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MEETING OF STATES PARTIES
Sixth Meeting
New York, 10-14 March 1997

CURRICULA VITAE OF CANDIDATES NOMINATED BY STATES PARTIES
FOR ELECTION TO THE COMMISSION ON THE LIMITS OF THE
CONTINENTAL SHELF

Note by the Secretary-General

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I. INTRODUCTION

The Secretary-General has the honour to submit to the Meeting of States Parties the curricula vitae of the candidates nominated by States Parties for the election of 21 members of the Commission on the Limits of the Continental Shelf. A list of the candidates nominated for this election is contained in document SPLOS/16. The procedures to be followed by the Meeting of States Parties are set out in a note by the Secretary-General (SPLOS/15).

II. CURRICULA VITAE

ACOSTA YEPES, Juan
(Spain)

- Born 21 July 1949 in Aguilas, Murcia, Spain
- Oceanographer and Researcher/Team Leader at the Spanish Institute of Oceanography
- Languages: Spanish, English, French

EDUCATIONAL BACKGROUND:

- Licenciado (bachelor's degree) in Geological Sciences from the Universidad Complutense of Madrid (1972)
- Doctoral courses at the Universidad Complutense of Madrid (1991)

CURRENT POSITION:

Oceanographer and research team leader at the Spanish Institute of Oceanography, Department of Geology and Geophysics

Joined the Institute in March 1972

OTHER PROFESSIONAL ACTIVITIES:

1. Participant in 60 oceanographic cruises (16 in the past 10 years) in Spanish, Moroccan (6) and Antarctic (5) territorial waters; team leader for 14 of the cruises
2. Gave 10 courses or seminars on topics in area of specialization
3. Conducted 19 specialized courses
4. Guest researcher at Woods Hole Oceanographic Institution (USA), 1978 and 1980
5. Familiar with the use of the following main types of equipment:
 - continuous reflection seismograph
 - sonographic systems
 - marine gravimeters and magnetometers
 - Multibeam systems (Simrad EM-1000 and EM-12)
6. Member of committees or working groups:

Member of the working group of the Spanish Institute of Oceanography (BEICIP-I.F.P.) for exchange of data and interpretation of the results of research for the SEGAMO project (Spain-Algeria gas pipeline)

/...

Member of the Spanish delegation to the Second United Nations Conference on the Law of the Sea, Geneva 1975

Member of the Committee of Experts for the analysis of the results of research in the Strait of Gibraltar during the HERCULES and TARIK programmes, with a view to a Europe-Africa fixed link

Member of the Geology and Geophysics Committee of I.C.S.E.M. (International Commission for the Scientific Exploration of the Mediterranean Sea) since 1982

Scientific adviser for the production of ALICANTE I.T.G.E.

Member of the Spanish Geological Society

Member of the Oceanographic Society, Washington

Honorary assistant in the Department of Geodynamics, Universidad Complutense of Madrid since 1991

Scientific adviser for the preparation of the National Atlas of Spain, Section III, Marine Environment. Published by O.M.P.A., 1991

Member and Spanish correspondent for InterRidge, the international group for the study of ridges

Member of the COGS working group (Scar Working Group on geology, South Shetlands)

Member of Antostrat (Antarctic Offshore Acoustic Stratigraphy)

Editor of the journal of the Spanish Geological Society

Project evaluator for the BRIDGE project of the United Kingdom National Environmental Research Council

Member of the editorial board of the Spanish Institute of Oceanography for the Technical Reports Series

Member of the committee of experts for drafting the National Plan for Marine Science and Technology (CYTMAR)

Member of the project evaluation committee for the National Research and Development Plan

PARTICIPATION IN RESEARCH PROJECTS:

Project title: TARIK (1984-1989)

Project title: Biosedimentological and evolutionary models of the Balearic Continental Shelf (1983-1987)

/...

