IANAS GENERAL ASSEMBLY

PUNTA CANA JULY 16-20TH, 2013

This document has the following information/ Last Update: July 11/7:29 PM, 2013

General Program at a glance

Tuesday July16th	AM Travel Day and Arrival 17:30 Gathering at Yara Conference Room 18:00 Opening Ceremony and Plenary Talk Dinner Playa Blanca Restaurant Meeting Point for dinner: Lobby of the Hotel
Wednesday July 17th	Breakfast La Cana Restaurant 8:30 Scientific Conference “Impacts of Climate Change, Disasters and Hazards” Yara Conference Room Conference from 8:30-13:00 and 15:00-18:00 20:00 Dinner Grill Restaurant Meeting point for dinner: Lobby of the Hotel
Thursday July 18th	Breakfast La Cana Restaurant 8:00 IANAS General Assembly (GA from 8:20-13:00 and 16:00 -18:30 (EC) Yara Conference Room 20:00 Dinner La Yola Restaurant Meeting Point for dinner: Lobby of the Hotel
Friday July 19th	Breakfast La Cana Restaurant 8:30 Visit to La Cueva de las Maravillas Meeting Point: Lobby of the Hotel Visit from 8:00-17:00 Dinner: La Choza
Saturday July 20th	Breakfast La Cana Restaurant and Departing Day

IANAS GENERAL ASSEMBLY

PUNTA CANA JULY 16-20TH, 2013

Program Tuesday 16th 2013

Opening Ceremony and Science Talk

Conference Room Yara (#10 in the Map)	
17:30	**Gathering** Participants and Guests are welcome to join us Material for the General Assembly will be distributed at the Registration Table, at the entry of the conference room. Translation will be available Speakers in the Scientific Meeting, please bring your memory stick with your PP presentation. Thanks
18:00- 18:15	**Welcome words** Milciades Mejia, President of the Academy of Sciences of Dominican Republic **IANAS Remarks** Juan Pedro Laclette, former President of the Mexican Academy of Sciences and IANAS Co-Chair **Official Opening of the IANAS General Assembly**
18:20-19:20	**Science Talk** Chair of session: Roberto Cignoli, President of the National Academy of Exact, Physical and Natural Sciences of Argentina *Muons and chambers in the Pyramid of Teotihuacán* By Arturo Menchaca Dr. Arturo Menchaca is the Former President of the Mexican Academy and current director of UNAM's Institute of Physics, the largest research center on this subject in Mexico. He is also the Head of the Experimental Nuclear and High Energy Physics Group at Ifunam. His main research projects include the use of cosmic radiation for the search of hidden chambers on the pyramid of the Sun in Teotihuacan Mexico, and the development of the V0A detector for the ALICE collaboration in CERN, Geneva. Dr. Menchaca´s talk will describe his fascinating research in the Pyramids of Teotihuacan (Mexico). **Official picture of the IANAS General Assembly 2013**
20:00	**Welcome Dinner at Playa Blanca Restaurant** (#24 in the Map. Transportation from the Meeting Room to the Restaurant will be provided by the Hotel. Distance 10 minutes by bus) Note: Tables will be hosted by the Presidents of the Academies. Presidents of the Academies please look for your name on the Dinner List at the Registration Table Dress code: Guayabera or Smart Business

Thank you for joining us

Tomorrow July 17: Scientific Conference 8:30 AM Room (Yara Conference Room)
Guests are very welcome to join us. Translation will be available
If you are planning to return home on July 17th, please confirm with Guest Services at the hotel the time for your shuttle.

IANAS GENERAL ASSEMBLY
PUNTA CANA JULY 16-20TH, 2013

Science Talk Tuesday 16th 2013

Muons and Chambers in the Pyramid of the Sun in Teotihuacan

Dr. Arturo Menchaca

Abstract

The search of hidden vaults in historical sites is one of the most exiting tasks in archaeology which has led to surprising discoveries as much in Egypt (Giza) as in Mexico (Monte Albán and Palenque). This fascinating research is complicated in sites where excavation is not allowed and the penetrability of standard techniques, such as radar, is not sufficient. To tackle this problem, 40 years ago the Nobel Price Luis Alvarez proposed the use of modern cosmic ray detection technologies to carry out radiographic style measurements in the Great Pyramid of Chefren, in Egypt, eliminating speculations about undiscovered royal chambers, arisen from the similarity of Chefrén with its neighboring Pyramid of Cheops. These transmission measurements required the unusual existence of a tunnel running under the investigated monument. In Mexico, a tunnel located 8 meters under the Pyramid of the Sun (Teotihuacan) reaching near the center of its base, represented an extraordinary opportunity to carry out an Alvarez-type experiment there. As in Chefren, such a project should serve to test a long standing speculation about the possible existence of a ceremonial burial in the famous Mexican pyramid.

The presentation includes a brief description of the detector, and shows the first images taken during the first two years of operation, discussing their interpretation.

