Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
First session
Bonn, Germany, 21-26 January 2013
Item 6 of the provisional agenda*
Nomination and selection of the members of the Multidisciplinary Expert Panel

Compilation of curricula vitae of proposed members from Latin American and Caribbean States of the Multidisciplinary Expert Panel

Note by the secretariat

The annex to the present note, prepared by the secretariat of the United Nations Environment Programme, compiles the full curricula vitae of the candidates proposed as members from Latin American and Caribbean States of the Multidisciplinary Expert Panel, as submitted by Members of the Platform. The annex has been reproduced as received, without formal editing.

The candidates are the following:

Manuela Carneiro da Cunha, Brazil
Carlos Alfredo Joly, Brazil
Peter Herman May, Brazil
Edgar Selvin Pérez, Guatemala
Adoni Cubas Guerra, Honduras
Rodrigo Medellín Legorreta, Mexico
Julia Carabias Lillo, Mexico
José Sarukhán, Mexico
Dave D. Chadee, Trinidad and Tobago
Floyd M. Homer, Trinidad and Tobago
Howard P. Nelson, Trinidad and Tobago

* IPBES/1/1.
Annex

Compilation of curricula vitae of proposed members from Latin American and Caribbean States of the Multidisciplinary Expert Panel

Manuela Carneiro da Cunha
Traditional Knowledge

Manuela Carneiro da Cunha was born in Portugal in 1943 and raised in Brazil. After graduating in Mathematics in Paris and then moving into Anthropology under Prof. Claude Levi-Strauss, she returned to Brazil.

She first published on Amazonian ethnology and on the structural connections between myth and history. This was followed by research in Nigeria on the descendant of Yoruba emancipated slaves who ‘returned’ from Brazil to West Africa in the nineteenth century. That research resulted in a prize-winning book on both emancipated slaves in Brazil and ethnicity in Nigeria.

Building on her grasp of ethnicity processes, she became particularly active since 1978 in the defense of indigenous rights in Brazil. She launched the study of the history of legal provisions on indigenous people in Brazil and — as the then president of the Brazilian Anthropological Association— subsidized the Constitutional Assembly of 1988 that included a full progressive chapter on indigenous rights. She also established a research center at the University of São Paulo dedicated to the History of Indigenous People that produced academic research as well as valuable data for the establishment of indigenous land claims. In 1992, she edited a book that remains to this day the most authoritative source on indigenous history in Brazil.

She then started research on the role of traditional people in conservation, co-leading a multidisciplinary team in the state of Acre, Brazil, in a collaborative study with local people funded by the MacArthur Foundation. “Can traditional people self-manage conservation areas? The case of the Upper Jurú”. An edited book - the Forest Encyclopedia (2002) - came out of this research.

This was followed by research on traditional knowledge issues, seen as both systems in themselves and as what international legal provisions make of them. She is presently directing (at CEBRAP, Centro Brasileiro de Pesquisa, São Paulo) a collective research in Brazil, with colleagues from several different Brazilian universities on the effects of the United Nations bodies’ provisions (such as WIPO, UNESCO, UNCTAD, FAO) on traditional knowledge itself. She is also doing research on the social production of agrobiodiversity in the Amazon, in collaboration with French researchers (IRD).

She is presently involved in launching a Brazilian program of collaboration between academic and traditional knowledge.

Manuela Carneiro da Cunha has taught anthropology at the University of Campinas (1972-1984), the University of São Paulo (1984-1994) and at the University of Chicago (1994-2009). As professor emerita, she is living in São Paulo, Brazil. She has published six books and edited another four. In 2009, she published in Brazil a book of essays.
“Cultura com aspas”. One of these essays was also published in English as a pamphlet in the Prickly Paradigm Series (2009), under the title “Culture” and culture. Traditional Knowledge and Intellectual Rights, and was subsequently translated into French (2010).

She has held visiting positions in several universities, the latest of which was an annual chair at the Collège de France (2011-2012) on Traditional Knowledge. She has sat on a number of boards, such as the Independent Advisory Committee for the PPG-7 Program on Tropical Forests in Brazil (2002-2007). She is a member of the Brazilian Academy of Sciences and of the Third World Academy of Sciences. Among other honors, she is the recipient of the Order of Scientific Merit Brazil (Great-Cross, 2010) and the French Légion d’Honneur (2012).
Short Biography - Carlos A. Joly

Full CV Available at http://buscatextual.cnpq.br/buscatextual/visualizacy.jsp?id=K4783528Y5

After graduating in Biological Sciences at the University of Sao Paulo in 1976, Carlos A. Joly did his MSc in Plant Biology at the State University of Campinas/UNICAMP (1977/79) with Prof. Gil Martins Fellipe, his PhD at the Botany Department – Univ. St. Andrews/Scotland (1979/82) with Prof. Robert M. M. Crawford, and a Post-Doc at Bern University, Switzerland (1993/94) with Prof. Roland Brändle. In 1997 he became full professor of Plant Ecology at UNICAMP.

During his career he has published more than 80 papers and/or book chapters, supervised 26 MSc and 15 PhD. His intellectual production includes editing 12 books, with prominence for the series Biodiversity of the State of Sao Paulo: knowledge synthesis at the end of the XX century (1998/99), the Atlas of the remnants of native vegetation of Sao Paulo State (2005) and Guidelines for biodiversity conservation and restoration in Sao Paulo State (2008). This last book was adopted by the State Secretaries of Environment, of Agriculture and of Justice of the State of Sao Paulo to establish and improve the state’s legal framework for biodiversity conservation and restoration. His GoogleScholar records show a total of 1854 citations, h index 25, i10 index 42.

In his academic career he was member of the Botany/Ecology/Zoology Committee of CNPq (1987/90 & 1998/00) and the Biological Sciences Committee of FAPESP (1992/96). Today he is the Coordinator of the Brazilian Committee of The Latin American Network of Biological Sciences/RELAB, member of the Executive Committee of SCOPE and of the Scientific Planning Group of ICSU-LAC.

At the State University of Campinas/UNICAMP he was the chairman of three PhD/MSc Programs (Ecology, Plant Biology and Environment & Society), twice head of the Plant Biology Department (1986/87 and 2006/2010), and Dean of the Graduate Scholl (1996/98)

As main mentor of the BIOTA/FAPESP Program (http://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 Program. Within the BIOTA/FAPESP he is also the Editor in Chief of the electronic peer reviewed scientific journal BIOTA NEOTROPICA (http://www.biotaneotropica.org.br). After a highly successful first
Short Biography - Carlos A. Joly

Full CV Available at
http://buscatextual.cnpq.br/buscatextual/visualizar.jsp?id=K47633289Y5

period of 10 years – during which the FAPESP invested in the Program US$ 35,000,000.00, and the Program trained 169 MSc, 108 PhD, 79 Post Docs, published more than 750 papers in indexed journals, and produced a map of priority areas for biodiversity conservation and restoration that was adopted by the government of the State of Sao Paulo to improve public policies (there are now 20 State decrees or Resolutions that cote specifically the work of the Program to justify the establishment on new Protected Areas, legislation on native gallery forest restoration and the agro-ecological zonation of sugar cane plantation) - FAPESP’s support to the program has been renewed until 2020.

Carlos A. Joly also works to improve and/or establish better policies for biodiversity conservation and sustainable use. In this area his main activities were: a) advisor of the Brazilian Congress, focusing on the Environmental Chapter of the Brazilian Constitution (1987/88); b) member of the Scientific Advisory Committee of the Land/Inland waters ecotone UNESCO/MAB Program (1989/94); c) member of the Brazilian Committee of the MAB/UNESCO Program (1989/94); d) representative of UNICAMP in the State of Sao Paulo Environmental Council/CONSEMA (1990/94) and in the UN meeting in Rio (UNCED 92). In 1995 he was appointed advisor of the State of Sao Paulo Secretary of Environment, coordinator of the Division of Technical Information, Documentation and Research/CINP and chairman of the State Program for Biodiversity Conservation and Sustainable Use/PROBIO-SP. In 2002 he was a member of the Brazilian Delegation in the Rio+10 UN meeting in Johannesburg. During 2010/11 he was a member of the Executive Committee of SCOPE - Scientific Committee on Problems of the Environment. During 2011/12 he was the Director of Thematic Programs and Policies of the Brazilian Ministry of Science, Technology and Innovation, being in charge, among other activities, to organize the participation of the Ministry of the RIO+20 UN Conference.

His contribution to biodiversity conservation, restoration and sustainable use has been recognized by the prizes won: twice the Henry Ford Conservation Prize – CI & Ford (1999 & 2009), Scientific Merit Medal – Brazilian Government (2002), von Martius Environmental Prize – Germany/Brazil Chamber (2005) and
Short Biography - Carlos A. Joly

Full CV Available at http://buscatextual.cnpg.br/buscatextual/visualizaca.jsp?id=K4783528Y5

Distinguished Scientist – Brazilian Research Council (2007), and the MURIQUI Prize in 2012, awarded by the Brazilian Atlantic Forest Biosphere Reserve to researchers with outstanding contribution to conservation and sustainable use of this Brazilian biodiversity hotspot.

On the area of improving public understanding of the paramount importance of Biodiversity Conservation, Restoration and Sustainable use, besides many contributions to news papers, radio and television interviews, Carlos Joly was in charge of producing a series of four 30 min videos for open TV in Brazil (BIOTA/FAPESP: The Virtual Institute of Biodiversity, The Atlantic Forest still alive; The mysteries of the Cerrado; Fresh water and marine biodiversity), and three large expositions: The State of Sao Paulo Biodiversity: colors and shadows (that was shown in many cities of the State of Sao Paulo during 2004/05); Brazilian Nature: mystery and destiny (shown at the Botanisches Museum Berlin-Dahlem/Germany – 2008; Haus der Wissenschaft, Bremen, Germany - 2009, Universität Leipzig, Germany 2011; Museum of the Universität Heidelberg, Germany – 2012; Ohio State University, US – 2012); and the large exposition Brazilian Biomes shown in Rio de Janeiro during the RIO+20 UN Conference.

Currently, Carlos A. Joly, is full Professor in Plant Ecology at the Biology Institute of the State University of Campinas/UNICAMP, lecturing Plant Ecology and Biodiversity Conservation for undergraduate and graduate students, Member of the Steering Committee of the PhD in Environment and Society also at UNICAMP, Chairman of the BIOTA/FAPESP Program (www.biota.org.br), Editor in Chief BIOTA NEOTROPICA (www.biolaneotropica.org.br), Fellow of the Brazilian Academy of Science and member of the Scientific Committee (SC) da DIVERSITAS.

His present research activities comprises: developing a long term research project on Floristic composition, structure and functioning of the Brazilian Atlantic Forest (with support from FAPESP, NSF/US and NERC/UK); Coordinator of the GEF Project Recovery and protection of climate and biodiversity services in the Paraiba do Sul basin of the Atlantic Forest of Brazil, and is part
Short Biography - Carlos A. Joly
Full CV Available at [http://buscatextual.cnpg.br/buscatextual/visualizacv.jsp?id=K4783528Y5](http://buscatextual.cnpg.br/buscatextual/visualizacv.jsp?id=K4783528Y5)

of the international team involved in the **Project The Future Okavango - Scientific support for sustainable land and resource management in the Okavango basin,** supported by the German BMBF.

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Peter Herman May, PhD
Resource and Ecological Economics
R. Senador Vergueiro, 232/1801
22230-001 Rio de Janeiro, Brazil
tel: (+55 21) 2551-1320; cell: 7178-1808
e-mail: peter.may@amazonia.org.br; skype: peterhmay

EDUCATION
Resource Economics, PhD, Cornell University, 1986
Regional Planning, MRP, Cornell University, 1979
Human Ecology, BA, The Evergreen State College, 1974

PRINCIPAL AREAS OF EXPERIENCE
Dr. May has been involved in training, research, project and grant administration on the
economics and sustainable use of natural resources for equitable development in the
tropics. His work has concentrated on natural resource valuation and policy, forest products
utilization and trade, climate mitigation and biomass energy, and compensation for
ecosystem services primarily in rural settings such as Brazil’s Amazon and Atlantic Forests.
Dr. May’s experience embraces over 25 years in Brazil, and posts in Rome, Central
America, Southeast Asia and the USA. He is fluent in Portuguese and Spanish.

SUMMARY OF PRINCIPAL PROFESSIONAL AND ACADEMIC POSITIONS
1991-today  Associate Professor, Federal Rural University of Rio de Janeiro.
Vice-Coordinator, Master’s in Development Practice
1990-91  Forestry Officer (Non-Wood Forest Products)
Forestry Department, UN Food and Agriculture Organization, Rome
1987-89  Program Officer (Rural Poverty and Resources)
The Ford Foundation, Rio de Janeiro
1979-80  Extension Associate/Resource Conservation Act
New York State Soil and Water Conservation Committee, Ithaca, NY

EXECUTIVE POSITIONS IN ENVIRONMENTAL ORGANIZATIONS
Member of Board of Directors (to 2005)
Secretary.
1997-2002  Instituto Brasileiro de Pesquisas e Estudos Ambientais – Pró-Natura, and
Pro-Natura USA. Executive Director.

SCIENTIFIC AFFILIATIONS
International Society for Ecological Economics, Past-President (2008-09), former Treasurer,
member, Editorial Board – Ecological Economics
Brazilian Society for Ecological Economics, Founder, President, President of Advisory Board
Instituto for Man and the Environment of Amazonia (IMAZON), Member Advisory Board
Instituto Centro de Vida (ICV), Member, Board of Directors
The Economics of Ecosystems and Biodiversity (TEEB), Member of Advisory Council
New York Botanical Garden, Institute of Economic Botany, Honorary Research Associate
PROFESSIONAL EXPERIENCE

Project and Program Administration


2001-3 National Project Coordinator, UNDP/GEF Project BRA/00/G31 – “Promoting biodiversity conservation and sustainable use in the frontier forests of Northwestern Mato Grosso, Brazil”.

1997- Executive Director, Instituto Pró-Natura and Pro-Natura USA. Biological corridor restoration and protection, carbon sequestration, agroforestry systems diffusion, sustainable use of biodiversity and stakeholder consultation for sustainable enterprise, with support from GEF, Ford and Summit Foundations and resource industries.

1993-95 Coordinator, Eco-Eco Project, Rockefeller Foundation. Conceived and implemented a nationwide training and research network on Brazilian environmental and natural resource problems, leading to founding of Brazilian Society for Ecological Economics.

1990-91 Forestry Officer (Non-Wood Forest Products), Forestry Department, FAO, Rome. Initiated FAO’s technical assistance program on non-wood forest product utilization and marketing; missions to South and Southeast Asia, Turkey and Brazil; drafted program guidelines and publications.