- Project title: Oceanographic and Fisheries Study of the Scotia Arch (1986-1987)
- Project title: Geological and Geophysical Study of the Bransfield Strait and the Antarctic Peninsula (1988-1991)
- Project title: Study and classification of the collection of documentation in Geology and Geophysics of the Spanish Institute of Oceanography (1989-1990)
- Project title: Geological and Geophysical study of the Scotia Arch, South Scotia Ridge (1991-1992)
- Project title: Geological evolution of Bransfield Trough and the Scotia Ridge (1993-1995)
- Project title: European Laboratory Volcanoes: TEIDE. "Definition of the fine structure and the plumbing system aimed at eruption prediction, hazard assessment and eruptive mechanism understanding" (1993-1995)
- Project title: Hydrographic - Oceanographic Study of the Spanish Exclusive Economic Zone (1993-)
- Project title: Geo-environmental study of Rias Bajas, Galicia. Quantification, based on seismic, sedimentological and paleomagnetic data and their response to natural changes and anthropogenic activities (1996-1999)

PARTICIPATION WITH BUSINESS AND/OR GOVERNMENT AGENCIES IN RESEARCH CONTRACTS OF SPECIAL IMPORTANCE

- Title: Port of Santander (1973)
Objective: Study of the characteristics of the port subsoil prior to dredging
- Title: FORMAR - I (pilot study) 1973
Objective: Preliminary mining exploration of the continental shelf between Málaga and Gibraltar
- Title: FORMAR - II (1974)
Objective: Preliminary mining exploration of the continental shelf between Cádiz and Huelva
- Title: TENERIFE - GRANADILLA (1974)
Objective: Geophysical study of the seabed for construction of a dockyard
- Title: AMETLLA Nuclear Power Station (1975)
Objective: Study of the continental shelf adjacent to the Vandellos - I Nuclear Power Station

/...

Title: URQUIOLA (1976)
Objective: Evaluation of the impact on the shoreline of the black tide produced by the Monte Urquiola tanker accident

Title: FORMAR - GALICIA

SELECTED PUBLICATIONS:

Key: B = full-length book CB = chapter of a book A = article E = editor

Authors: Acosta, J., Serra, Herranz P., Canals M., Mateu G., Sanz J. L., Calafat A. and San Gil
Title: Resultados de la campaña de geología GEOCARBAL/I en la plataforma de Las Islas Baleares
Publ. Ref: Inf. Tec. Inst. Esp. Oceanogr. No. 44 (1986), p. 28
Key: A

Authors: Acosta J., Herranz P., Sanz J. L. and San Gil C.
Title: Dinámica sedimentaria, sismo-estratigrafía y morfología en el litoral entre Grao Castellón y Burriana
Publ. Ref: Inf. Tec. Inst. Esp. Oceanogr. No. 48 (1987), p. 16
Key: A

Authors: Alonso B. Guillen J., Acosta J., Canals M., Serra J., Herranz P., Sanz J. L., Calafat A. Catafau
Title: Los sedimentos de la plataforma continental Balear
Publ. Ref: Acta Geológica Hispánica V-23 No. 3 (1988), p. 185-196
Key: A

Authors: Acosta J., Herranz P., Palomo C., Sanz J. L. and San Gil
Title: Características estructurales y tectónicas de la parte occidental del estrecho de Gibraltar
Publ. Ref: Monog. Inst. Esp. Oceanogr. No. 3 (1988), p. 25-42
Key: CB

Authors: Acosta J., Canals M., Herranz P. and Sanz J. L.
Title: Investigación geológica y geofísica en el Arco de Scotia y Península Antártica
Publ. Ref: Publ. Espec. Inst. Esp. Oceanogr. No. 2 (1989), p. 9-82
Key: CB

Authors: Acosta J., Herranz P., Rey J. and Sanz J. L.
Title: Resultados preliminares de la campaña de geología CARBAL - 88: Plataforma continental de Menorca
Publ. Ref: Inf. Tec. Inst. Oceanogr. No. 75 (1989), p. 94
Key: A