IANAS GENERAL ASSEMBLY

PUNTA CANA JULY 16-20TH, 2013

Scientific Conference Wednesday 17th

"Impacts of Climate Change, Disasters and Hazards"

Program and Summary of Presentations

Conference Room Yara (# 10 Location Map) Morning and afternoon sessions

	Breakfast: La Cana Restaurant (#7 in the Map)
8:30 to 8:40	**Introduction** Michael Clegg (US NAS) Presentation of Spanish version of Booklet: *Climate Change: Evidence, Impacts and Choices*
8:40- 8:45 8:45-9:15 9:15-9:45 9:45-10:15 10:15-10:30	**Session I: Climate Vulnerabilities 8:40-10:15** Chair: Ismael Clark Arxer (Cuba) • What do we know about sea level rise? Philip Mote (US) • The day of the landslide: forensic investigations of disasters Irasema Alcantara (Mexico) • Moisés Álvarez (Dominican Republic) Q&A Session
10:30 to 10:45	Coffee Break
10:45-10:50 10:50-11:20 11:20-11:50 11:50-12:20 12:20-12:30	**Session II: Risk Management 10:30-12:00** Chair: Gonzalo Taboada (Bolivia) • Overview of risk management and communication Baruch Fischhoff (USA) • Hurricane: forecasting, preparedness and communication Jose Rubiera (Cuba) • Seismic Vulnerability in Latin America Osiris de Leon (Dominican Republic) Q&A Session
12:30-13:15	**Panel Discussion of morning speakers on Risk Mangement and Climate Vulnerability 12:00-13:30** Moderators Hernan Chaimovich (Brazil) and Claudio Bifano (Venezuela) Note takers: Trevor Alleyne (Caribbean) and Gustavo Gonzalez (Peru) Q&A Session
13:15 to 14:30	Lunch La Cana Restaurant (#7 in the Map) Guests are very welcome to join us for lunch, but they will be charged separately
14:30-14:35 14:35-15:05 15:05-15:35 15:35-15:50	**Session III: Ecosystem and biodiversity threats 15:00-16:00** Chair: Jorge Huete (Nicaragua) • Coastal and Marine Ecosystem Enrique Pujibet (Dominican Republic) • Can we anticipate climate changes effects on biodiversity? Enrique Martinez-Meyer (Mexico) Q&A Session
15:50-16:15	Coffee break

Evening session	
16:15-16:20 16:20-16:50 16:50-17:20 17:20-17:30	**Session IV: Policy issues and communication** Chair: Jeremy McNeil (Canada) • Translating knowledge into public policies of conservation and sustainable use of biodiversity Carlos Joly (Brazil) • Towards a Public Policy for the Social Appropriation of Sciences Julia Tagüeña (Mexico) Q&A session
17:30-18:15	**Afternoon panel discussion on Policy options and communication strategies 17:15-18:30** Moderators: Juan Asenjo (Chile) and Jaime Rodriguez Lara (Colombia) Notes from: John Boright (US), Rodolfo Gambini (Uruguay) and Carlos Soria (Ecuador)
	All note takers please deliver your edited notes during dinner preferable in an electronic version to Adriana de la Cruz
20:00	**Dinner Grill Restaurant (#22 in the Map Transportation will be provided by the hotel. 6 Minutes distance by car)** Guests are very welcome to join us for dinner but they will be charged separately.

Thank you for joining us

Tomorrow July 18th: IANAS General Assembly Meeting 8:00 AM Only Academy Members and Official Guests for the Assembly. Due to the compacted nature of the Agenda we will appreciate your punctual arrival. Meeting will start at 8:20 AM Thanks

If you are planning to return home on July 18th, please confirm with Guest Services at the hotel the time for your shuttle.
Dress code suggested: Smart business /Comfortable shoes

Summary of Presentations

"Impacts of Climate Change, Disasters and Hazards"

Session I: Climate Vulnerabilities

What do we know about sea level rise?

Dr. Philip Mote
The Oregon State University

Summary
This talk, drawing on the recent National Research Council (NRC) report on sea level rise, reviews the state of science in projections of global sea level rise, including the uncertainties associated with understanding and predicting the contributions of the major factors. Sea level rose about 20cm during the 20th century, and observations and projections suggest that it will rise at a higher rate during the 21st century, primarily because global temperatures are rising, causing ocean water to expand and land ice to melt. Rising seas increase the risk of coastal flooding, storm surge inundation, coastal erosion and shoreline retreat, saltwater intrusion to aquifers, and wetland loss. The cities and infrastructure that line many coasts are already vulnerable to damage from storms, which is likely to increase as sea level continues to rise and inundate areas further inland. The NRC projects that global sea level will rise 8-23 cm (3-9 in) by 2030, relative to 2000 levels, 18-48 cm (7-19 in) by 2050, and 50–140 cm (20-55 in) by 2100.

Philip W. Mote is a professor in the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University; director of the Oregon Climate Change Research Institute (OCCRI) for the Oregon University System; and director of Oregon Climate Services, the official state climate office for Oregon. Dr. Mote's current research interests include scenario development, regional climate change, regional climate modeling with a superensemble generated by volunteers' personal computers, and adaptation to climate change. He is the co-leader of the NOAA-funded Climate Impacts Research Consortium (CIRC) for the Northwest, and also of the Northwest Climate Science Center for the US Department of the Interior. Since 2005 he has been involved in the Intergovernmental Panel on Climate Change, which shared the 2007 Nobel Peace Prize. He is also a coordinating lead author and advisory council member for the US National Climate Assessment, and has served on numerous author teams for the National Research Council (NRC). He earned a BA in Physics from Harvard University and a PhD in Atmospheric Sciences from the University of Washington, and arrived at OSU to establish OCCRI in 2009.