1987-89 Program Officer (Rural Poverty and Resources), The Ford Foundation, Rio de Janeiro. Prepared grant justifications and monitored implementation and reporting for projects focused on the Amazon and Northeast regions.

Carbon and Forests


2009- Coordinator, Global Comparative Study on REDD+, CIFOR-Brazil. Responsible for national policy analysis, field site selection and liaison with pilot projects.

2008-10 Collaborator, CEECEC project, Autonomous University of Barcelona/EC. Case study on carbon emissions mitigation through conservation offsets in Mato Grosso, Brazil.


2002-3 Coordinator, IIED/Shell Foundation/DFID. “Local sustainable development effects of forest carbon projects in Brazil and Bolivia: a view from the field”. Analysis of socio-economic impacts of four major forest carbon projects.

2002-3 Coordinator, IPN/UFMT/Cornell/FNMA/Govt. of the Netherlands. “Viability study of reforestation models for carbon sequestration with small farmers in the Amazon”.

Peter H. May
Peter H. May

2002-3 Coordinator, Forest Management, INEE/IPN/UNDP/UNF. “Viability study of timber industry residues for off-grid energy generation in the Amazon”.


Valuation and Payment for Ecosystem Services

2009-10 Coordinator, Forest carbon initiatives for PES in the Atlantic Forest. Study carried out to assist in structuring the KW/FUNBIO Atlantic Forest PES Fund, GIZ.


2002-3 Consultant, Ibama-DIREC/UNDP. “Model for economic valuation of the impacts of communication, electrical transmission lines and pipelines”. Development of valuation system for compensation of management costs in five urban and regional parks.

2000-01 Coordinator, World Bank Development Research Department/REDES, Comparative analysis of municipal response to resources generated by the “Ecological Value-Added Tax” in Minas Gerais and Paraná states in Brazil.


1996 Consultant, World Bank / Getúlio Vargas Foundation. Studies of cabruca coca and protected area management in Brazil’s Atlantic Forest and coastal zone.


Forest Products Certification and Trade

2008 Coordinator, Ministry of Agrarian Development/REBRAF. Development and testing of Agroforestry Manual for the Atlantic Forest, with 17 regional NGOs.

2006 Collaborator, Yale School of Forestry and Environmental Studies. Case study of “Forest certification in Brazil”, part of a 16-country project on non-state regulation.

Peter H. May


2002 Coordinator, APEX/IPN, “Horizontal project to promote sustainable products from agrarian reform projects in the Amazon in the European market” — ARCOAMAZON.

2000 Project Coordinator, IIED/GTZ/IPN. “Barriers to Certified Forest Management in the Brazilian Amazon: the importance of cost.” (IIED Private Sector Forestry program).

1994-97 Consultant, DFID, Pará and Acre, Brazil. Participated in three project development and review missions for "Technical Assistance for Commercial Development of Safrole-Rich Piper in the Amazon."

1995 Consultant, FAO-RAFA / Royal Forest Department, Thailand. Field study of non-wood forest products in buffer zone management of Chachengsao wildlife refuge, Thailand.

1994-95 Consultant, UNCTAD, Responsible for resource management and market analysis of “environmentally friendly” products from Brazil.

1990 Consultant, USAID, Brazil. A Review of Existing Experience and Favorable Opportunities for Sustainable Forest Use, for the Brazilian Amazon.

1983-84 Field Research, New York Botanical Garden/State Babaçu Institute of Maranhão. Analysis of development prospects of vegetable oil and biomass energy industries using babaçu palm fruit, involving 15 months of fieldwork funded by USAID, Inter-American Foundation, National Science Foundation and Cornell University.

Corporate Socio-Environmental Responsibility


1998 Visiting Scholar, Energy and Resources Group, University of California-Berkeley. "Natural Gas Exploration in the Peruvian Amazon – Corporate Roles and Rewards in Promoting Sustainable Development". Case study of Camisea gasfield development project in Peru, and analysis of Royal Dutch/Shell Group sustainability policy.


1996 Brazil Survey Coordinator, Yale Center for Environmental Law and Policy / Avina Foundation. "Private International Finance and the Environment", focus on policies to increase the environmental content of international private financial flows into Brazil.

Peter H. May

**Water Resource and Related Land Management**

2006-7  Consultant, The Nature Conservancy-TNC. Great Rivers Partnership, Upper Paraguay and Paraná basins, Brazil. Diagnosis of principal factors affecting expansion in economic activities, infrastructure and environmental conservation in the two basins, as a basis for the definition of strategies for partnership and investment.


**OTHER ACADEMIC POSITIONS HELD**

2009-  Collaborating Professor, Graduate Program in Public Policy, Strategies and Development and Researcher, National Institute for Science Technology (INCT-PPED), Federal University of Rio de Janeiro, Institute of Economics.


2000-08  Collaborating professor, Graduate Program in Environmental Science, Federal Fluminense University – PGCA/UFF.

1998  Visiting Scholar, Energy and Resources Group, University of California-Berkeley (CNPq grant for post-doctoral studies abroad).

1990  Visiting Professor, Doctoral Program in Public Policy, State University of Campinas (UNICAMP), São Paulo.

1986-87  Visiting Professor, Agricultural Economics, Federal University of Ceará, Fortaleza.

**PRINCIPAL PUBLICATIONS**


May, Peter H. *Iniciativas de PSA de carbono florestal na Mata Atlântica*. In: *Pagamento para serviços ecossistêmicos na Mata Atlântica: estado da arte e desafios*. GIZ/MMA.


2002 Viana, Virgílio, Peter H. May, Lucineide Lago, Maryanne Grieg-Gran & Olivier Dubois. *Instruments for sustainable private sector forestry in Brazil: An analysis of needs, challenges and opportunities for natural forest management and small-scale plantation forestry*. London: IIED.

Peter H. May


Peter H. May


Sound Public Policies for the Amazon Region: Harmonizing Public Policies with the Objectives of the Pilot Program for the Brazilian Rainforests. São Paulo: GTA/Friends of the Earth International. (Co-Author and translator)


Rio de Janeiro
September 24, 2012
Resume

Edgar Selvin Pérez, Biologist of San Carlos University in Guatemala, has developed all his work experience in conservation biology, social sustainability; postgraduate studies in Rural-local, Human and Economic Development, Human Rights, and Social and Political Sciences. He has become involved in developing paradigm changes regarding the improvement of positive relationships between citizenship, public policy and the natural environment. Work and the Rural-local development Master studies in Spain and Social and Political Sciences Doctorate (current) studies, have allowed a holistic view of the necessary compatibility between conservation, sustainable use and rights approach on sustainable use of biologic diversity and the promotion of rural development, based on local work with social key stakeholders and the national and international impact from multilateral cooperation and public policies.

Work in protected areas and biological diversity management, community development, integrated biologic and traditional knowledge research, and the coordination and direction of local, national and international proposals have given Mr. Edgar Selvin Pérez the following outstanding achievements: A) Coordination and direction of the participatory development of the National Biological Diversity Policy in Guatemala based on the strategic valuation of biological diversity for climate change adaptation potential and the reduction of socio-environmental vulnerability, human and economic sustainable development, and the improvement of ecosystem goods and services from biologic diversity, such as water, food and nutrition security. The Policy allowed the development of a legal cross framework to achieve compliance with the Convention on Biological Diversity (CBD), ratified by Guatemala in 1995 through the S-95 Decree. B) Lead the National Council for Protected Areas, in coordination with the Ministries of Foreign Affairs and Environment - Natural Resources, in national and international negotiations to include Guatemala in the “Group of Like-Minded Megadiverse Countries” in Nagoya, Japan. These 19 countries hold 70% of the world’s biological diversity and 50% of the population. C) Coordinate the Guatemalan Delegation in the X Conference of the Parties of the United Nations Convention on Biological Diversity. D) Participate in multilateral fundraising of 26million Quetzals to start the implementation of the National Biological Diversity Policy with the accompaniment of governmental and non-governmental institutions, indigenous leaders and municipalities dedicated to the management of biological diversity in the country. The outstanding achievements are a result of the team work of various organizations including the Ministries of Foreign Affairs and Environment - Natural Resources, non-governmental organizations; with the ongoing support of the National Conservation Fund, the National Science and Technology Council, the United Nations Development Program and the Global Environmental Fund (GEF); D) The coordination and organization of the “15 National Congress on Traditional collective Knowledge and Biodiversity” and E) Nominated National Expert to revise the Global Biodiversity Outlook - 4.

Currently, Mr. Pérez is the Director of the Technical Biodiversity Office (OTECBIO) of the National Council for Protected Areas, and is United Nations National Focal Point for the Nagoya Protocol on Biosafety, Intergovernmental Panel of Biodiversity and Ecosystem Services IPBES; and the Ad-hoc Intergovernmental Committee for the Nagoya Protocol on Access and Benefits-sharing Clearing House. Mr. Pérez is also national representative and member of the Executive Committee of the Inter-American Biodiversity Information Network (IABIN) project of the Convention of Biological Diversity and the Organization of American States, representative of the Biodiversity Committee of the Central American Environment and Development Committee and President of the Inter-Sectorial Environment Committee of the National Science and Technology Council for the 2011-2012 period.
Edgar Selvin Pérez Pérez
Political and Social Sciences Doctorate Student • International Master in Rural-Local Development, Polytechnic University of Madrid, 2007 • Biology Graduate, San Carlos University of Guatemala, 1998.

Objective
Present my curriculum vitae to GIZ consideration and future opportunities.

Experience
From 2009 to the current date • Director of the Technical Biodiversity Office (OTECBIO) of the National Council for Protected Areas (CONAP). Focal Point for the Nagoya Protocol; Biosafety Clearing House of the Convention on Biological Diversity and meetings of IPBES.

The office is in charge of cross coordination of institutions for the implementation of the Convention on Biological Diversity (CBD), Cartagena Protocol and provisions issued by the Conference of the Parties (COP). In addition, through policies and rules, the Office promotes positive relations between biological diversity and society, based on the trans-generational use of natural resources and the fair and equitable sharing of the benefits arising from the utilization of biological resources. Collaborate in fundraising projects of up to US$12 million for the Global Environmental Fund (GEF) in collaboration with the Ministry of Environment and Natural Resources and other departments of CONAP.

2012 National technical coordinator of the public consultation to develop national statements to the COP-10 and COP-11.

For two consecutive occasions, CONAP open the discussion to build national statements to attend Conference of Parties of the Convention on Biological Diversity.

2012 Ad honorem Coordinator of the Project “Ecological Restoration of Pine-oak ecosystem”.
The project is a consortium between the University of San Carlos de Guatemala and the Center of Conservationist Studies, CECON. Supported by the National Council of Science
and Technology.

2011-2012 • General Coordinator and member of the organizing committee of the "I National Conference on Traditional Indigenous Knowledge and Biological Diversity: implications for sustainable development" and the "OTECBIO, CONAF / DPI, CAPI."

Taking place between February and March of 2012, conferences hold financial support from the National Council of Science and Technology (CONCYT) and the Central American Bank of Economic Integration (BCIE), Counterpart USAID, among others. Co-organizer of more than 10 institutions including Governmental organizations (Ministries of Environment and Economy, Indigenous Women Defense –DEMI- and the Presidential Commission Against Discrimination and Racism –CODISRA–), civil society organizations (Sotzil, Utz Che, CALAS and Aq Tanimí) and education centers such as CECON of the San Carlos University and the Latin American Faculty of Social Sciences (FLACSO), among others.

2011 • Member of the World Expert Group for Access and Benefit Sharing and Clearing House Mechanism Construction

This group is in charge of the construction and proposal development to establish a clear mechanism for access to genetic resources, traditional knowledge and equitable sharing of benefits worldwide. This constitutes a transparency tool of the Nagoya Protocol mandates of the Convention on Biological Diversity.

2010 – 2012 • Coordinator of Project Phase I, II and III for the construction, socialization, validation and approval of the National Biological Diversity Policy, and National Biodiversity Strategy and Action Plan, NBSAP update. Financed by FONACON and UNDP.

Development of a National Biological Diversity Policy in a legitimate manner with civil society participation. National Policy was approved by Governmental Agreement number 220-2011.

2009 to current date • National Focal Point. Country Representative

a) General Coordinator of Guatemala’s Delegation that represented the country in the 8th Conference of the Parties in Nagoya, Japan.

b) National Focal Point of the Intergovernmental Committee of the Nagoya Protocol (Recently approved in COP-10 in Nagoya, Japan).

c) Focal Point for Biosafety Biosafety Clearing-house Mechanism of the Cartagena Protocol.

d) National Focal Point of the Technical Committee of the Central American Committee for Environment and Development (CCAD) of the Central American Integration System.

e) Focal Point and member of the Executive Committee of the Inter American Biodiversity Information Network (IABIN).

f) Technical Contact to the Presidency of the Like-Minded Megadiverse Group of the Convention on Biological Diversity, currently presided by the Philippines.

g) National nomination to assist at the IPBES meetings.

Major achievements in public administration:

i. Recognition of Guatemala as part of the “Like-minded Megadiverse Countries Group” during the COP-10. Coordinator and director of the process from CONAP with the support of the Environmental Unit of the Ministry of External Affairs, Guatemalan Mission to the United Nations and the Embassy of Guatemala in Japan.

ii. Coordination of the development, socialization, and validation of the National Biological Diversity Policy, its Strategy and Action Plan, as means to align the Aichi Targets of the CBD at a National level.

iii. Coordination of the participative development of the Exotic Species Regulations for Guatemala

iv. Construction in more than US$10 million in CONAP's project development for the Biological Diversity, Biosecurity – Cartagena Protocol, Climate Change and Forests GEF windows, and enabling activities through the STAR-5 mechanism.

v. Construction of Global Environmental Fund pre-proposals to apply to the country's allocation funds in Biodiversity, Life Web Initiative – CONAP and the Climate Change National Fund in a SWAP proposal with the German Government to finance restoration and reforestation activities in high risk areas. Coordination of the formulation and integration of Biosafety and ABS projects through RAF-4 and STAR 5 mechanisms.

2011 – 2012 • President of the Cross Sector Environmental Commission • National Council of Science and Technology (CONCYT)
Coordinate and mediate between CONCYT and civil society organizations to achieve specific objectives regarding science, technology and innovation.


2011-2012 • President of the Cross Sector Commission on Environment

2010 – 2011 • Member of the Executive committee of the Inter American Biodiversity Information Network.

2009 – 2010 • Director of the “evaluation of the endemic bird Tangara cabanisi status in Guatemala, conservation and birdwatching development” project
The project aims to know the distribution, habitat and genetic condition of the species, its implications for conservation and birdwatching development from a rural standpoint.

