Montenegrin Academy of Sciences and Arts Montenegro

National Centre for Scientific and Technical Research Morocco Mozambique Scientific Research Association of Mozambique Royal Nepal Academy of Science and Technology Nepal Royal Netherlands Academy of Arts and Sciences Netherlands

Royal Society of New Zealand New Zealand Nigeria Nigerian Academy of Science

Norwegian Academy of Sciences and Letters Norway

Pakistan Association for the Advancement of Science Pakistan

University of Panama Panama

National Academy of Sciences Peru Philippines National Research Council Polish Academy of Sciences Poland Academy of Sciences of Lisbon Portugal

Romanian Academy Romania

Russian Academy of Sciences Russia

Kigali Institute of Science and Technology Rwanda

King Abdulaziz City for Science and Technology Saudi Arabia

Association of Senegalese Researchers Senegal Serbia Serbian Academy of Sciences and Arts

Seychelles Seychelles Centre for Marine Research and Technology Marine Parks Authority

Singapore Singapore National Academy of Science

Slovak Republic Slovak Academy of Sciences National Research Foundation South Africa University of the South Pacific South Pacific<sup>2</sup>

Ministry of Education and Science Spain National Science Foundation Sri Lanka Sudan National Centre for Research Swaziland National Research Council

Royal Swedish Academy of Sciences Sweden

Swiss Academy of Sciences Switzerland

Tajikistan\*\* Academy of Sciences of Republic of Tajikistan Tanzania Commission for Science and Technology Tanzania

Thailand National Research Council of Thailand Togo Chancellery of the Universities of Togo

Tunisia\* University Tunis El Manar

Turkey Scientific and Technical Research Council of Turkey Uganda National Council for Science and Technology Uganda\*

Ukraine National Academy of Sciences

United Kingdom Royal Society

United States National Academy of Sciences

Uruguay\*\* National Council for Science, Innovation and Technology

Uzbekistan Academy of Sciences Uzbekistan Vatican City State Pontifical Academy of Sciences Venezuela\*\* Ministry of Science and Technology

Vietnam Union of Science and Technology Vietnam\*\*

Associations

Zambia Academy of Sciences Zambia Zimbabwe Research Council of Zimbabwe

<sup>2</sup> The following countries are covered: Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu and Samoa.

#### **CREDITS:**

Graphic Designer: Sandra Frias

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