The day of the landslide: forensic investigations of disasters

Dr. Irasema Alcantara (Mexico)
National Autonomous University in Mexico Researcher

Abstract
Mass movement processes, commonly known as landslides, are the expression of hillslope instability resulted from the interaction among conditioning factors and triggering mechanisms. This type of processes can be of natural origin derived from landscape evolution, or due to anthropogenic activities that affect the geometry and/or dynamic of slopes. However, landslides occur very frequently because of the combination of both.

Beyond natural hazards per se, the magnitude of disasters is a function of the vulnerability of the exposed population. Therefore, understanding the social construction of disasters is of great relevance. FORIN, forensic investigations of disasters, is an innovative methodology focused in the comprehension of root causes of disasters and actual risks. The methodology was created by

a group of specialists aiming to explain that disasters are not natural. A series of approaches are proposed within FORIN to deeply understand the underlying complex dimensions of disaster occurrence in space and time, as well as its impact on society. FORIN can be either totally or partially applied to research, management or decision making within the disaster reduction and integrated disaster risk reduction contexts.

In this presentation, an example of the application of FORIN to landsliding is given. It involves a landslide disaster in the Sierra Norte de Puebla, Mexico in 1999; floods and landslides were generated by an extreme rainfall event causing more than 250 human losses and considerable economic damage.

Irasema Alcántara-Ayala is a former Director and current Professor and Researcher of the Institute of Geography at the National Autonomous University of Mexico (UNAM). She got a degree in Geography from UNAM, a Ph.D. degree in Geography/Geomorphology from King´s College London, University of London, and carried out a post-doc stay at the Massachusetts Institute of Technology, Boston. Her research interest is concentrated on landslides, vulnerability and integrated disaster risk. Since 2000, she has been working in collaboration with the National Centre for Disaster Prevention (CENAPRED) in Mexico. She is a former member of the Committee of Scientific Planning and Review (CSPR) of the International Council for Science (ICSU). Former Vice-President of the International Geographical Union (IGU). Young Affiliate Fellow of the Academy of Sciences for the developing world (TWAS). Vice-President of the International Consortium on Landslides (ICL). Member of the Mexican Academy of Sciences (AMC). TWAS-ROLAC Prize for Young Scientists 2011, Earth Sciences. AMC Prize for Young Scientists 2012. Member of the Scientific Committee of the ICSU program on Integrated Research on Disaster Risk (IRDR).

Presentation Climate Change: Science and Perspectives
Dr. Moisés Álvarez (Dominican Republic)
Consejo Nacional Cambio Climático

This presentation describes, briefly and succinctly, the origin, causes, impacts and the current definition of climate change. Also compare the contributions of different regions and countries to global warming and in particular the contribution of the Latin America and the Caribbean region. Finally we present the different impacts of climate change in the region and principally in the Dominican Republic and the efforts of the country to combat it.

Moises Alvarez Director of the National Clean Development Mechanism (CDM Office) National Council for Climate Change and Clean Development Mechanism (CNCCMDL) with the rank of Under Secretary of State (Presidential Decree 582-08).Professor Researcher, Faculty of Sciences and Technology National University Pedro Henríquez Ureña (UNPHU). Dean of the Faculty of Sciences and Technology National University Pedro Henríquez Ureña. Dr Alvarez, physics at the Nacional Pedro Henríquez Ureña University, (UNPHU) and Masters, Special Studies and Research Center Consulting Coordinator. Dr. Alvarez has extensive experience, backed by scientific publications both internationally and nationally, in the following fields: nuclear and industrial electronic instrumentation, application of nuclear analytical and instrumental techniques in solving environmental problems, biomedical and archaeological sites, transfer of environmentally friendly technologies for the Protection of the Ozone Layer and Greenhouse Reduction, application of personal computers in teaching physics to high school and college. He has been hired by the International Atomic Energy Agency (IAEA) as an expert in nuclear electronic instrumentation and nuclear analytical techniques in Latin América. He was in charge of monitoring the United Nations Conference on Environment and Development (better known as the Earth Summit or Rio 1992). He has handled various projects and studies in the area of

environment and sustainable development from different organizations. He is Member of the Board of Directors, Coordinator of the Basic Sciences and Technology Commission of the Academy of Sciences of the Dominican Republic.

Session II: Risk Management

Risk Management and Communication
Dr. Baruch Fischhoff
Howard Heinz University Professor
Carnegie Mellon University

The foundation of risk management is an integrative analytical model, encompassing the factors creating and controlling outcomes that people value. That model helps to ensure that risk managers have addressed the concerns of the communities that they hope to protect, have assembled the expertise needed to provide that protection, and have laid the foundation for useful communications. National Academies of Science are in a unique position to frame risk management and communication effectively, as well as to promote development and collaboration of the constituent sciences.