2008 – 2009 • Iberoamerican Science and Technology Network • CYTED – AECI
Iberoamerican Conferences of Science and Technology: “Science, Technology and Social Development”. Meetings in Cartagena, Colombia (2008), Valladolid, Spain (2009). Coordinator of the Guatemalan Inter-university consultation project and member of the Iberoamerican University Network of Science, Technology and Social development.

2007 • Center for Conservation Studies (CECON), San Carlos University of Guatemala (USAC).
Coordinator of Institutional Development and Fundraising / Strategic Planning.

2007 • Center for Legal Environmental and Social Action of Guatemala (CALAS) / Association of Ecologic Farmers of the Laguna de Chikabal (ASAECO).
Adviser on rural development, conservation and co-administration consolidation of the Natural and Cultural Monument of the Laguna de Chikabal.

2007 • Integral Productive Cooperative: Beekeepers of Cuilco • R.L. / CIPAC. Rural development advisor for gathering and commercialization improvement of the product at a local and international level for export to Germany, Switzerland and England. Development of proposals to adopt new technology and establish local markets for CONCYT and Austrian Cooperation.

2007 • Center for Conservation Studies (CECON-USAC) / Interethnic Studies Institute (IDEI-USAC) Joint research proposal on “Chib’al Tradition: an encounter of traditional and scientific knowledge in Guatemala’s Western Highlands” / “First research on insect migration in Guatemala and research advances on bird migration framed in the Chib’al tradition in Huehuetenango, Guatemala”.

2005 – 2007 • Gulf Coast Bird Observatory / The Nature Conservancy Consultant for the Migration Route Habitat Sampling of the Cerulean Warbler (Dendroica caerulea) in Guatemala.

2005 – 2006 • Defensores de la Naturaleza Foundation - The Nature Conservancy Coordinator, planner and editor of the Project to develop a “Regional Conservation Plan for the Pine-Oak Forests and the Neotropical Migratory Bird Dendroica chrysoparia”. Region planning supported by 12 organizations in six countries (United States, Mexico, Guatemala, El Salvador, Honduras and Nicaragua). The development of this plan includes site prioritization through Spatial Portfolio Optimization Tool (SPOT) program based on geographic information that analyzed various aspects that risk end/or favor conservation at specific sites.

2005 – 2006 • Alliance for Central American Pine-Oak Ecoregion and its Birds Conservation. Acting ad-honorem coordinator for the Alliance for Central American Pine-Oak Ecoregion and its Birds Conservation conformed by 12 organizations from six countries. Responsibilities included maintaining contact with all Alliance member organizations, coordinate the development of projects and develop proposals aimed to achieve the Regional Conservation Plan and Alliance Consolidation.

2000 – 2007 • Various consulting projects on hydroelectric and electric interconnection projects. Multidisciplinary team coordinator in charge of he construction of the environmental and biological diversity baseline for the hydroelectric Project in Rio Hondo, Sierra de las Minas for the Defensores de la Naturaleza Foundation.

Consultant in charge of the Jones Falls mini-hydroelectric project Environmental Impact Evaluation on the Jones River, Sierra de las Minas, for ElectroOriente.

Consultant of the pre-feasibility environmental evaluation team for the Pacific Electric Interconnection, for Unión Fenosa.

2000 – 2005 • Sierra de las Minas Biosphere Reserve, Defensores de la Naturaleza Foundation Coordinator of Pine-Oak Forest and Dendroica chrysoparia Conservation Projects framed through rural development processes.
- Forest cover recovery: 162 Hectares of shade coffee and cardamom in sites that lacked forest cover. 10 Hectares planted of mixed pine-oak forest and a projected 183 Hectares for 2005,
through the Forest Incentives Plan of the National Forest Institute (PINFOR-INAB). Some 12 villages of private owners and associated collective cooperatives were involved, belonging especially to the Q'eqchi and Poqomchi ethnic groups.

- **Training in Fort Hood, Texas, USA**, in reproductive biological monitoring of *Dendroica chrysoparia*, through mist nets, banding and direct observation of nests.

- **Monitoring and research**: *Dendroica chrysoparia* species monitoring was developed for the 2000-2004 period, as an indicator for pine-oak forest management and anthropogenic influence. Follow-up research to Dr. John Rapoole's study was carried out that produced innovative information regarding *D. chrysoparia*'s ecology in the Neotropics and forest management in Central America. Exploration and research began on the habitat and the species in the highlands and around Sierra de las Minas. All data was georeferenced (GPS) and analyzed through spatial densities by region and new distribution sites were identified for the species depending on forest type (quantity, quality and habitat continuity).

- **Habitat conservation and management**: Sierra de las Minas – Biotopo del Quetzal – Sierra de Chucús biological corridor continued with the declaration of the Río Escondido natural Protected Reserve (RNP) and the development of reforestation projects in the Panimaquito, Chacalte, Nuevo Amanecer and Ribacó villages. Prevention and forest fire management activities were carried out.

- **Strategic alliances**: The Alliance for the conservation of Pine-Oak forests of Central America and its birds was established in the 2001 international workshop in Río Hondo. In 2003, an agreement as framework to establish the Alliance was signed in Tuxtla Gutiérrez, Mexico; eight countries participate, including Central America, Mexico and the United States. This workshop was organized by Oliver Komar, Claudia Macías and Edgar Selvin Perez. New national members were added to the Alliance, including agreements signed by the Private Natural Reserves of Guatemala Association (ARNP) and the Cuchumatanes Project (MAGA – Embassy of the Netherlands).

**Fundraising:** During these four years a total of US$270,000 were raised with the support of the Institutional Development office through national and international organizations including the National Fish and Wildlife Foundation (NFWF), US Fish and Wildlife Service (UFWFS), The Nature Conservancy (TNC), American Bird Conservancy and the National Conservation Fund (FONACON).

2005 – 2007 • Birdwatching Table • The Nature Conservancy – Guatemalan Tourism Institute (INGUAT) – Defensores de la Naturaleza Foundation (*Ad honorem*)

Conceptualization and unification support for the consolidation of the Table. Support as specialized birdwatching guide during Guatemala’s First International Birdwatching Encounter’s post tour from April 7-12, 2005. Member of the Site Development Commission.

2005 – 2006 • Eco-development and Conservation foundation (FUNDAECO)

Development of the consulting Project regarding the definition of Important Bird Areas in Huehuetenango, Guatemala, an integrated analysis on available habitat and important bird diversity conservation species.

2004 • Del Valle University of Guatemala

Birds of Guatemala Course Professor (Ornithology II) from June – November

1998 – 1999 • Audubon / Fundaselva

Kanti Shuill Natural Private Reserve, Tucurú, BV.

Reserve Director

- Rapid Ecologic Evaluation of the Reserve where a new species of the *Papromia* genus is
discovered (Piperaceae Family)
- Image improvement and change in the Audubon chapter to FUNDASELVA to apply to national and international funds, increasing regional sales from 25 to 350 million Euros.
- Development of first fundraising activities for development and conservation projects in the area for US$50,000.

1997–1998 • Mariana Aviary
Caobanal Farm, Auto Safari Chapín
Psittacid reproduction advisor
- Develop the first diet study for psittacids, recommending important trace elements to stimulate reproduction
- Revise preventive and curative medicine for fledglings, recommending new products
- Recommend cavities for Red Macaw (Ara macao) nesting, Green Macaw (Ara militaris) and Ara ararauna.
- Improve work shifts to produce psittacid diet in less time

1996 – 1997 • ProPetén / Conservation International
Laguna del Tigre National Park, Mayan Biosphere Reserve
Scientific Component Researcher
- The first study on Red Macaw (Ara macao cyanoptera) was developed regarding habitat availability and reproduction rate. This study included an ARC VIEW analysis of available habitat and a physical evaluation of habitat quality, including food components and cavities for nesting.
- Development of the conservation strategy for the species and projects of a program that is currently being developed in Sierra del Lacandón and the Laguna del Tigre National Parks, including telemetry and artificial nests.

1992 – 1995 • USFWPS - FUNDAECO
Cerro San Gil Spring Reserve, Volunteer of the Winter Survival and Resident and Migratory Landbird Monitoring Project
- Volunteering in bird banding, mist net management, bird extraction from mist nets
- Vegetation analysis
- Point Counts

Education
2009 – 2011 • Pontifical University of Salamanca, Guatemala headquarters
Political and Social Sciences Doctorate student. 2th year of 5.

2011 International Specialization Diploma on Economic, Social and Cultural Rights (COPREDEH-FUND/ HENRY DUNANT), Chile.

2011 • International Diploma on Social, Economic and Cultural Rights and Public Policy. Henry Dunant Foundation and the Presidential Committee on Human Rights (COPREDEH).

2008 • Iberoamerican Science and Technology Network. CYTED - AECI
Iberoamerican Science and Technology Network: "Science, Technology and Social Development". Cartagena, Colombia. 40 hours.

2008 • International Cooperation Center, Ministry of Foreign Affairs of Israel – MASHAV
Participation in the “Local and Regional Competitive” course, scholarship from the United Nations Organization, Habitat and the Weitz Center for Development Studies, Regional
Urban Studies Center (CERUR), Israel.

Distance learning course on "Food quality and safety in the food chain". Regional Technical Economical, Agricultural Policies and Rural Development Training Cooperation Project in Latin America (FODEPAL, FAO, Spanish Agency for International Cooperation, Polytechnic University of Madrid).

2006 – 2007 • Polytechnic University of Madrid
International Master in Rural – Local Development. Madrid, Spain. Scholarship from the Carolina Foundation.

2006 • Institute for Community Development, IDC. County Council, Spain.

Distance learning course on "Collective action and rural development in Latin America and the Caribbean". Regional Technical Economical, Agricultural Policies and Rural Development Training Cooperation Project in Latin America (FODEPAL, FAO, Spanish Agency for International Cooperation, Polytechnic University of Madrid).

2003 • ITESM, Rafael Landivar University, The Nature Conservancy – Social Leaders Program. Partial scholarship from TNC
• Planning and conservation strategies.
• Marketing and fundraising
• Project management, planning and administration
• Civil society organizations

2002 • Tayasa Business School, Guatemala City
Executive Direction and Administration Diploma

1991 – 1997 • San Carlos University of Guatemala, Guatemala City
Biology degree in pure and applied sciences. Scholarship from Student Welfare / San Carlos University of Guatemala

Computer Programs
Windows Environment, Microsoft Excel, Word, Power Point; internet browsing through Internet Explorer and Mozilla Firefox.

Statistical packages: JUMP 3.1.2., Krebs, moderate comprehension of SPSS software.

Business Profitability: Rent Agro

Geographic Information Systems: ARC VIEW 3.2, Arc GIS 9.0 and full management of GPS, knowledge of SPOT program data interpretation (tool for habitat optimization and prioritization) and related software

Language
• English technical comprehension written (80%), conversation (70%). Current
student to improve language skills

- Quechua, basic.

**Publications**


15. Articles sent to international magazines such as The Condor and Wilson's Bulletin:

- The Chib'al Tradition: an encounter between traditional and scientific knowledge in the Western Highlands of Guatemala.
- Altitudinal Gradient and Food-Biomass Productivity for Insectivorous Birds in Eastern Guatemalan Pine - Oak Forests
- Foliage structure and Food availability for the Golden-cheeked Warbler in Eastern Guatemala Highlands
- New localities for the Golden-cheeked Warbler Dendroica chrysoparia in Guatemala, Central America.
- Notes on Chib'al tradition.

**Interests**

Rural sustainable development and public policies; biological diversity and the fair and equitable sharing of benefits; science, technology and innovation; traditional and scientific knowledge; microeconomics; governability; project planning, evaluation and monitoring through results; social organization; food sovereignty; applied research; fundraising, planning and strategic thinking; languages; indigenous cultures; painting and music

**References**

Recent Boss: Licenciada Raquel Siguénza, PSR National Coordinator, Wetlands International. Cellular phone: 502 53164556 (English speaker) siguenza.raquel@gmail.com

Lic. Francisco Castañeda Moya, CEO of National Council of Protected Areas, CONAP. Mobil phone: 502 59400523 fcmoya@yahoo.es castaneda.francisco@usac.edu.gt

Lic. Eduardo Calito, Guatemalan Embassy in Washington, DC. eneja@minex.gob.gt eduardomeja125@gmail.com Cellular phone USA 2028348717 GT: 502 59909809.
Adoni Cubas Guerra
(504) 99 95 42 38
adoni.cubas01@gmail.com
Barrio Lempira, contiguio a SERSO
½ cuadra al sur de la Municipalidad
Jutiapa Atlántida
Honduras Centroamérica
Id Number: 0104-1969-00228
Date of Birth: July 1st 1969

JOB EXPERIENCE

- May 2000 – June 2003: Cayos Cochinos Foundation. Interim Executive Director
- March 1998 – May 2000: Cayos Cochinos Foundation. Sub-Director and Community Development Program Coordinator.
- 1993: United States Department of Agriculture/Ministry of Natural Resources, Quality Control. La Ceiba, Atlántida.
- 1991: Consultant in Botany, Tegucigalpa M. D. C.
ACADEMIC:

  - Graduated with honors

ADDITIONAL STUDIES / EXPERIENCE

  - Languages: Spanish (first language), English (fluent written and spoken), Miskito [indigenous language] (Basic)
  - PADI Rescue Diver, Emergency First Response
  - Coral reefs rapid assessment
  - Management effectiveness assessment of protected areas
  - Sites conservation planning
  - Strategic planning and financial sustainability
  - Community based conservation
  - Socioeconomic research and monitoring
  - Conservation initiatives planning at the international level
  - Research and monitoring protocols for coastal marine resources
  - Preparation of presentations for international conferences and congresses
  - Management Plan preparation for coastal-marine protected areas
  - Project preparation and evaluation
  - Agro Forestry
  - Reef restoration techniques
  - Research and monitoring techniques of coral reefs, reef fish, mangroves, seagrass.
  - Design, planning, construction and installation of: artificial reefs, fish and lobster aggregator devices, under water interpretative trails, demarcating and tying buoys
  - Cofounder and active board member of Grupo de Apoyo al Desarrollo (GAD) foundation, areas of action: Education, Environment and Community Business Development

PUBLICATIONS

  - Conservar para la Comunidad es Hacerlo con la Comunidad. WWF Centroamérica. 2000.
CURRICULUM VITAE

Dr. Rodrigo Medellin Legorreta

Rodrigo A. Medellin has studied and worked on the ecology and conservation of mammals in Mexico for over 30 years. After completing his undergraduate studies at the University of Mexico he obtained his Ph.D. from the University of Florida. Working in diverse settings in the field from rainforests to deserts to montane forests, he uses a diverse approach including community ecology, plant-animal interactions, population biology, and molecular ecology.