Baruch Fischhoff Ph.D.is the Howard Heinz University Professor in the departments of Social and Decision Sciences and of Engineering and Public Policy at Carnegie Mellon University, where he heads the Decision Sciences major. A graduate of the Detroit Public Schools, he holds a BS in mathematics and psychology from Wayne State University and an MA and PhD in psychology from the Hebrew University of Jerusalem. He is a member of the Institute of Medicine of the National Academy of Sciences and he is past President of the Society for Judgment and Decision Making and of the Society for Risk Analysis, and recipient of its Distinguished Achievement Award. He was founding chair of the Food and Drug Administration Risk Communication Advisory Committee and recently chaired the National Research Council Committee on Behavioral and Social Science Research to Improve Intelligence Analysis for National Security and currently co-chairs the National Research Council Committee on Future Research Goals and Directions for Foundational Science in Cybersecurity and the National Academy of Sciences Sackler Colloquium on “The Science of Science Communication.” He is a former member of the Eugene, Oregon Commission on the Rights of Women, Department of Homeland Security's Science and Technology Advisory Committee, the World Federation of Scientists Permanent Monitoring Panel on Terrorism, and the Environmental Protection Agency Science Advisory Board, where he chaired the Homeland Security Advisory Committee. He is a Fellow of the American Psychological Association, the Association for Psychological Science (previously the American Psychological Society), the Society of Experimental Psychologists, and the Society for Risk Analysis. He has co-authored or edited seven books, Acceptable Risk (1981), A Two-State Solution in the Middle East: Prospects and Possibilities (1993), Elicitation of Preferences (2000), Risk Communication: A Mental Models Approach (2002), Intelligence Analysis: Behavioral and Social Science Foundations (2011), Risk: A Very Short Introduction (2011), Communicating Risks and Benefits: An Evidence-Based Guide (2011), Judgment and Decision Making (2011), Risk Analysis and Human Behavior (2011), and Counting Civilian Casualties (in press).

Resources Campbell, P. (2011). Understanding the receivers and the receptions of science’s uncertain messages. Philosophical Transactions of the Royal Society, 369, 4891-4912; Fischhoff, B., & Kadvany, J. (2011). Risk: A very short introduction. Oxford: Oxford University Press.Morgan, MG, & Henrion, M. (1990); Uncertainty. New York: Cambridge University Press.National Research Council. (1996); Understanding risk. Washington, DC: National Academy Press. http://www.sra.org/ [International Society for Risk Analysis

Hurricane: forecasting, preparedness and communication

Dr. Jose Rubiera (Cuba)
National Forecast Center of the Institute of Meteorology

Abstract
Advances in early warning science and technology are heading nowhere if the early warning does not lead to an early action. Great achievements could also be obtained in underdeveloped countries if several conditions are previously met. Cuba is an example of an undeveloped country, also with many economic problems, that has a successful story in preventing loss of lives in tropical cyclones. The amount of people dead in hurricanes is the lowest in the region. Knowing that Hurricanes are increasing in strength and being more rainy and destructive in an environment of Climate Change, Cuban contribution is also focused toward an adaptation to Climate Change to reduce vulnerability. Prevention carries along not only hazard and vulnerability studies that have been already made for the whole country, up to the municipal and neighbourhood levels. Also planning is very important to avoid replicating vulnerabilities. Preparation is intense before the onset of every Hurricane Season. At the response stage the National Forecast Center and the Media, along with the Civil Defense, plays a major role in preventing loss of lives. The forecasting, preparedness and communication processes, including warnings and early warning, as well as the hurricane problem arising from a period of high hurricane activity in the Atlantic and the changes that are occurring in Sea Surface Temperatures are reviewed in some details.

José María Rubiera Torres (Ph.D.) is the Director of the National Forecast Center of the Institute of Meteorology, in Havana, Cuba. He is also Vice Chairman of the WMO (World Meteorological Organization (WMO, United Nation specialized agency in weather and climate) Regional Association IV Hurricane Committee (North America, Central America and the Caribbean) since 1991 (co-chaired with the Director of the US National Hurricane Center, Miami, USA). He is also a Member of the WMO Expert Team on Meteorological Communication and Outreach and a Member of the WMO Task Force Expert Team on Disaster Risk Reduction in WMO RA IV. He is a Senior Professor at the School of Meteorology in Havana, Cuba. He has been awarded with the title of Doctor Honoris Causa at Las Villas Central University in Cuba. He is an active Member of the International Association of Broadcast Meteorologists (IABM). He is also a Member of the Cuban Association of Social Communicators (Asociación Nacional de Comunicadores Sociales ACCS). He has devoted his work in the field of operational weather forecasting, mainly to aspects of meteorological hazards, such as hurricanes and severe weather, weather communication, also popularizing science for the public through the Media, mainly TV and radio, but also in printed articles. His main areas of work and research are the watch and warning processes in hurricanes, as well as the forecasting process and its implications for society, but at the same time he works in popularizing science giving education to the public through the Media, TV, radio, newspapers and magazines. He has made presentations in more than 90 meetings and events held in Cuba and abroad.

Seismic Vulnerability in Latin America

Ing. Osiris de Leon (Dominican Republic)
Commission of Natural Sciences and Environment of the Academy of Sciences

Abstract

On January 12th, 2010, a 7.0 magnitude earthquake with an epicenter 15 km SW of the city of Port-au-Prince and a hypocenter at 10 km depth, produced 316,000 deaths, 350,000 wounded, and destroyed 300,000 homes that left 1,500,000 homeless. This is the worst global seismic tragedy of the past 50 years. All the collapsed buildings in Haiti were raised on soft clayey soils of bad seismic response,

which were deposited on ancient marine channel. In comparison, the buildings raised on Tertiary limestone of the southern slope of the city suffered no damage. This includes the precariously built structures near the epicenter, which lacked any engineering design from the impoverished people who live on the rocky slopes. Buildings with apparently robust structures, and designed with engineering standards, such as the national palace, the cathedral and the Montana hotel, collapsed when the soft soils amplified the vibration and the seismic energy of the earthquake. A similar situation happened in Mexico City, in September 1985, when amplified shear seismic waves, arriving from an epicenter 320 km away, caused buildings to collapse over the soft soils of the ancient Texcoco lake, while buildings over hard rock remained intact. Some reports refers that this Mexican earthquake produced near 40,000 deaths.

Most construction projects do not perform soil dynamic studies. Furthermore, the ministry of public works only requires a few mechanical boreholes that include standard penetration tests (SPT) and testing laboratories (grain size and Atterberg limits) to determine the bearing capacity of soils and settlement. This level of analysis does not meet the necessary standard to safely build in areas where earthquake hazards exist. In the same way, few architectural designs took seismic response into consideration when engineering building projects. The low shear-strength (which may be related to low shear velocity) foundations of many locations were given no differential treatment, in comparison to locally more rigid rock foundations. These engineering deficiencies lead to more seismic disasters around the world. Future engineering seismic design must be in accordance with shear-wave velocity measurements made at building site to avoid or reduce disasters, as seen in Haiti, Mexico city and other Latin American and Caribbean countries. IANAS should include in agenda, as a social and security priority, the Latin American and Caribbean seismic risk along tectonic border lines, and recommendations for revisions of old structures in seismic zones, mainly schools, hospitals, houses and bridges, taking as main consideration the soil types, the seismic properties of them, as well as the structural design used

Osiris de Leon Graduated of Geological Engineering at the Pontificia Universidad Católica Madre y Maestra, 1979. For 12 years was Counselor Scientist of the National Commission for the Environment of the Dominican Republic. Since 1998 he is a member of the Board of Directors of the Academy of Sciences of the Dominican Republic, during six years he was the Coordinator of the Commission of Natural Sciences and Environment of the Academy of Sciences, and actually is the Dominican Focal Point for the Water Program of the Inter-American Network of Academies of Sciences, IANAS.Among his main publications are cited: 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). He has given internationals conferences about mining and environment in different countries of the region

Session III: Ecosystem and biodiversity threats

Coastal and Marine Ecosystem in the Greater Caribe

Dr. Enrique Pujibet Bobea (Dominican Republic)
University of Santo Domingo

Abstract

When the earth was being formed and all its matter was changing, the sea encompassed everything. Nowadays, the sea accounts for 71% of the planet's surface, approximatey two-thirds of it. The Pacific occupies over half this area, the Atlantic a quarter and the Indian Ocean a sixth. Taken together, seas and oceans cover the entire planet, like a vast, unending sheet of water. The Caribbean Sea is an integral part of this enormous system.

The vast ocean world is not uninhabited. It constitutes a vital sphere under whose surface lie an almost infinite variety of life forms, a universe within a universe, a three-dimensional, blue and black world, dense

and mysterious, with its laws, inhabitants and dramas; unlimited, undefined and fluctuating. The vastness of the ocean, from its coasts to great depths, is home to flora and fauna so varied that land varieties are extremely poor in comparison. Ocean organisms are represented by thousands of plant and animal species, which in turn contain billions of individuals.
In addition to the many forms of life found in the waters, the sea is involved in almost every aspect of our lives. For our ancestors, everything came from the ocean. Throughout the history of mankind, seas have been present as the center and origin of everything that is mysterious and as a challenge to the thirst for knowledge and conquest. Oceans are a hidden scenario with no limits for human activities. The first activity was shell and shellfish collecting on the beach, followed by fishing and later navigation and the trade routes of galleons and great discoveries; oceans were also the setting for independence wars and naval battles.
Unfortunately, many of the marine biological resources in the Caribbean are in crisis. Most resources are being heavily exploited. On the other hand a large portion of the population in the region lives in coastal communities and is heavily reliant on marine biological resources, which are a source of employment and food. This is compounded by the high demand for goods and services for consumption by the tourism industry, one of the main economies in many countries in the Caribbean region. This decrease in coastal resources has increased the dependence and pressure on marine resources, which are completely depleted or overexploited. Biological resources such as coral reefs, although not directly exploited, are also severely degraded by human activity and require urgent attention for their restoration. These are crucial to tourism and act as a coastal defense against rising sea levels.
The biological resources of the Caribbean Large Marine Ecosystem are often shared by the countries in the region. The management and sustainable use of marine ecosystems will simultaneously face problems of pollution and the overexploitation of resources. Preserving these threatened ecosystems will require an international, holistic approach for their planning and management. This implies that both ecosystem management and the recovery of overfished stocks will require cooperation at various geopolitical levels. Although the potential the Caribbean Sea affords man is enormous, it is not unlimited and therefore, natural resources will only be available indefinitely if they are exploited in a rational, sustainable manner.