He has produced more than 150 publications including over 60 scientific papers in international journals, more than 40 popular publications, and 35 books and book chapters on bat ecology and conservation, mammal diversity analyses, and conservation of large mammals. His presence in the media is continuous, with dozens of appearances in local and national TV, radio stations, and the press each year.

Rodrigo was head of the Wildlife Department of the Mexican Federal Government in 1995-96. He has been President of the Mexican Society of Mammalogists, served as Chair of the Committee for International Relations and also chaired the Latin American Fellowship Committee of the American Society of Mammalogists, was Associate Editor of the Journal of Mammalogy from 2005-2010 and has been a member of the Board of Directors of the same Society for six years and was reelected in June, 2004 for a third 3-year term.

In 2004 he was elected President of the Austral and Neotropical America Section of the Society for Conservation Biology, where he has been a member of the Board of Governors as Chair of the Awards Committee and member of the Education Committee and the Governance Committee. In 2011 he became President Elect of the same Society for Conservation Biology. He was a member of the Scientific Advisory Board of Bat Conservation International for 11 years, from 1996 to 2005, and again since January 2011.

He currently serves in the Scientific Advisory Board of the La Selva Biological Station of the Organization for Tropical Studies and of the Lubee Bat Conservancy, and is the founder and director of the 15-year-old Program for the Conservation of Bats of Mexico. Rodrigo is Co-Chair (with Paul Racey) of the Bat Specialists Group of the Species Survival Commission of IUCN, and is Senior Professor of Ecology at the Institute of Ecology, University of Mexico, where he was Head of the Department of Ecology and Biodiversity for three years.

Rodrigo has taught conservation biology and community ecology for over 20 years at the graduate and undergraduate levels, and directed over 35 theses of graduate and undergraduate students. His students have received many awards for their work. He is also adjunct professor at Columbia University in New York, at Andalusia International University in Spain, at the University of Arizona, and Associate Researcher at the
American Museum of Natural History and the Arizona-Sonora Desert Museum. From January to June, 2011 he was the Director for Science and Conservation of the Arizona-Sonora Desert Museum. Rodrigo is currently an Associate Editor for the journals Conservation Biology, ORYX (the International Journal of Conservation), and Acta Chiropterologica.

In 2000 he was appointed representative of Mexico before the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Animals Committee by the Mexican federal government. In 2002 he was elected representative of North America and also vice-Chair of the CITES Animals Committee, and in 2004 and again in 2007 at the request of the governments of Canada and the United States, he was re-elected for the same positions. In 2002 he was invited to join the Millennium Project (Chaired by Jeffrey Sachs) of the United Nations as a member of Task Force 6: Environmental Sustainability, and continues to be advisor of the Mexican Federal Government for wildlife issues.

Dr. Medellín has received various recognitions. In April of 2004 he received the Whitley Award for International Nature Conservation from the hands of Her Royal Highness, Princess Anne of England. Then in October of that year the North American Society for Bat Research gave him its highest honor, the Gerrit S. Miller Award, given to persons "In recognition of outstanding service and contribution to the field of chiropteran biology." In November 2004, Mexico’s President Vicente Fox gave Rodrigo the 2004 National Nature Conservation Award. In June of 2007 the American Society of Mammalogists distinguished him with its highest recognition in conservation, the Aldo Leopold Award, given to individuals who have made outstanding and lasting contributions to the conservation of mammals and their habitats. Only three individuals have received this award before Rodrigo: Edward O. Wilson, Russell A. Mittermeier, and George B. Schaller.

Also in 2007 he received the Outstanding Alumnus Award from the Department of Wildlife Ecology and Conservation of the University of Florida. Rodrigo is the first recipient of this award, “in recognition of outstanding contributions to the field of wildlife ecology and to the conservation of wildlife in Mexico”. In November of that year he received the 2007 Conservation Scientist of the Year from Wildlife Trust in New York City. Wildlife Trust selects one scientist every year to recognize him/her in a gala in New York. Rodrigo was chosen for his life-term career working on conservation in Mexico and Latin America.

Rodrigo received the 2008 Rolex Associate Award for Enterprise, given by Rolex after a world-wide selection. Rodrigo is only the third Mexican in over 30 years that the award has been given. In 2008, over 1,500 people participated and only 10 were selected. Rodrigo was chosen because of his then 14-year-old on-going bat conservation and research project. On the same month, he received the 2008 Volkswagen “For the Love of the Planet”. This award is given once a year by Volkswagen Mexico to a researcher or group of researchers whose primary work is on protected areas of Mexico.

Rodrigo was selected for his work on bighorn sheep, pronghorn antelope, jaguar, and bat research for conservation in over 12 major protected areas of Mexico, plus the current work for the creation of new protected areas to benefit large bat populations. More recently,
BBVA Banking Corporation of Spain selected Rodrigo and his Program for Conservation of Mexican Bats as recipients of their prestigious Premio Fundación BBVA a las Actuaciones en Conservación de la Biodiversidad en Latinoamérica, the largest award of its kind given in Latin America, which comes with a cash prize of 250,000 Euro. In May 2012 he received the first-ever Whitley Gold Award from Princess Anne of England again, the first individual ever to receive two Whitley Awards.
CURRICULUM VITAE

MASTER OF SCIENCES
JULIA CARABIAS LILLO

Julia Carabias Lillo was born in 1954 in Mexico City, Mexico. She completed her undergraduate and graduate degrees (1973 - 1981) at the Faculty of Sciences of the National Autonomous University of Mexico (UNAM). At UNAM she developed programs in the areas of scientific research and education development from 1977 to 1994.

She has taught courses and been thesis advisor in the Faculty of Sciences of the UNAM, as well as in several institutions of research and higher education in the areas of botany, ecology, natural resource management, ecological restoration and conservation.

The focus of Ms. Carabias’ research in ecology has been in the areas of tropical forest regeneration, environmental restoration, natural resource management, productive systems and ecology, urban ecology, calculation of the value of natural environmental, global change, poverty and the environment as well as environmental policy. She has published numerous scientific articles on these themes, in addition to co-authoring various books, which include: Ecology and Alimentary Self-sufficiency; Rural Production in Mexico: Ecological Alternatives; For Earth’s Sake; and Natural Resource Management and Rural Poverty. Additionally, her work has been published in the following compilations: Ecology and Natural Resources; Traditional Practices and Integral Resource Management; Culture and Sustainable Natural Resource Management; Towards a Policy of Sustainable Development; and Poverty and the Environment.

Ms. Carabias has presented her work and delivered speeches in national as well as international fora. Between 1984 and 1994, she coordinated a research and rural development program in extremely impoverished peasant communities in four regions of Mexico within PAIR, (Integrated Use of Natural Resources). It was an inter-sector program, with the participation of UNAM, federal and state governments, rural organizations and the private sector, which searched for environmentally low-impact alternatives for natural resource exploitation and improvement in living conditions.

She was a member of the Commission for Developing Countries and Global Change, which published the report For Earth’s Sake during the 1992 United Nations Conference on the Environment and Development in Brazil.
Ms. Carabias is currently a member of several consultative councils and forms part of the academic councils of various national and international organizations. She was member of the Board of Directors of Leadership for Environmental and Development (LEAD INTERNATIONAL) until March 2001, and the Scientific Committee of SCOPE between 1994 to 2000. At present she is member of the National Steering Committee of LEAD Mexico, member of the Board of Directors of the World Wildlife Fund and on the Board of Directors of Resources for the Future. In 2001 she received the international Getty Prize from the WWF.

In February of 1994, Ms. Carabias was named President of the National Ecology Institute, which was at that time a decentralized agency of the Social Development Ministry. On December 1st, 1994, she was named by the President of Mexico, Dr. Ernesto Zedillo Ponce de León, as Secretary of Fisheries. The following 28th of December, the Ministry of Environment, Natural Resources and Fisheries was created, which Ms. Carabias headed until the end of the administration in November 2000.

She represented Mexico in global environmental fora such as the United Nations Environment Program, the Commission for Sustainable Development of the General Assembly of United Nations, the OECD Committee on Environment Policy, OAS, as well as the conventions on climate change, biodiversity and desertification.

She is currently a member of the Faculty of Sciences of the National Autonomous University of Mexico (UNAM) coordinating the Master’s Degree in Restoration Ecology Program.

During 2002-2003, Ms. Carabias coordinated the Capacity Building Task Force for the World Parks Congress. The work was based on regional workshops that previously took place in Latin America, Asia and Africa and resulted in publications “Capacity Needs to Manage Protected Areas” for each of the regions (co-author) which were used for both the WPC and COP 7.

She is the president of an non governmental organization, Centro Interdisciplinario de Biodiversidad y Ambiente (CEIBA).

She does not have any political party affiliation.

June 2011.
JOSE SARUKHÁN

SUMMARY OF CURRICULUM VITAE

General

Born in Mexico City, 15 July, 1940

Address: Institute of Ecology, National Autonomous University of Mexico, Ciudad Universitaria, 04510 Mexico D.F., Mexico.
Telephone (52 5) 6229009
Fax (52 5) 622 9018
E-mail sarukhan@servidor.unam.mx

Currently: Comisión Nacional Para el Conocimiento y Uso de la Biodiversidad CONABIO, liga Periférico-Insurgentes Sur 4903, Tlalpan 14010, México, D.F.

Degrees awarded

1964. Graduated in Biology from the National University of Mexico (UNAM)
1968. Master's degree in Agricultural Botany from the Postgraduate College (Chapingo, Mexico City)
1972. Ph.D. in Ecology from the University of Wales (Bangor)

Areas of academic interest

His main areas of academic interest have been Structure and Dynamics of Tropical Vegetation, Plant Population Ecology and Systems Ecology of temperate and tropical ecosystems, Biodiversity and the use of the information about it to support Conservation Policies. He has also developed interest and experience in training and education in Ecology and the role of Higher Education, Science and Technology in the development of Mexico. He has also written on sustainability of social development and the ethical issues involved in it.

He has published over 190 papers and several books and has taken part in more than 300 national and international congresses and has supervised 27 bachelor's, master's and doctor's thesis. He has been the promoter in Mexico of the most important ecological research group of Latin America. (see extended CV).

Academic positions

Present day: National Coordinator of the Comisión Nacional Para el Conocimiento y Uso de la Biodiversidad (CONABIO) on leave of absence from his post as full professor at the Institute of Ecology, UNAM.
1972- Associate Professor, Institute of Biology, UNAM
1979. Director of the Institute of Biology, UNAM
1987-1988 Vice-Chancellor for Science, UNAM
1987. Full Professor, Institute of Ecology, UNAM
1988-1996. Rector of the National Autonomous University of Mexico (UNAM)
2007. Visiting Professor of Ecology. Universitat de Barcelona
1997. 1998 Tingler Professor, Stanford University
2008. Emeritus Professor, Institute of Ecology, UNAM

Memberships in Academies of Science

1975. Academia Mexicana de Ciencias
1986. Academia de Ciencias de América Latina
1987. El Colegio Nacional (an academic body equivalent to the Collège de France, with only 40 members representing the foremost in the Arts, Literature, Science and Culture in Mexico)
1991. Third World Academy of Sciences
1993. Foreign Member US National Academy of Sciences
2003. Foreign Member Royal Society
2004. European Academy of Sciences
2008. National Academy of Arts and Sciences
2010. Institut de Estudis Catalans (Science Academy of Catalunya)

Membership in scientific societies

3. Association for Tropical Biology. Regular Member; Elect President, 1986-1987; Honorary Fellow, 1996. USA
5. Linnean Society of London. Fellow.
6. Sociedad Mexicana para la Divulgación de la Ciencia y la Técnica, A.C. (SOMEDICYT). Miembro Titular, 1986-
7. International Society for Plant Demography. Founding Member.
10. International Association for Ecology (INTECOL). Regular Member
12. Society for Natural Philosopy. Regular Member. USA
13. International Society of Evolutionary Biologists. Member
20. American Association for the Advancement of Science (AAAS. International Member, 1993; AAAS. Fellow, 1999. USA
21. Societe Europeenne de Culture. Viena, Miembro, 1995-
22. California Academy of Sciences, USA. Honorary Fellow, 1998
23. Sociedad Mexicana de Bibliófilos, A.C. Miembro Fundador, 1997
24. Society for Ecological Restoration. Member, 1998-
25. Academia Nacional de Ciencias Agrícolas de México, A.C. Miembro Titular, 2002
26. Member of the European Academy of Sciences (EAS). Agosto, 2004
27. Fellow of The World Academy of Art and Science. April, 200

Honorary degrees
1992. Universidad Tecnológica de Santiago, Chile
1993. University of Wales, Swansea
1994. New York University
1995. Colegio de Postgraduados, México
1996. Universidad de Colima
1997. Universidad Autónoma de Hidalgo
2006. Universidad Autónoma del Estado de Morelos

Honors
1964. Summa cum Laude School of Sciences, Professional Dissertation
1976. National Forestry Prize, to the best research work on forestry in Mexico
1984. The Mexican Academy of Sciences, Natural Sciences' Prize
1991. The Botanical Merit Medal of the Botanical Society of Mexico
1991. The "Alfonso L. Herrera" Medal in ecology and conservation;
1993. First Emeritus Professor. Universidad Tecnológica Metropolitana de Santiago, Chile
1994. Emeritus Director of Conservation International
1995. The Pericles Medal, Fundación Amparo de Puebla; for outstanding services to Culture
1996. The Lázaro Cárdenas del Río Medal. for Services to Higher Education, México
1996. Honorary Fellow of the Ecological Society of America
1996. Honorary Fellow of the Association for Tropical Biology
1998. Honorary Fellow of the California Academy of Sciences
Medalla de Oro al Mérito Universidad Veracruzana. Xalapa, Ver. Septiembre 27, 2002
2002. Reconocimiento de la Asociación Latinoamericana de Botánica. Bogotá, Colombia. Octubre 13,
2002 Medalla "José Vasconcelos". Asociación de Egresados de la Universidad Nacional Autónoma de México en Hidalgo. Pachuca, Hgo. Noviembre 29,
2003 Premio Interamérica 2003 de la Organización Universitaria Interamericana (OUI). Xalapa, Ver. Noviembre 10,
2006 Centennial Award of The Botanical Society of America. Abril,
2006 Héroe de la Conservación de The Nature Conservancy. Mayo,
2007 Award Certificate for the Nobel Peace Prize to Intergovernmental Panel on Climate Change (IPCC) For being a Chapter Leader 2001: Impacts, Adaptation, and Vulnerability) Oslo, Norway
2008 Medalla por 35 Años de Labor Académica en la UNAM. Mayo 15,
2009 Award of the 2009 Science Lectureship. Faculty of Science of Chiba University. Chiba, Japan.
2010 Condecoración of the Orange-Nassau Order. Kingdom of the Netherlands

Past and present Committees

1981-1984. Member of the Scientific Advisory Committee, IGBP.
1991- 1995. Member of the Advisory Committee on the Environment, ICSU.
1998-2004. Member of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST/UNESCO)
1999. Member of The World Resources Institute Board of Directors
1999. Member of the Consejo de Administración del Instituto Internacional de la UNESCO para la Educación Superior en América Latina y el Caribe (IESALC/UNESCO)
1999 Member of the Steering Committee of the Millennium Assessment of the State of the World's Ecosystems.
2000-. Member of the Consultative Council of the Mexican National Water Board;
2000- Member of the Board of Governors, El Colegio de México,
2002- Co-Chair of the Editorial Board of the Millennium Ecosystem Assessment
Member of the Inter Academy Council for a Study on Science and Technology strategies for improved agricultural productivity and food security in Africa requested by the Secretary General of the UN, Kofi Annan
2009. Member of the Board of Governors, Universidad Veracruzana

Positions held
Between 1964 and 1968 he was director of a research group on the ecology of pharmaceutical yams (*Dioscorea* spp.) that involved the first major studies of the vegetation and ecology of the Mexican tropics. After his return to Mexico in 1972 from having obtained his doctoral degree in the U.K., he entered the National University of Mexico (UNAM) as full-time research staff at the Institute of Biology, where he organized the first Ecology Department at the University.