Enrique Ernesto Pugibet Bobea Got his Master in Sciences, (MSc). 1989, Mississippi State University, Mississippi, USA Fish and Wild Life Department. Program Fisheries management and wild life ecology. Biology. 1985, Autonomous University of Santo Domingo, Biology Department, Santo Domingo, Dominican Republic.

He is the Director of the Marine Biology Research Center. University of Santo Domingo, Dominican Republic. He had also directed the National Aquarium of Dominican Republic.as Director, as well as in Aecomar SRL. Fisheries manager and marine ecologist. Dominican Republic. Marine Biology Research Center. University of Santo Domingo, Dominican Republic. 1990 - Present. Professor. National Aquarium. 1989 - 1990. Marine exhibitions developer. Dominican Republic. Mississippi State University, United States. 1987-1989. Project Noxubee River, Noxubee Wild Life Refuge, Mississippi, U.S.A. Fishery Resources Department. Agriculture Secretariat. 1986 - 1987. Fisheries Division. Dominican Republic. National Program of Agro-aquaculture, Agriculture Secretariat. 1984 - 1986. Inland Waters Division. Dominican Republic.Marine Biology Research Center. 1979 - 1989. Research Assistant. Dominican Republic. Marine Biology Research Center. 1978 - 1979. Laboratory Assistant. Dominican Republic.

Professional goals: Research in fishery and ecology (marine and freshwater); study, managing and administration of the natural resources, with emphasis in fishing resources and marine biology and the conservation and rational use of the natural resources.

Can we anticipate climate changes effects on biodiversity?
Dr. Enrique Martinez-Meyer (Mexico)
National Autonomous University of Mexico

Summary
Current climatic change is one of the main topics of concern for natural systems and human societies in the present century. For biodiversity, historic and recent climatic changes have had

important impacts and consequences at all organization levels -from genes to ecosystems- that have molted life on Earth as we know it. Paleontological research, as well as observations on the responses of species and ecosystems to past and present climatic changes, has taught us important lessons to understand how biodiversity deals with large-scale environmental changes. As well, new methodological tools and approaches allow sophisticated analysis to understand the phenomena. With all this information and tools at hand, a question of prior importance emerges, are we able to anticipate the impacts of the current climatic change on biodiversity at the global and local scales in order to be able to take concrete actions for avoiding a potential ecological disaster? In this talk I present some of my research illustrating the main challenges and our level of knowledge to answer this central question. I conclude that we are able to detect general patterns on the responses of biodiversity to this climatic change event; however, current levels of uncertainty in data and modeling processes still impedes a clear view of what we can expect in the near future, particularly at the local scale, where conservation decisions are made.

Enrique Martínez Meyer is a researcher at the Zoology Department of the Institute of Biology, in the National Autonomous University of Mexico (UNAM), since 2002. His research lines are within the scope of Geographical Ecology, particularly addressing questions regarding the causal factors of the distribution and abundance of biodiversity and its responses to environmental changes. His research includes projects in climate change biology, conservation, ecological niche theory, and ecology of mammals. Since his incorporation to UNAM, Enrique has taught courses on Biodiversity Informatics, Ecology of Vertebrates of the Tropical Dry Forest, and Biological Consequences of Climate Change, as well as more than 15 workshops on Ecological Niche and Distribution Modeling. Enrique has produced 1 book, 6 book chapters and around 50 papers in international journals.

Session IV: Policy Issues and communication

Translating knowledge into public policies of conservation and sustainable use of biodiversity

Dr. Carlos Joly (Brazil)
Plant Biology Department, Biology Institute, State University of Campinas & IPBES
Co-Chair Multidisciplinary Experts Panel/MEP & Chairman of the BIOTA/FAPESP Program

We describe an ongoing research program, BIOTA/FAPESP (www.biota.org.br), in the state of São Paulo, Brazil, that may be a useful example of how to translate biodiversity knowledge into public policies, potential bioproducts and bridge the gap between scientist, industrial sector and policy makers. Although better known for its economic development, producing 1/3 of Brazil's GNP, 40% of the country's exports and hosting 1/5 of its population (≈ 42 million inhabitants in an area similar to UK in size), the State is also extremely rich in terms of species diversity (it hosts at least 7,200 species of Phanerogams). Between 2006/08, BIOTA-FAPESP researchers made a joint effort to synthesize biodiversity data for public-policy-making and sustainable uses. Scientists worked with the State Secretary of the Environment and NGOs to produce, based on more than 151,000 records of 9,405 species, as well as landscape structural parameters and biological indices from over 92,000 fragments of native vegetation, two synthesis maps, identifying priority areas for biodiversity conservation and restoration. These maps, together with the book with detailed information, were adopted by the State Government, to improve and/or create new legislation, including new protected areas and the agro-ecological zoning of sugar cane expansion. There are now 19 legal instruments that quote the BIOTA-FAPESP guidelines. Furthermore, ca. 1,000 molecules have been identified from species of Cerrado and Atlantic Forest as a result of the bioprospecting efforts. Considering these results, together with the high productivity in published papers (> 1.100) and trained human resources (198 MSc, 204 PhD and 96 Post Docs), over 12 years. In 2009 the State of São Paulo Research Foundation (FAPESP)

renewed, for another 10 years, its 2.5 to 3.0 US$ millions/year support, aiming to prolong and enhance the rewards of a coordinated research investment that combines biodiversity research, personnel training, bioprospection and public-policy impact.