He was appointed as a member of the Board of Directors for environmental impacts of the National Institute of Nuclear Research 1979-1980, and has been a Board member of the National Committee on scientific capacity building of the Mexican National Council for Science and Technology (CONACYT) 1982-1987; in a similar capacity served as a Board member of IVIC, the Venezuelan Institute for Scientific Research 1984-1986.

In 1987 he founded, with his first group of graduate students, the Institute of Ecology at UNAM, the most important ecological research institution in Latin America, which at present has over 65 research staff with doctoral degrees, and over 180 graduate students reading for their doctoral or MSc. Degrees, with three branches indifferent parts of Mexico.

He was elected President of the Latin American Union of Universities (UDUAL) in November 1992 for a period of 3 years, and Vice President of the Iberoamerican Association of Graduate Universities (AUIP) from 1994 to 1996. In April 1998 he was elected as Coordinator of the Latin American Plant Sciences Network, a consortium of Universities of the region, offering scholarships for trans-country graduate training in the areas of Plant Sciences, which he founded in 1987.

After seven years as research staff he was elected by the Board of Governors of UNAM to be director of the Biology Institute of the University for two consecutive periods, holding this post from 1979 until 1987. The Institute of Biology is the foremost research institution in Taxonomy and Systematics in Mexico, housing all the national systematics collections of the country.

In February 1987, he was appointed Vice Chancellor for Science at UNAM, and in December 1988, was elected by the Board of Governors as Rector of this university for the period 1989-1993 and reappointed for the same post for the period 1993-1997. UNAM is one of the two oldest Universities in the American Continent (founded in 1551) and one of the largest in the Continent. It runs on an annual budget of over two billion US dollars. He returned to his post as Senior Professor at the Institute of Ecology after ending his period as Rector and spending a sabbatical year as Visiting Professor at Stanford University, in 1988. During the period of his Rectorate at UNAM, *UNIVERSUM*, the University’s Science Museum was conceived by him and his colleagues and opened in 1994, receiving over 1.2 million visitors a year.

Samkhan was president of the Botanical Society of Mexico from 1972 until 1975. He was also President of the Mexican Academy of Sciences in 1984-85, a period in which he played an important role in the creation of the Sistema Nacional de Investigadores, It is an academic performance-based salary bonus system, which was devised to stop the disintegration of the Mexican scientific community at the time of serious economic distress in Mexico and severe
brain drain. He was also elected as President of the Association for Tropical Biology during the period 1986-1987.

The President of Mexico appointed him in 1992 as Coordinator of the Mexican National Committee on the Study and Conservation of Biodiversity (CONABIO), responsibility that he holds until today. Sarukhán conceived CONABIO as a semi-private, interministerial organization, whose mission is the integration of a mega database of the organisms and ecosystems of Mexico within a Geographic Information context. It provides fundamental information for the development of policies on conservation and sustainable use of natural resources in Mexico. It is one of the two or three such national organizations existing in the world and has been considered an example of the application of informatics to Biodiversity knowledge and conservation. Presently it runs what is considered as the largest, electronically accessible, operational, biodiversity database for a country in the World. It served as model and inspiration for the development of the Global Biodiversity Information Facility, (GBIF) belonging to the OECD, located in Copenhagen. It can be accessed at www.conabio.gob.mx

In September 2000 Sarukhán designed and established a Master’s Programme on Restoration Ecology aimed at training mid-career professionals in charge of conservation, restoration and management of natural resources. The programme is based at the Institute of Ecology, UNAM and is run in collaboration with Prof. Julia Carabias, the former Minister of the Environment of Mexico.

In December, 2000 he was invited by President Vicente Fox of Mexico to become Commissioner for Human and Social Development in his Executive Office, being responsible for the coordination of the Ministries of Education, Health, Social Development, Environment, Agriculture, Labour and Agrarian Reform. Sarukhán resigned this position on the 1st of February, 2002, and was back at his laboratory in the Institute of Ecology, UNAM.

Teaching experience

18. Senior Lecturer Curso de Fundamentos de Ecología. ENP/UNAM. Junio 17-26, 1991

Supervision of students

Has directed 28 students’ theses at the graduate and undergraduate levels, at UNAM, Simon Frazer University (Canada), Stanford University, University of Reading, and Université de Toulouse. Not listed for brevity, available if requested.

Editorial and refereeing work

5. Evolution. Reference. USA
6. Science. Reference. USA
7. Biotrópica. Reference. USA. 1992-
8. Ecology. Reference. USA
14. Evaluador de proyectos de investigación en el área de Ecología. Fondo Nacional de Desarrollo Científico y Tecnológico. CONICYT. Chile. 1985
17. La Ciencia desde México Comité Editorial de la Serie. Fondo de Cultura Económica 1989-
20. World Resources Editorial Advisory Board, World Resources Institute. 1990-1996

30. Member of the Evaluation Panel of the Finnish Biodiversity Research Programme (FIBRE), University of Turku, 2002-2003

Publications


**Conferences attended**

Has attended over 750 conferences and symposia, both in Mexico and abroad, the vast majority by invitation of the organizers; these are not listed here for brevity but are available if requested.
CURRICULUM VITAE
OF
DAVE D. CHADEE
(AUGUST 2012)

1. Personal Details

NAME: Dave D. Chadee  POST: Professor
Department of Life Sciences
University of the West Indies
St. Augustine,
Trinidad.

QUALIFICATIONS:

<table>
<thead>
<tr>
<th>Degree</th>
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<tr>
<td>B.Sc.</td>
<td>Dalhousie University</td>
<td>10/76</td>
</tr>
<tr>
<td>M.Phil.</td>
<td>University of the West Indies (UWI)</td>
<td>01/84</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>Dundee University</td>
<td>11/87</td>
</tr>
<tr>
<td>D.Sc.</td>
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<td>07/99</td>
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<tr>
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<td>07/01</td>
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EXPERIENCE:

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<tr>
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<tbody>
<tr>
<td>Entomologist/Parasitologist</td>
<td>Insect Vector Control Division</td>
<td>1979-1997</td>
</tr>
<tr>
<td>Director</td>
<td>Trinidad Public Health Laboratory</td>
<td>1997-1999</td>
</tr>
<tr>
<td>Lecturer (Temporary)</td>
<td>Department of Para-Clinical Science Faculty of Medicine University of the West Indies Mt. Hope, Trinidad W.I.</td>
<td>2000</td>
</tr>
<tr>
<td>Associate and Senior Associate Lecturer</td>
<td>Department of Para-Clinical Science Faculty of Medicine University of the West Indies Mt. Hope, Trinidad W.I.</td>
<td>1990-2004</td>
</tr>
</tbody>
</table>

Adjunct Associate Professor  School of Public Health and Tropical Medicine  Tulane University  New Orleans, Louisiana  LA 70112 USA.  1995-2007

Adjunct Professor  Department of Epidemiology and Global Public Health Program  University of Miami, South Campus  Miami, FL 33177, USA.  2004-2013

Director  National Public Health Laboratory Srvs. Ministry of Health  Trinidad W.I.  2003-2004

Lecturer  Department of Life Sciences  University of the West Indies  St. Augustine, Trinidad  2004-2007

Senior Lecturer  Department of Life Sciences  University of the West Indies  St. Augustine, Trinidad  2007-2010

Professor  Department of Life Sciences  University of the West Indies  St. Augustine, Trinidad  2010-present

AWARDS
• Gorgas Memorial Fellowship 1998
• Selected in the 60 under 60 UWI Program (2009)
• Vice-Chancellor Award for Research Excellence, University of the West Indies, 2010.
POSTGRADUATES (Completed)

1. Adrian Gonzalez (1997). Master of Public Health (MPH), Tulane University, New Orleans, Louisiana, USA

2. Colleen Wunderlich (2000). Master of Science (MD/MSc), St. Georges University, St. Georges, Grenada, W.I.

3. Paul I. Howell (2003). Master of Public Health (MPH), Rollins School of Public Health, Emory University, Atlanta, Georgia, USA.

4. Adriana Troyo (2007). Doctor of Philosophy (PhD), University of Miami, Miami, USA. (Committee Member).

5. Denise Dowlat (2010). Master of Science (MSc), University of the West Indies, St Augustine, Trinidad, W.I.

6. Nneka Gill (2011). Master of Science (MSc) University of the West Indies, St Augustine, Trinidad, West Indies.

7. Karen A. Polson (2011). Doctor of Philosophy (PhD), University of the West Indies, St Augustine, Trinidad, W.I.

8. Ryan Hemme (2011). Doctor of Philosophy (PhD), University of Notre Dame, Indiana, USA (Committee Member)

9. Andrea Mohan (2011). Master of Philosophy (MPhil), University of the West Indies, St. Augustine, Trinidad, W.I.


Postgraduate Examiner

1. Stacy Marie Kathryn Syne (2009) Master of Philosophy (MPhil), University of the West Indies (Internal Examiner).

2. Jeanette Latoya Browne (2010). Master of Philosophy (MPhil), University of the West Indies (Independent Referee)

3. Sharlene Lata Beharry (2012). Master of Philosophy (MPhil), University of the West Indies, St. Augustine (Internal Examiner)
CURRENT DUTIES:

1. Professor in Parasitology and Environmental health
2. Lecturer and Coordinator for the Postgraduate Course in Bioethics (BIOL 6062)
3. Lecturer and Course Coordinator of Diversity of Organism course (BIOL1261)
4. Supervisor of Research Projects for Undergraduates
5. Member of the Management Committee in the Department of Life Sciences
6. Supervisor of Postgraduates including:

   1. PhDs student: Maria Cecilia De Fatima Vega Corredor, Chavin Gopaul, and Keerisha Khan

   4. M.Phil’s (K. Sharma, SueMin Nathaniel, Mia Avril, Akila Stewart, and Sherine Huntley, UWI, Mona campus with Dwight Robinson).

7. Co-Chairman of the Tropical Medicine Cluster: Infectious Diseases
8. Co-Chairman of the Biodiversity and Environmental Cluster: Biogenics of Natural Products
9. Postgraduate Coordinator in the Department of Life Sciences (2009-)
10. Member of the Board for Graduate Studies and Research (2012-)

PREVIOUS POSITIONS HELD IN THE DEPARTMENT OF LIFE SCIENCES

1. Chairperson of the Staff-Undergraduate Student Liaison Committee in the Department of Life Sciences (2005-2007)
2. Chairperson of the Staff-Postgraduate Student Liaison Committee in the Department of Life Sciences (2006-2008)
3. Postgraduate Coordinator in the Department of Life Sciences (2006-2008)
5. Departmental Representative to the Faculty of Science and Agriculture Standing Committee for Graduate Studies and Research (2007-2010)

2. List of Publications

(a) MONOGRAPHS


(b) ARTICLES PUBLISHED IN REFEREED JOURNALS


Publications since joining the Department of Life Sciences, Faculty of Science and Agriculture, University of the West Indies, St. Augustine, Trinidad in 2004.


Environment Canada, Toronto, Canada p.254 (BOOK CHAPTER)


(Appointed Professor 2010)


ARTICLES ACCEPTED FOR PUBLICATION


ARTICLES SUBMITTED FOR PUBLICATION (under review)


8. Chapter 1 Introduction to Flooding Book

MANUSCRIPT IN PREPARATION

in the Aripo-Wallerfield forest, Trinidad, West Indies. *Journal of Vector Ecology*.

2.


8. Chadee, D.D and B. Ramlal 2012. An evaluation of dengue case surveillance systems in Trinidad, West Indies. *Tropical medicine and International Health*

**CONFERENCE PAPERS**


up in north Trinidad. Presented at the 39th Commonwealth Caribbean Medical Research Council Meeting, 20-23 April, 1994, Kingston, Jamaica, W.I.


Health Research Council and Scientific Meeting, 21-24 April, 1999, in Grand Barbados, Barbados, West Indies. (Awarded the Glaxo-Wellcome Award)


Conference of the University of the West Indies 14-18th January, 2001, Trinidad, West Indies.


Scientific Meetings of the Caribbean Health Research Council, April 22-27, 2008, Torarica Hotel, Paramaribo, Suriname, South America.


Research Council, April 22-23, 2010, Hyatt Regency Trinidad Hotel, Port of Spain, Trinidad, West Indies.


118. Sharma, K.L., R.S. Mahabir and D.D. Chadee (2010). Dengue seroprevalence among 12-18 year-old secondary school students in Trinidad, West Indies. Presented at the 59th Annual meeting of the American Society of Tropical Medicine and Hygiene, November 2-7th 2010, Atlanta, Georgia, USA.

119. Mahabir, R.S. and D.D. Chadee (2010). Impact of road networks on the distribution of Dengue haemorrhagic Fever cases in Trinidad, West Indies. Presented at the 59th Annual meeting of the American Society of Tropical Medicine and Hygiene, November 2-7th 2010, Atlanta, Georgia, USA.


122. **Chadee, D.D.** (2011). Dengue Fever Control using the Best Practice approach in Trinidad and Tobago. Presented at the 3rd Meeting of the Bill and Melinda Gates Grant on the “Development and proof of efficacy of a lethal ovitramp for dengue prevention” on 9th-12th April 2011 at Tulane University, New Orleans, Louisiana, USA.


**OTHER PAPERS**


Copulation vigour of sterile *Aedes aegypti* in the field in Trinidad, West Indies. Annual Report, Mimeographed Document, UWI St. Augustine, Trinidad p. 15


3. List of Research Activities

Research projects:

1. Xenomonitoring for Lymphatic filariasis in Brazil, Costa Rica, Dominican Republic and Trinidad and Tobago (funding from the Pan American Health Organization, Washington, DC, USA).

Outline
In 1997, the World Health Organization passed a resolution calling for the elimination of Lymphatic Filariasis (LF) as a public health problem. However, at this time all of the tools necessary to monitor the elimination programs were not fully developed. In 2001 the Xenomonitoring protocol for the collection of resting, blood engorged Culex quinquefasciatus Say mosquitoes and their examination for microfilariae using a PCR approach was developed as a way of detecting whether LF occurs in a particular locality. Based on these findings the Pan American Health Organization and Glaxo-Smith-Kline provided funding to Dr D. Chadee and others to conduct similar programs of xenomonitoring in the last endemic foci of LF in the Americas, namely Brazil, Costa Rica, Guyana and the Dominican Republic.

2. Dengue seroprevalence in secondary school children and adult population in Trinidad (funding Ministry of Health, Trinidad and Tobago).

Outline
The Dengue virus is transmitted by the mosquito Aedes aegypti Linn. and is a major threat to public health in the tropics and subtropics. Infection can manifest as dengue fever, which range from mild to temporarily incapacitating. Dengue can also cause a more severe and potentially fatal disease, dengue haemorrhagic fever. There are four distinct serotypes of dengue (DEN 1, DEN 2, DEN 3, and DEN 4) that can each cause a separate infection in the same individual and no dengue vaccine currently exists. A total of 2317 dengue cases was reported in Trinidad and Tobago in 2002. In 1998, an epidemic year, there were 3014 total dengue cases, including 114 cases of dengue haemorrhagic fever. No study of dengue seroprevalence has ever been done in Trinidad and Tobago. It is important to determine the proportion of the population that has already been exposed to dengue because there is a risk of dengue haemorrhagic fever upon secondary infection with a new serotype. The number of reported cases is probably an underestimate of the actual prevalence of dengue because an infected individual may be asymptomatic or may have such a mild case that he or she does not seek treatment. Such individuals would still have a higher risk of developing dengue haemorrhagic fever if an epidemic with a different serotype were to occur. A cross-sectional study in four co-educational primary and four co-educational secondary schools shall be conducted to determine the dengue prevalence rates and to determine the risk for haemorrhagic fever in the school children population. This study was approval by the Ministry of Education, Trinidad and Tobago. A postgraduate student Mr. K Sharma (M.Phil student) is currently working on this project as part of his thesis work under my supervision.
3. **Prevalence** of *Trichomonas vaginalis* in Trinidad (in collaboration with the Queen’s Park Counseling Centre, Ministry of Health, Trinidad)

**Outline**

*Trichomonas vaginalis* is one of the most common sexually transmitted infections in the world. In Trinidad, the prevalence rates among men and women are not known. This study will determine the prevalence rates of trichomoniasis in men and women attending the Queen’s Park Counseling Centre, Ministry of Health, Trinidad. A combination of classical and contemporary molecular techniques will be used to investigate individual cases. This study has been approved by the Ministry of Health, Trinidad.

4. **Population genetics** of *Aedes aegypti* in Trinidad (Part of a NIH Grant with Prof. D.W. Severson from University of Notre Dame, Indiana, USA).

**Outline**

Arthropod-borne viral diseases have re-emerged as a major health problem in most tropical countries. For example, the incidence of dengue fever has increased greatly over the past 20 years, recently including its haemorrhagic form with associated human fatalities. Dengue is a threat to >2.5 billion people, with an annual incidence in the tens of millions and ~24,000 deaths per year. The mosquito *Aedes aegypti* is the primary vector. Dengue control efforts have been limited by the lack of progress in vaccine development, development of pesticide resistance in mosquito vectors, and general decline in organized mosquito control efforts. The objective of this study is to investigate the biology and ecology of *Aedes aegypti* at the population level, with an emphasis towards factors involved in the maintenance and transmission of dengue. A combination of classical field and contemporary molecular techniques will be used to investigate the interaction between complex biotic and abiotic factors that often result in explosive epidemics of human disease. The specific aims of this project are: 1) investigate *Ae. aegypti* population dynamics relative to local dispersal behaviour and foci of dengue transmission, and 2) examine the population genetics of *Ae. aegypti* dispersal. Jennifer Schiedler and Ryan Henne completed their PhD at University of Notre Dame, Notre Dame, USA but work on this project is continuing.

5. **Longevity** of *Aedes aegypti* eggs and egg hatching strategy in Trinidad

**Outline**

Eggs of the *Aedes aegypti* mosquitoes are usually laid above the water-level, where they may remain viable for long periods while awaiting submergence. On flooding, however, they do not usually all hatch together, even though they may all be the same age. Indeed, hatching, even in continuously submerged eggs, may go on in small installments over a period of many months. This study is designed to determine the factors which enhance egg hatching over a one year period. Manuscripts are in preparation.

6. **Climate Change and Dengue** outbreaks in the Caribbean (with Prof. A. Chen, University of...
the West Indies, Mona, Jamaica)

Outline
Research has revealed that the occurrence of Dengue fever is sensitive to temperature increase and rainfall; thus projections of future climate change and associated changes in the hydrological cycle are therefore cause for serious concern. The starting point of this project will be the construction of climate and epidemiological databases of past and present climate and dengue indicators for the Caribbean region. Based on these databases, retrospective and prospective studies will be undertaken to determine epidemiological patterns of dengue fever and its vectors in relation to climate. Future projections of climate for the Caribbean will be downscaled from model outputs using SRES emission scenarios. These projections together with (i) relevant socio-economic information and (ii) knowledge gathered from the database analyses will form the basis for an analysis of impacts and adaptation strategies for climate change induced dengue. A pilot project will be designed for Jamaica and Trinidad to implement an integrated system capable of monitoring vector and disease, of forecasting climate and dengue incidence, and of undertaking diagnostics and adaptation applications for the near term (next 10 years). Adaptation strategies for the longer term will be evaluated based on knowledge gained during the project and experience gained during the pilot project. Two papers were published, as well as a book. This project is completed but work is continuing on the impact of climate change in Trinidad and Tobago.

7. Seroprevalence of Helicobacter pylori in Trinidad (with Adash Ramsubhag and Gail Bacchus-Taylor).

Outline

*Helicobacter pylori* is a spiral shaped bacterium that lives in the stomach and duodenum (section of intestine just below stomach). It has a unique way of adapting in the harsh environment of the stomach. The inside of the stomach is bathed in about half a gallon of gastric juice every day. Gastric juice is composed of digestive enzymes and concentrated hydrochloric acid, which can readily tear apart the toughest food or macroorganism. Bacteria, viruses, and yesterday’s steak dinner are all consumed in this deadly bath of chemicals. It used to be thought that the stomach contained no bacteria and was actually sterile, but *Helicobacter pylori* changed that.

*H. pylori* is believed to be transmitted orally. Many researchers think that *H. pylori* is transmitted orally by means of fecal matter through the ingestion of waste tainted food or water. In addition, it is possible that *H. pylori* could be transmitted from the stomach to the mouth through gastro-esophageal reflux (in which a small amount of the stomach’s contents is involuntarily forced up the esophagus) or belching, common symptoms of gastritis. The bacterium could then be transmitted through oral contact.

Stomach cancers (gastric adenocarcinomas) are often associated with *H. pylori* (70-90%). In an extensive review of gastric cancer and *H. pylori* the Eurogast Study Group determined that presence of *H. pylori* confers an approximately six fold risk of gastric cancer, accounting for about half of all gastric cancers. Supposedly, chronic gastritis leads to intestinal metaplasia (atrophic gastritis) which then undergoes malignant change. In the final stage *H. pylori* may no longer be detected on biopsy but immunologic studies may show evidence of past infection.

Mucosa associated lymphoid tissue (MALT) may undergo malignant change causing a low-grade lymphoma of the stomach. Retrospective biopsy studies show that 90% of such MALT lymphomas are associated with *H. pylori*. Early reports indicate about a 50% cure for localized MALT after cure
of H. pylori. The level of H. pylori infections in the general population in Trinidad is unknown and this study will provide some useful information on the prevalence, mode of contamination and possible control measures. (Ms. Nisha Mangroo a postgraduate student is conducting this project as part of her M.Phil thesis).

8. Vector Borne Disease Control in urban areas in Costa Rica and Trinidad (part of a NIH Grant with Prof. J.C. Beier, University of Miami, Florida, USA)

Outline
Vector-borne diseases, like malaria, dengue and West Nile are major public health problems in cities throughout the world. The extent of disease in each city varies largely as a function of the environment that regulates the dynamics of insect vector populations. Poverty, urban farming, water and sanitation availability, increased population movement, deteriorating infrastructure, overcrowding in urban areas, and natural disasters all contribute to the development of conditions that modify the natural habitats of insect vectors. These complex problems can best be addressed through interdisciplinary approaches, as history has shown that medical and entomological approaches alone are not sufficient. The specific aims of this project are 1) construct study designs that incorporate appropriate interdisciplinary approaches to study the ecology and control of vector-borne disease in Trinidad and Costa Rica, 2) assess current and future risk of vector-borne diseases and 3) conduct small scale field studies in Costa Rica and Trinidad using approaches obtained from the interdisciplinary information on key factors affecting temporal and spatial risks of mosquito-human contact and vector borne diseases. A postgraduate student Ms. Adriana Troyo completed her PhD at the University of Miami under my supervision and Prof. J.C. Beier, University of Miami, Florida, USA. This work is continuing in both Costa Rica and Trinidad and Tobago.


Outline
The study will investigate the biology, ecology and control of Aedes aegypti mosquitoes at the population level, with an emphasis on the factors involved in the maintenance of breeding sites and the transmission of dengue fever. A combination of classical and contemporary techniques will be used to investigate the interactions between the Ae. aegypti mosquitoes and their breeding sites that often result in explosive epidemics of dengue and dengue haemorrhagic fever. Our objectives are based on the general hypothesis that detailed knowledge of this interaction will identify novel tools for disease prevention and control. Our studies will involve communities infested with Ae. aegypti and will determine the suitability of fish as a biological control agent. We have designed experimental protocols to achieve the following specific aims:

1. Investigate Aedes aegypti population dynamics in water drums relative to climatic factors.
2. Examine the potential use of predatory fish like guppies (*Poecilia reticulata*) to control the aquatic larval stages of the mosquito.

A postdoctoral grant was awarded to Dr Dave Chadee, Dr. Indar Ramnarine, Dr A. Ramsubhag and Dr. J. Rampersad to conduct this project.

10. Detection, quantification and viability of Cryptosporidium spp in water.

Outline
This project will investigate the presence of Cryptosporidium spp in water samples from natural water courses and from potable water in Trinidad. A combination of classical and contemporary techniques will be used to quantify and determine viability of these parasites. This is especially important because the parasites are not killed during chlorination and may serve as a pathogen for gastrointestinal complications. A postgraduate student Ms. Nueka Gill, (MSc) is currently conducting this research project under the joint supervision of Dr. Gall Baccus-Taylor and my supervision.

11. Evidence based public health with reference to Leptospirosis in Trinidad.

Outline
Leptospirosis is an important bacterial zoonosis of worldwide importance. In Trinidad isolates have been reported in animals and from humans during the 1970’s and early 1980’s but within recent years cases have been reported but it is uncertain whether it is a major public health threat. This project is designed to identify the potential threat using an evidence based approach together with GIS tools to determine the temporal and spatial distribution of this disease. Ms. Andrea Mohan (M.Phil student) successfully completed her Master of Philosophy in 2011.

12. Co-founder of two Research Clusters at the University of the West Indies, St. Augustine, Trinidad.

1. Tropical Medicine: Infectious Diseases Cluster (Co-Chairman with Prof. A. A. Adekeye). This cluster brings together academics from Veterinary School, Medical School and Department of Life Sciences

Two postdoctoral grant applications were prepared and submitted for funding. In addition, two research grants were received from the Caribbean Health Research Council.

2. Biodiversity and Environment Cluster: Biogenies of Natural Products (Co-Chairman with Dr. A. Maxwell, Head Department of Chemistry). This cluster brings together academics from the Department of Chemistry and Department of Life Science, Faculty of Science and Agriculture.
Research is currently ongoing on the insecticidal quality of numerous plants and two manuscripts have been prepared for publication.

13. Developed collaborations with Ministry of Health in Suriname
   A project on the epidemiology of malaria in Suriname is currently being conducted. Contracts have been prepared for training, evaluation and surveillance work for the Malaria Mission in Suriname. The Business Office of the University of the West Indies, St. Augustine Campus is currently handling the scope of work and contracts.

14. Preparation and signing of a Memorandum of Understanding between UWI and the University of Alabama.
   During 2008 I visited collaborators at the University of Alabama and initiated research projects on vector borne diseases. These collaborations led to the Principal of the St. Augustine Campus visiting the University of Alabama Campus and developing further mutually beneficial across campus projects/collaborations which would increase the number of courses being offered at the St. Augustine Campus of UWI.

15. Bill & Melinda Gates Foundation Grant.
   This project was developed to reduce the dengue vector populations using novel lethal ovitraps. Details of this project can be provided upon request. Patents are pending and this is the major reason for no details of this work. Aspects of this project started in October 2011 and will continue until 2014.

16. International Atomic Energy Agency Research Grant
   Successful integration of the Sterile Insect Technique (SIT) into area-wide programmes against the *Aedes aegypti* mosquitoes may prevent dengue transmission to the tropical regions of the world. In 2008 the International Atomic Energy Agency (IAEA) awarded a research grant entitled “Copulation vigor of sterile *Ae. aegypti* males in the field in Trinidad, West Indies” to the University of the West Indies, St. Augustine, Trinidad to examine the following objectives:
   1. to determine the time of peak copulation in the field;
   2. to determine the insemination status of field collected females collected during the act of copulation;
   3. to determine whether sterile males maintain similar mating patterns as virile males from the field;
   4. to identify wild females inseminated by sterile males following a release. We have successfully completed two aspects of this project and this project has been renewed for the period 2009-2013.

17. The impact of Cell Tower radiation on the health and well being of three study populations in Trinidad.
   This project was developed to address the concerns raised by local and international scientists on the effects of non-ionizing radiation on people living in close proximity to cell tower bay stations. A 20 year prospective study was undertaken in 2006 at two study sites with cell towers and one control site (without a cell tower) and these sites have been monitored each year by UWI medical students. Currently we are analyzing the first 5 years of data and will continue this study until 2025.
18. The rearing of Philornis downsi in Trinidad
Philornis downsi is a major bird parasite on the Galapagos Islands. These parasites are affecting the
the Darwin finches which is now listed as endangered bird species. In order to understand the
biology of P. downsi the International Atomic Energy Agency Awarded Professors John Agard and
Dave D. Chadee a research grant to help colonize the flies so that biological control options can be
developed. Work is ongoing with cage populations being maintained in the Parasitology laboratory in
the Department of life Sciences, UWI, St. Augustine and research is continuing.