Keywords: megadiversity conservation, science-policy interface, capacity building, natural products diversity. After graduating in Biological Sciences at the Univ. Sao Paulo/USP in 1976,

Carlos A. Joly did his MSc in Plant Biology at the State Univ. Campinas/UNICAMP (1979), his PhD at the Botany Department – Univ. St. Andrews/Scotland (1982) and a Post-Doc at Univ. Bern/Switzerland (1993/94). In 1997 he became full professor of Plant Ecology at UNICAMP. During his career he has published more than 60 papers and/or book chapters, edited 10 books and supervised 21 MSc and 11 PhD.

As main mentor of the BIOTA/FAPESP Programme (www.biota.org.br), he was in charge of planning, setting and implementing it from 1996 to 2004, being recently reappointed as Chairman of the Programme. Within the BIOTA/FAPESP he is also the Editor in Chief of the electronic peer reviewed scientific journal BIOTA NEOTROPICA (www.biotaneotropica.org.br) and Coordinator of the Biota Functional Gradient Project.

In his academic career at UNICAMP he was Chairman of the PhD/MSc Ecology Program, Head of the Botany Department, Dean of the Graduate School, as well as representative of the University in the State of Sao Paulo Environmental Council/CONSEMA and in the UN meeting in Rio (UNCED 92). He was also member of Committees of CNPq and FAPESP, of the Scientific Advisory Committee of the Land/Inland waters ecotone UNESCO/MAB Program, and of the Brazilian Delegation in the UN meeting in Johannesburg (WSSD 2002)

Currently he is the Coordinator of the Brazilian Committee of RELAB/Latin American Network of Biological Science, and member of the following boards: Executive Committee of SCOPE, Scientific Planning Group of ICSU-LAC and the Steering Committee of FAPESP's Climate Change Programme. At UNICAMP he is the Head of the Plant Biology Department and member of Steering Committee of de PhD Programme in Environment and Society.

Towards a Public Policy for the Social Appropriation of Sciences

Dr. Julia Tagüeña (Mexico)
CONACYT-Mexico

Summary
There is a general agreement on the need of social appropriation of science as a very important parameter involved in forming opinions and improving the quality of life. The issue is how to go from fostering science communication activities to a public policy that considers cultural, educational, and environmental differences. There are many science perception surveys carried out in different populations that give some light but only measure averaged results; we will analyze the importance of including social dynamics.

Julia Tagüeña (Mexico) Scientific Researcher at the Centre for Energy Research (CIE), Morelos Campus of the National Autonomous University of Mexico. She has taught at the secondary, high school, undergraduate and graduate levels. Her research has been on solid state physics, and in particular disordered systems, amorphous solids, glassy materials and nanostructured porous materials, reporting their results in more than 50 articles in international journals. She is a member of several scientific societies including the Mexican Academy of Sciences, Academy of Sciences of Morelos (where she was secretary for the period 2009-2010), the Mexican Physical Society, the Mexican Society for Promotion of Science and Technology (where she was president for the period 2009-2011), the American Physical Society and the Institute of Physics. She designed and supervised the construction of the hall Universum of Energy, nearly twenty years ago. As recognition of her work in this area, from April 2000 to January 2004 she served as

Director of Museums of the General Directorate of Promotion of Science, also from the National Autonomous University of Mexico, where they belong Universum Science Museum and the Museum of Light. She is currently Deputy Director of the National Council for Science and Technology CONACYT-Mexico

Thursday 18th

IANAS General Assembly

Program

Conference Room Yara (# 10 Location Map) Morning and afternoon sessions. Please arrive at 8:00 am

Morning Sessions: Program Reports and IANAS Business
Evening Session: First Session of the New Executive Committee

	Breakfast: La Cana Restaurant (#7 in the Map)
8:20	Introduction: General Assembly Chair Juan Pedro Laclette (Mexico)
	Session I: IANAS Programs Reports
8:30-8:45	**The view from IAP and Grand Challenges in Science literacy** Mohamed Hassan
8:45-9:00	**IANAS General Report and Capacity Building** Michael Clegg
9:00-9:15	**Science Education Program** Gabriel Macaya (Costa Rica)
9:15-9:30	**Energy Program** John Millhone (US)
9:30-9:45	**Women for Science Program** Anneke Levelt Sengers (US)
9:45- 10:00	**Water Program** Jose Tundisi (Brazil)
10:00-10:30	**Comments from the Academies** Notes: John Boright (US) and Adriana de la Cruz (Mexico)
10:30- 10:45	Coffee Break
	Session II: IANAS General Business
10:45 to 10:11:00	(1) Strategic Plan 2013-2016 Vote Michael Clegg
11:00-11:15	(2) Review and approval of the IANAS Statutes and Rules of Procedures Juan Asenjo, Chair of the Committee for the Review of Statutes and Rules of Procedures
11:15-11:45	(3) Jeremy McNeil Chair of the Membership Committee Admission of New Academies or Science Associations to IANAS Membership – Vote Uruguay Ecuador Honduras Panama (APANAC) National Academy of Sciences of Argentina (Cordoba)