4. Public, Professional and/or Extra Departmental services

1. **Member of the Expert Committee on Defining the roles of Vector Control and
Xenomonitoring in the Global Program to Eliminate Lymphatic Filariasis** (World Health
Organization, Geneva)

2. **Member of the Regional Program Review Group (RPGG) for Lymphatic filariasis
Elimination in the Americas** (WHO/PAHO).

3. **Member of the CARICOM Task Force** for developing Environmental Health Courses for the
region.

4. Advisor to Costa Rica, Brazil, Dominican Republic and Trinidad Lymphatic Filariasis
programs for the Pan American Health Organization.

5. Advisor to the Ministry of Health, Trinidad and Tobago Government on the National Public
Health Laboratory Development Program

6. **Member of the Trinidad and Tobago Cabinet Appointed Committee on Laboratory
Accreditation, Trinidad and Tobago Bureau of Standards (2004- present).**

7. **Life Member of the American Mosquito Control Association (1980- present)**

8. **Fellow of the Royal Society of Tropical Medicine and Hygiene** (1989- present)

9. **Member of Entomological Society of London** (1986- present)

10. **Member of the Society for Vector Ecology.**

11. **Member of the American Society of Tropical Medicine and Hygiene** (1990-present)

12. **Member of the Editorial Board** of the Journal Entomologia Experimentalis et Applicata
(2000-present)

13. **Member of the Editorial Board of the European Journal of General Medicine** (2005-present)

14. **Member of the Editorial Board of Annals of Medical Entomology** (1995-present)

15. **Member of the Editorial Board of the Open Public Health Journal** (2008-)
16. Member of the Editorial Board of the Journal of Parasitology Research (2008-)

17. Member of the National Essential Health Research Council of Trinidad and Tobago (1995-present)

18. Member of the Management Committee of the National Essential Health Research Council of Trinidad and Tobago (2005-present).


20. Local Secretary of the Royal Society of Tropical Medicine and Hygiene (UK) (Appointed January 2006-present).

21. Consultant to the Eric Williams Medical Sciences Complex Laboratory (2005-present)

22. Member of the Network for the Gates Funded Grant: Genetic strategies for the control of Dengue Virus Transmission (2005-2010).

23. Member of the Ministry of Health Dengue Task Force (2008- )

24. Member of the Clinical Governance and Ethics Committee, South West Regional Health Authority, Ministry of Health, San Fernando, Trinidad, West Indies (2010-)


26. Appointed Chairman of the Scientific Review Committee (SRC) of the South West Regional Health Authority Clinical Governance and Ethics Committee (2011- )

27. Member of the North Central Regional Health Authority Public Health Observatory Steering Research Committee (2010- )

28. Member of the World Health Organization, Temporary Expert Committee to Develop Core Curriculum for Dengue vector Control Training and Workshops, April 2011, Geneva, Switzerland.

29. Member of the International Atomic Energy Agency Expert Panel to Advise Pakistan Dengue Control Program (October-November 2011)

Reviewer for the following Journals: Annals of Tropical Medicine and Parasitology, Tropical Medicine and International Health, Journal of Medical Entomology, Journal of the American
Mosquito Control Association, Tropical Biomedicine, Emerging Infectious Diseases, Journal of Clinical Infectious Diseases, Transactions of the Royal Society of Tropical Medicine and Hygiene, American Journal of Tropical Medicine and Hygiene, Acta Tropica, Medical and Veterinary Entomology, Japanese Society of Tropical Medicine and others

5. Other Activities

President of the Tableland Rebels Cricket Club (1988 to present)
Life Member of the Barbados Cricket Association
Member of the Queen’s Park Cricket Club
Cocoa Farmer since 1990
Curriculum Vitae
of
Floyd M. Homer

Present Address: #7, Latania Drive, Roystonia, Couva, Trinidad and Tobago.

Citizenship: Trinidadian

Tel: 868 679-4012
Email: fmhome@gmail.com

Languages:
English - Mother tongue, excellent. Spanish - fair

Education:
PhD. (Forest Ecology), 1996
University of the West Indies, St. Augustine, Trinidad and Tobago.
Research area: Post-fire succession at the Melajo Nature Reserve, Trinidad.

Bachelor of Science (Natural Science) Honours, 1986
University of the West Indies, St. Augustine, Trinidad and Tobago.
Major fields of study: Botany, Chemistry, Food Technology.

Summary of Experience:
My experience over the past 20 years has been through the coordination and implementation of international and national programmes in the Caribbean and Latin American region. These programmes involved resource and land use issues related to forests, wetlands and coral reefs. The target groups for these activities were governmental agencies and NGOs, as well as community based organisations in 18 countries, involved in the management of terrestrial and marine resources. Specific responsibilities have included project design, planning and implementation, review and approval methodologies, as well as financial tracking, administration, training, monitoring, assessment, reporting, policy review and formulation, technical assistance, supervision of consultants, awareness building, liaison and negotiation, and community mobilization.

Employment History:
May 1997 - Independent Consultant

Major duties and responsibilities include:
Facilitating environmentally responsible development – Policy, Planning, Management, Assessment and Evaluation.
1996 - 1997: Environmental/Coastal Resources Management Officer United Nations Centre for Human Settlements (UNCHS) P.O. Box 625C, Bridgetown, BARBADOS.

Major duties and responsibilities include:

1. Technical back-stopping for UNCHS projects in the Caribbean with management responsibility for projects in Anguilla, St. Lucia, Grenada and St. Vincent.

2. Assistance in the integration of coastal and environmental concerns into the physical planning process in Caribbean Community (CARICOM) member states.

3. Assistance in the compilation and analysis of related environmental indicators.

4. Training for NGOs and government agencies in appraisal of EIAs.


1994-1996: Coordinator-Marine Parks and Protected Areas Programme, Caribbean Conservation Association, Savanna Lodge, The Garrison, St. Michael, BARBADOS. Major duties and responsibilities include:

1. Administration and coordination of marine parks pilot projects in ten Caribbean islands.

2. Development of training agenda and coordination of workshops for pilot project managers and park rangers.

3. Provision of technical assistance to pilot projects in policy formulation, operational management, enforcement, research and monitoring.

4. Liaison with regional and international agencies, fund raising, and report preparation.


1991-1993: Coordinator - Technical Collaboration Caribbean Natural Resources Institute Clarke St., Vieux Fort, ST. LUCIA.
Duties and responsibilities included -

1. Assistance in programme development.
2. Preparation of project proposals.
3. Project administration.
4. Liaison with international and regional agencies.
5. Provision of technical assistance.

1987-1991  Chief Technician, Department of Soil Science University of the West Indies St. Augustine, TRINIDAD AND TOBAGO

Other Training:

2010  Fundamentals of Microfinance
2010  Fundamentals of Corporate Governance
2010  Arbitration and Alternative Dispute Resolution
2009  Fundamentals of Risk Management
2009  Conflict Resolution and Negotiation Skills for Integrated Water Resources Management
2005  ISO 14001 Lead Auditor.
1994  Microsoft Project.
1989  Mass Media Application for Public Natural Resource Education.
1986  Advanced Open Water Diver (PADI).
Short term assignments undertaken within last 10 years

- Multilateral Environmental Agreements Unit, Environment Policy and Planning Division, Ministry of Housing Environment and Water Resources, Trinidad & Tobago
  Assignment: Biodiversity Specialist                Oct. 2011-

- UN Food and Agriculture Organisation, Barbados
  Assignment: Trainer on Disaster Risk Management in the agricultural sector.    Sep. 2011

- The Trust For Sustainable Livelihoods

- National Commission for Self Help, Trinidad & Tobago
  Assignment: Preparation of policy manual for administration, procurement, human resources management and operations of the institution.    Mar. – May 2011

- CAB International

- Government of Anguilla

- British Gas International Limited.
  Assignment: Determine the impacts of gas flaring on an adjacent forest in south Trinidad.    Mar. – Apr. 2010

- Government of Anguilla
  Assignment: Facilitate a process of broad-based consultation and identify the future role for the Department of Agriculture.    Sep. 2009

- CARICOM Climate Change Centre, Belize

- Government of St Kitts and Nevis

- The Nature Conservancy and Dept. of Fisheries, The Bahamas

- Union Island Environmental Attackers, St Vincent and the Grenadines
- Institute of Marine Affairs, Trinidad & Tobago

- UNDP, Guyana

- Water and Sewage Authority, Trinidad & Tobago

- Government of Anguilla

- Ocean Earth Technologies, USA
  Assignment: Ecological Survey of Resort Site at Flat Cap Point, Anguilla. Oct. 2007

- National Quarries Company Ltd. – Trinidad and Tobago

- GEF Small Grants Programme, UNDP – Barbados

- Ocean Earth Technologies, USA

- Environmental Management Authority – Trinidad & Tobago.
  Assignment: Preparation of the Technology Needs Assessment for climate change in Trinidad and Tobago. Sep. – Dec. 2006

- British Gas International Limited.
  Assignment: Evaluate soil erosion and slope stabilization works at the BG Central Block in south Trinidad and provide training in erosion control. Jul. – Dec. 2006

- British Gas International Limited.
  Assignment: Develop and implement a monitoring programme to determine the impacts of gas flaring on an adjacent forest in south Trinidad. Mar. – Nov. 2006

- Government of St Kitts and Nevis

- Environmental Management Authority – Trinidad and Tobago

- Environmental Management Authority – Trinidad and Tobago
  Assignment: Stocktaking and preparation of the proposal for the Second National Communications under the UNFCCC. May – Oct. 2005
Government of St Kitts and Nevis  
Assignment: Implementation of the National Capacity Self-Assessment for commitments under the UNFCCC, UNCBD and UNCCD.  
May 2005 - Feb. 2006

Government of Belize  
Assignment: Quality control/assurance of the Stocktaking and Assessment of capacity constraints in the implementation of the UNCBD.  
May 2005 - Jun. 2005

Mesoamerican Barrier Reef Systems Project of the Central American Commission for Environment and Development/National Protected Areas Policy and System Plan Project, Belize  
Assignment: Assess and analyse existing Protected Areas Legal, Administrative and Management Structure and Recommend New Framework  
Feb. 2005 - May 2005

Government of Anguilla  
Assignment: Revision of the National Environmental Management Strategy and Action Plan.  
Nov. 2004 - Dec. 2004

Government of the Commonwealth of Dominica  
Assignment: Develop strategy and action plan for capacity building related to biodiversity conservation.  
Nov. 2004 - Dec. 2004

Carana Corporation – Barbados  
Assignment: Develop recommendations for programming in the areas of farming and forestry for Grenada following the impact of Hurricane Ivan.  
Oct. 2004

Organisation of Eastern Caribbean States, Environment and Sustainable Development Unit – St. Lucia  
May - Aug. 2004

Environmental Management Authority – Trinidad & Tobago  
Assignment: PDF Block B proposal preparation for the assessment of national implementation of activities under selected capacity for the multilateral agreements.  
Nov. 2003 - Apr. 2004

United Nations Volunteers – ARLAC, Bonn, Germany  
Assignment: Evaluation of UNV Caribbean Programme in Support of GEF SGP.  
Jul - Aug. 2003

Organisation of Eastern Caribbean States, Environment and Sustainable Development Unit – St. Lucia  

United Nations Educational, Scientific and Cultural Organisation – Office for the Caribbean, Jamaica  
Assignment: Preparation of a proposal for natural disaster management in the Caribbean.  
Apr - May 2003

Special responsibilities within last 5 years

Director, Cumupia Farmers Association – Trinidad  
Jul. 2012

Facilitator, Proposal Preparation Workshop – St Lucia. (Trust for Management of Rivers)  
Jul. 2010

- Trainer, Review of EIA Reports Workshop – St Kitts and Nevis. (Government of St Kitts and Nevis/SUSTRUST) Jul. 2010

- Trainer, Communicating Information in Training of General Audiences Workshop – Trinidad. (Forestry Division/SUSTRUST) Nov. 2009

- Producer, Video documentary on “Beyond the Curve” - Trinidad (National Quarries Company Ltd) Aug. 2009

- Member, Steering Committee, Global Water Partnership-Caribbean May 2009 – Apr. 2011

- Trainer, Introduction to NGO Governance Workshop – St Lucia. (The Trust For Sustainable Livelihoods) Apr. 2009


- Producer, Video documentary on “Anguilla: Biodiversity is our business” (Government of Anguilla/SUSTRUST) Aug. 2008


- Coordinator/Lead Resource Person-Leadership in Governance of Protected Areas Workshop – Anguilla (WCFA-Caribbean/SUSTRUST/IUCN-US/USNPS) Nov. 2006


Professional and Honorary Societies:

Institute of Ecology and Environmental Management
IUCN World Commission on Protected Areas

The British Ecological Society
Society for the Environment
Dr. Howard P. Nelson
Department of Life Sciences, University of the West Indies, St. Augustine, Trinidad and Tobago
Telephone: 868 662 2002 ext 83739 Email: howien@hotmail.com

Birth date: 8 July 1966  Citizenship: Trinidad & Tobago
Phone: 1 868 788 5291  Marital status: Married

Synopsis

- Lecturer in Life Sciences with 15 years’ experience teaching wildlife ecology and forestry;
- Twenty years’ experience in biodiversity management, policy and planning in a broad spectrum of governance settings ranging from Government, NGO to academia;
- Over 20 years’ experience in wildlife and tropical forestry research in the Caribbean;
- Extensive service on national, regional and international committees and organisations related to biodiversity conservation

Education

1997 – 2004 University of Wisconsin-Madison, Wisconsin, United States
   Doctor of Philosophy (Ph.D.), Double Major: Wildlife Ecology, Forestry
   ‘Tropical forest ecosystems of Trinidad: Ecological patterns and public perceptions’. Supervisors: Professor Stanley A. Temple and Professor Raymond P. Guries

1993 - 1996 The University of the West Indies, St Augustine, Trinidad
   Master of Philosophy Degree (M.Phil.), Major: Zoology
   ‘Ecological studies of forest mammals in the West Indies, with a focus on Trinidad.’ Supervisors: Professor Stanley A. Temple and Dr. Mary Alkins-Koo

1985 - 1989 The University of the West Indies, St Augustine, Trinidad
   Bachelor of Science Degree (B.Sc.), Major: Zoology, Minor: Chemistry

OTHER TRAINING AND QUALIFICATIONS
2010 The University of the West Indies, Open Campus
   Managing and Facilitating Online Instruction (Certificate)

2010 University of Oxford:
   Biodiversity Informatics Workshop (Co-Organiser)

Current Position

2012-Present. Lecturer, Department of Life Sciences, University of the West Indies, St. Augustine, Trinidad West Indies.