11:45-12:00 12:00 – 12:20 12:20-12:50	(4) Election of the New Co-Chairs of IANAS 2013-2016 Hernan Chaimovich and Juan Pedro Laclette (5) Election of the New Executive Committee 2013-2016 Hernan Chaimovich and Juan Pedro Laclette New Business • Proposal to host the 2016 IANAS General Assembly • IANAS Civic Association: A proposal to secure the future Juan Pedro Laclette
12:50-13:00	A token of appreciation
13:00-14:30	**Lunch La Cana (#7 in the Map)** Guests are very welcome to join us for lunch but they will be charged separately.
14:00-16:00	Free time
16:00-18:30	**Salon Yara/ Session III: New Executive Meeting Punta Cana July 18, 2013** **Chair 1** **Chair 2** Organizational meeting of the newly elected Executive Committee The National Academy of Sciences has proposed to host the next EC meeting in March 2014 in Washington DC Presidents of the Academies are welcome to join us to the New EC meeting. Notes by: Adriana de la Cruz and Marcos Cortesao
18:30-20:00	Free time
20:00	Dinner La Yola Restaurante en La Marina (# 1 in the Map) Transportation will be provided by the hotel

Thank you for joining us

Tomorrow July 19: Field Trip to La Cueva de las Maravillas (The Cave of Wonders). Academy Members and Guests are welcome to join us. Please be at 8:30 of at the lobby of the hotel.

If you are planning to return home on July 19th, please confirm the time for your shuttle with Guest Services at hotel.
Dress code suggested: Comfortable clothes and shoes

Visit Guided (Not part of the official program of the IANAS Meeting)

Visita a la Cueva de las Maravillas

Program Friday 19th 2013

	Visit Guided to La Cueva de las Maravillas
8:30	Breakfast La Cana Restaurant Meeting at the lobby of the Hotel
	Description La Cueva de las Maravillas is located in Carretera San Pedro de Macorís – La Romana The trip to la Cueva takes 1:00 hour to go and 1:00 for the return. The travel will be by bus with air conditioner. The entry of the cave is $10.00 USD per person. Please prepare cash. The cave is 25 meters below the ground and it has a length of 800 m but the visit will go only for 250 meters. The cave has around 500 paints dated from The paints are National Monument. Pictures are not allowed. The visit takes around 35 minutes and it will be guided by people identified by the Academy. It is highly advised to travel with comfortable shoes, light cotton clothes, a bottle of water. Kids should be always under complete supervision. For your comfort, the cave has an elevator and bathrooms Lunch by your own
TBC	Arrival to the Ressort
20:00	Dinner La Choza

Check out will be July 20th at 12:00

Please confirm with the hotel the time for your shuttle and the time you will be at the lobby.
Please remember that the organization will cover only Room Type Deluxe from July 16th-20th for 2 guests and meals only for the IANAS members. Guest lodging, meals and any other expense should be cover by your own.

Have a safe journey back to home.

Lodging, Meals, Ground Transportation

Lodging PUNTACANA Resort & Club **www.puntacana.com**
The Academy of Science of Dominican Republic will cover 4 nights from July 16th to July 19thon the Deluxe Room type 2 people only. Guests are very welcome to join us but they will need to cover their own expenses.

IANAS already sent your room confirmation number. If you do not have it yet, please confirm with Veronica Barroso ianas2011@hotmail.com

If you wish to make changes to your reservation, such as adding more guest or upgrading your room, please contact directly to email: info@puntacana.com and telephone: (809) 959.2262, Ext: 7129 Please note that you will need to cover this difference in advance before your travel.

Special rates will be available for the IANAS group and you will be able to extend you stage. The hotel will request a credit card to cover extras. Please mention you will be attending to the IANAS conference, in order to get the special rate.

Guests
We will be honored to have your guest joining us for the Welcome Dinner on Tuesday 16th; for the Scientific Meetings on Wednesday 17th and for the Field Trip on Friday 19th. We also encourage guests to make some touristic plans in advance since the meeting is taking place during a high vacation period. The staff of the organization is very limited and it will be focused on the meeting.

Meals
All meals will be covered for the Participant by the Academy. Guests will need to cover their own expenses.

Services
The hotel fee includes: Two people in a Deluxe Room, breakfast (participant and one guest), access to the fitness center, the swimming pools and open spaces of the resort as well as tips. Internet in some locations

The hotel fee does not cover: Additional guest´s, guest's meals or beverages, telephone calls, Internet, room service, alcoholic beverages or any other refreshing beverages out of the meals hired by the organization, tours, extra beds, Spas, laundry.

Ground transportation
A shuttle service Airport-Hotel-Airport will be provided by the Hotel

Scientific Field Trip
A field trip will be planned by the Academy to display the natural diversity and historical heritage of the region. We encourage you and your guests to sign up for this trip in the registration form we will be circulating during the meeting.

Other useful information
Print this information
Make a copy of your passport and store it in a different place from you luggage.
Call you bank in advance to inform that you that will be travelling and that you may use your credit card.
Send to your office and/or home your travel information
Bring your medicines and medical prescriptions if you think that may need it during your trip.
Bring comfortable shoes