Responsibilities include: Administration and management of the MSc in Biodiversity Conservation and Sustainable Development in the Caribbean involving 4 higher education
institutions (University of Belize, University of Guyana, Anton de Kom University of Suriname), and over 30 graduate students.

Courses taught/coordinating:
Environmental Resources Policy, Conservation and Management of Biodiversity, Principles and Practice of Geoinformatics, Advanced GIS, Threats to Tropical Biodiversity, Sustainable Use and Development of Natural Resources.

**Previous Employment**

**2009 - 2011.** Project Manager and Scientific Coordinator, European Union-funded Edulink Biodiversity Project, Office of Research Development and Knowledge Transfer, Office of the Campus Principal, University of the West Indies-St. Augustine.

**Responsibilities:** Administration and project management for a new regional MSc involving 4 universities (University of Belize, University of Guyana, Anton de Kom University of Suriname, Oxford University), including a needs analysis, course development and student supervision.

**2009 – 2010.** Consultant, Environmental Management Authority.

Review of Certificates of Environmental Clearance process to increase stakeholder knowledge of biodiversity issues through a programme known as the Compliance Assistance Programme.

**2009 – 2010.** Consultant Strategic Environmental Services (SES)

Conducting rapid terrestrial mammal survey in a tropical forest designated for potential development by the oil and gas industry.

**2008 – 2009.** Biodiversity Specialist, Multilateral Environmental Agreements Unit, Ministry of Planning, Housing and the Environment.

(One-year contract position for National Capacity Self Assessment Project.)

**Responsibilities:** To advise on national policies related to implementation of the Convention on Biological Diversity, Biosafety Protocol, UN Convention to Combat Desertification and the Global Environment Facility.


**Responsibilities** Conduct training for community groups on use of GPS and GIS in protected areas management; Focus group facilitation for development of a resource management plan for the AS-ESA; Preparation of a biodiversity management plan for the AS-ESA; **Accomplishments:** Prepared a natural resources management and implementation plan.

**2005 – 2008.** Chief Executive Officer, Asa Wright Nature Centre, Trinidad, W.I.

**Responsibilities:** Fiscal and administrative oversight of a 74-person ecotourism facility with an annual budget of US$1.4 million; Management of an education and community outreach programme reaching 3,000 school children annually.

**Accomplishments:** Creation and recruitment of new 2-person education and community outreach unit; initiated development of new US$900,000 administrative facility using “green” building design; establishment of community education outreach programme.


**Responsibilities:** Management of the William Beebe Tropical Research Station (WBTRS) at Simla, Trinidad; management and restoration of the Nature Centre’s 1300-
Acre tropical forest; provision of technical advice to visiting students and professors to the WBTRS. **Accomplishments:** Completion of US$100,000 restoration of WBTRS; 200% increase in field station use by visiting ecologists; secured US$40,000 for the publication of the 3rd edition Birds of Trinidad and Tobago by Richard ffrench; secured funding from US Forest Service for a regional bird monitoring workshop at the WBTRS in 2009.


**Responsibilities:** To advise on national policies related to implementation of the Convention on Biological Diversity, Biosafety Protocol, UN Convention to Combat Desertification and the Global Environment Facility; development of protected areas systems, and wildlife conservation policy.

**1998 – 1999. Fauna Specialist & Assistant to Team Leader, National Biodiversity Strategy and Action Plan, Trinidad and Tobago. Environmental Management Authority (EMA).**

**Responsibilities:** Preparation of an analysis of the state of the country’s fauna; administrative assistant to the Team Leader. **Accomplishments:** Completion of report of status of Trinidad and Tobago’s fauna; editorial review of final draft National Biodiversity Strategy and Action Plan.

**1996. Natural Resources Specialist, United Nations Development Program Case Study for Capacity 21 Programme: The Asa Wright Nature Centre as an ecotourism model.**

**Responsibilities:** Preparation of a study on the ecotourism model used by the Asa Wright Nature Centre and its potential application for habitat conservation. **Accomplishments:** Publication of final report on the Asa Wright Nature Centre’s ecotourism experience.

**1989 - 1995. Biologist, Wildlife Section - Forestry Division.**

**Responsibilities:** Enforcement/implementing of the Convention on International Trade in Endangered Species (CITES). Design/management of endangered species projects on mammals and birds (e.g. radio-telemetry studies of ocelots), enforcement of national wildlife legislation. Assisted co-ordination and training of community-based conservation groups.


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**Research Grants and Scholarships**

**RESEARCH GRANTS AND FUNDING RECEIVED**

**2012. US$ 14,000 UNEP TEEB follow-on project developing TEEB gap analyses in the Caribbean.**

**2012. US$ 18,000.** Government of Trinidad and Tobago, to organise a joint UWI/Forestry Division national conference on forest research and prepare a conference publication, in commemoration of International Year of Forests.

**2011. US$ 62,000 UNEP to organise a Caribbean Regional Training Workshop on The Economics of Ecosystems and Biodiversity (TEEB).**

**2011. Open Repsol Oil Company, undertaking on-going marine biodiversity research projects within Biodiversity Management Programme within the Teak-Samaan-Poui Block Oil Field, S.E. Coast Trinidad**
2011. **US$ 100,000** UNEP to organise and host the Group of Latin America and the Caribbean (GRULAC) meeting of Ozone Officers under the Montreal Protocol.

2010. **US$ 20,000.** Government of Trinidad and Tobago, for organisation of a joint UWI/Ministry of Housing and Environment national conference on biodiversity and prepare a conference publication in commemoration of the International Year of Biodiversity.

2008. **US$16,000.** Birdlife International, for a stakeholder conference and community-led field research on the critically endangered Trinidad Piping Guan (*Pipile pipile)*.

2007. **US$60,000.** Government of Trinidad and Tobago, Forestry Division of Trinidad and Tobago *National Wildlife Survey for Trinidad and Tobago*


2003 **US$7,000** Rufford Small Grants Programme Research project – Biodiversity of the Madamas River Valley

2003. **US$4,000** Royal Geographic Society Research project - Biodiversity survey of the Madamas River Valley

2002 **Marie Christine Kohler Fellowship** awarded by the Knapp Memorial Graduate Centre, The Graduate School, University of Wisconsin Madison.

2002. **US$2,000 Graduate Student Research Grant** from the Zoological Society of Milwaukee County for research on "Survey of Public Attitudes to Conservation in Trinidad and Tobago."

1998. **US$2,000 Graduate Student Research Grant** from the Zoological Society of Milwaukee County for research on “Ecosystem classification for the island of Trinidad”

1996. **US$1,000 Graduate Thesis Completion Grant** from the University of the West Indies.

**RESEARCH ACTIVITIES**

2011 – present. **Principal Investigator**, Development of practical assessment tool to determine harvest rates of game species in Grenada. Funded under the FAO TCPF Programme, in collaboration with the Forestry Department, Government of Grenada.

2009 – present. **Principal Investigator**, Breeding seabird survey of offshore islands, Collaborators: Wildlife Section – Forestry Division, Caribbean Forest Conservation Association, Environmental Management Authority. **Facilitated by Trinidad and Tobago Coast Guard (in-kind).**

2007 - present. **Research Collaborator**, *National Wildlife Survey for Trinidad and Tobago*. Coordinating/Funding agencies: Forestry Division of Trinidad and Tobago and the
University of the West Indies-St. Augustine.


2005 – 2008. **Local Collaborator.** Darwin Initiative funded *A biodiversity monitoring system for Trinidad and Tobago*. Project with Dr. Nick Brown (P.I.) and Dr. Steven Harris of the Department of Plant Sciences, University of Oxford.


1997- 2004. **PhD research**, *Natural upland forests* of Trinidad and Tobago (tree and avian species distributions), and study of human attitudes to biodiversity. This research used extensive GIS modelling and vegetation and avian sampling techniques, as well as social survey techniques.


1993 – 1996. **M.Phil. research**, *Terrestrial mammalian communities* of Trinidad. This study included 11 months of live mammal trapping for ocelots (*Leopardus pardalis*) and small mammals, use of line transect surveys and infra-red remote cameras in a protected area in south-eastern Trinidad.


1992. **Wildlife Section coordinator**, *Hollis Reservoir biodiversity survey*, with the University of the West Indies and the Ecosystem Sustainability Initiative, The Open University (UK)

1992. **Project Coordinator**, *Technology transfer* between the US Forest Service and Forestry Division, development of canopy-platforms for census of parrot populations.

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### Teaching Experience

2009 – 2011. **Assistant Lecturer**, Department of Life Sciences, University of the West Indies

*Course: The Practical Toolbox; Level: MSc in Science and Management of Tropical Biodiversity; No. of students: 20.*
2009. **Assistant Lecturer**, Department of Life Sciences, University of the West Indies, St Augustine. Course: **General Ecology and Biometry**; Level: Introductory undergraduate; No. of students: 10

2004 – 2007. **Assistant Lecturer**, Department of Life Sciences, University of the West Indies, St Augustine. Course: **Conservation Biology**; Level: Advanced undergraduate; No. of students: 140.

2005. **Visiting Lecturer**, Department of Biological and Chemical Sciences, University of the West Indies, Cave Hill, Barbados, West Indies. Course: **Human Ecology and Conservation**; Level: Advanced undergraduate; No. of students 15.


### Selected Invited Lectures/Seminars


2011. Lecture on “Managing Changing Caribbean Forest Landscapes – Challenges and Opportunities”, for the Jamaica Forestry Department, on the occasion of International Year of Forests (IYF) celebrations, Kingstown, Jamaica.


2011. Lecture to the National Conference for Environmental Management, on “Defining a future for biodiversity in Trinidad and Tobago”, the University of the West Indies, St. Augustine, Trinidad.


2006. “Research for Recovery: A field study agenda for the critically endangered Trinidad piping guan”. Workshop on the status of the Pawi (Trinidad Piping Guan). The University of the West Indies, Grande Riviere, Trinidad.

2006. Prioritizing species for Environmentally Sensitive Species listing – Non-volant mammals. Stakeholder Consultation. Environmental Management Authority, Port of Spain, Trinidad. (Conducted/presented PVA analysis for the ocelot, and 12 other large mammals in Trinidad and Tobago using VORTEX).

Graduate Student Supervision/Co-Supervision

2009 – present. Supervision/co-supervision 16 MSc. students working on aspects of biodiversity conservation in Trinidad and Tobago, through weekly research lab meetings at UWI-St. Augustine including:

- Kele Taylor: Population Density Estimate of the Cook’s Tree Boa (Corallus ruschembergeri) in the Caroni Swamp, Trinidad. – Graduated
- Nikita Ali: An overview of the factors influencing community structure on Tobago’s coral reefs. – Graduated.
- Bethia Daniel: Imposix in Marine Gastropod Molluscs in St. Lucia and its Relationship to Boating Intensity. – Graduated with Distinction.
- Hanaa Bhagraty: Population density of the silky anteater (Cyclopes didactylus) in the Caroni Swamp, Trinidad. - Graduated.
- Danielle Morong: Distribution of the invasive frog Eluthrodactylus johnstonei in Trinidad. – thesis submitted
- Janelle Bacchus: Genetic diversity in Jamaiccan Cocoa strains. – project underway.
- Iijaya Frankstan-Paul: Survey of marine gastropods in Trinidad for imposex – project underway.
- Jenelle Sobion: Analysis of 10 years of agouti MDE hunting data – project underway.
- Jaya Sookraj: GIS modelling of fire frequency in Trinidad using MODIS satellite data – project underway.
• Rachel Amoroso: *Survey of beach macro-fauna on disturbed and undisturbed beaches in Trinidad* - project underway.
• Maritsa Harry: *Distribution of the rare orchid Otostylis brachystalix in Aripo Savannas* - project underway.

**Current M.Phil/Ph.D. students** I am supervising/co-supervising include:
• Aleesha Naranjit: *Impact of by-catch on cetaceans in Trinidad*.

1997 – 2004. During my PhD field research I supervised and mentored over 20 undergraduate students from both the UW-Madison and the University of the West Indies who participated as volunteers.

### Participation in National Boards and Committees

**2011 – present.** Member – Cabinet-appointed Technical Advisory Committee for the development of a National Wildlife Policy for Trinidad and Tobago.

**2007 – present.** Member - Guardian Life Wildlife Trust. Funding secured for 2010: US$150,000 from UNDP, for public education grant on the Trinidad Piping Guan developed for the Guardian Life Wildlife Trust and the Asa Wright Nature Centre.

**2009 – 2012.** Member – Asa Wright Nature Centre Board of Management.

**2008 – 2010.** Chairman – Cabinet-appointed Green Fund Advisory Committee. (A technical committee which advises the Minister of Planning, Housing and the Environment on the use of a US$300 million community conservation fund in Trinidad and Tobago).

**2008 – 2010.** Chair – Pawi (Trinidad Piping Guan) Study Group, University of the West Indies. (Member 2004-present).

**2007.** Chair - Council of Presidents of the Environment (An umbrella organisation for environmental NGOs in Trinidad and Tobago) (Member 2004 – 2007).

**2007 - 2009.** Member, Cabinet-appointed Technical Advisory Committee for Development of a National Forest Policy and National Parks and Protected Areas Policy for Trinidad and Tobago.

**2007.** Vice-chair, Programme (Curriculum) Advisory Council for Forestry – Eastern Caribbean Institute for Agriculture and Forestry (ECIAF).

**2006 – 2007.** Member – Cabinet-Appointed Honorary Game Warden’s Administrative Committee.

**2006.** Member – Biodiversity Advisory Committee - Environmental Management Authority.

**2000 – 2001.** Representative of Trinidad and Tobago’s Ministry of the Environment on the National Biodiversity Task Force of the Environmental Management Authority.

**1991 - 1994.** Member, Trinidad and Tobago’s National CITES Network.
Participation in International Boards and Committees


2006 – present. **Member of Board of Directors, Explore** – a U.S.-based NGO involved in sustainable coastal development issues and their impacts on critically endangered wildlife and habitats, and preservation of local cultures. (Current Project: Conservation of costal habitats of Puerto Los Cabos, Baja, Mexico).


1994. **Regional Representative** for Central America, South America and the Caribbean at the **Standing Committee** of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).


Publications

**BOOK EDITORSHIPS**


**BOOKS**


Nelson, H.P. and E.S. Nelson. *A field guide to the mammals of Trinidad and Tobago*. (in prep.)

**SCIENTIFIC PAPERS**


PAPERS IN PREPARATION

Nelson, H.P. Predicting extinction risk of terrestrial mammals on the island of Trinidad.


TECHNICAL REPORTS