- Authors: Acosta J., Herranz P. and Sanz J. L.
Title: Perfiles sísmicos en el rift de Bransfield. Campaña EXANTARTE
Publ. Ref: In: López, J. L. (editor), Geología de la Antártica Occidental. Simp. T3 Iller. cong. Geol de España y VIIIº Latinoamericano de geología. Salamanca (1992), p. 195-202
Key: CB
- Authors: Acosta J., Herranz P., Sanz J. L. and Uchupi E.
Title: Antarctic continental Margin: Geologic image of the Bransfield Trough an incipient oceanic basin
Publ. Ref: In: Poag, C. W. and Gracianksy, P. C. (editors): Geological evolution of Atlantic continental rises (Van Nostrand Reinhold, New York) (1992), p. 49-61
Key: CB
- Authors: Acosta J., Canals M., Alonso B. and Grupo ORCA
Title: Bathymetry of the Hesperides Deep. Scotia Sea, South Scotia Ridge, Antártica
Map Ref: Grup de recerca en geosciences marines. U. Barcelona (1994). Mapa E 1.200.000 (datos Multihaz)
Key: Map
- Authors: Canals, M., Acosta, J., J. Barza., J. Bart, P. Calafat, A. Casamor, J. De Batist, M. Ercilla, G. Farran, M. Frances, G. Gracia, E. Ramos-Gerrero, Sanz, J. L., Sorribas, J. and Tassone A.
Title: La cuenca central de Bransfield (NW Península Antártica). Primeros resultados campaña GEBRA-93
Publ. Ref: Geogaceta 16, (1994), p. 10
Key: CB
- Authors: Canals, M., De Batist, M., Baraza, J., Acosta, J., and GEBRA Team
Title: New Reflection seismic data from Bransfield strait. Preliminary results of the GEBRA-93 survey
Publ. Ref: Terra Antártica, 1 (2). (1994), p. 291-292
Key: A
- Authors: Canals, M., Acosta, J., Gracia, E., Escartin, J., and Grupo ORCA
Title: Caracterización geológica del enlace entre la cuenca de Bransfield y la Dorsal sur de Scotia
Publ. Ref: Acta Geológica Hispánica, V-28 (3-4). (1994), p. 87-109
Key: A
- Authors: Vegas, R., Acosta, J., and Uchupi, E.
Title: Continental-Oceanic crustal transition in Bransfield Trough-South Scotia Ridge (Antártica); First results
Publ. Ref: In: Banda, E., Talwani and Torné, M. (editors) Rifted Ocean-Continent Boundaries. Kluwer Academic Publishers. The Netherlands (1995), p. 265-289
Key: CB

- Authors: Gracia, E., Canals, M., Farra, Marcelli, Prieto, M. J., Sorribas, J., and GEBRA Team
Title: Morphoestructure and evolution of the Central and Eastern Bransfield Basins (NW Antarctic Peninsula)
Publ. Ref: Marine Geophysical Researches 18: 4229-448 (1996)
Key: A
- Authors: Acosta, J., Herranz, P., Muñoz, A., Palomo, P., Sanz, J. L., and Uchupi, E.
Title: Perfiles sísmicos en el margen insular de Tenerife (Islas Canarias): Proyecto Teide. Resultados preliminares
Publ. Ref: Geogaceta, 20 335-338 (1996)
Key: A
- Authors: Muñoz, A., Acosta, J., Herranz, P., Palomo, C., Sanz, J. L., and Uchupi, E.
Title: Batimetría multihaz del margen insular de Tenerife (Islas Canarias): Proyecto Teide-95
Publ. Ref: Geogaceta, 20 339-342 (1996)
Key: A
- Authors: Herranz, P., Acosta, J., Muñoz, A., Palomo, C., Carbó, A., Pardo Domlebun, M., Sanz, J. L., and Uchupi, E.
Title: Resultados primera campaña en la zona económica exclusiva Golfo de Valencia-Mar Balear. ZEE-95
Publ. Ref: Geogaceta, 20 347-350 (1996)
Key: A
- Authors: Polglase, R., Acosta, J., Pardo Domlebun, M., Muñoz, A., Herranz, P., Palomo, C., Sanz, J. L., and Uchupi, E.
Title: Morfología comparada de un monte submarino (Mar Balear) Batimetría monohaz Vs. Multihaz
Publ. Ref: Geogaceta, 20 351-354 (1996)
Key: A
- Authors: Acosta, J., and Uchupi, E.
Title: Transtensional tectonics along the South Scotia ridge. Antarctica
Publ. Ref: Tectonophysics (at press)
Key: A
- Authors: Teide Group
Title: Morphometric Interpretation of the Northwest and Southeast Slopes of Tenerife. Canary Islands
Publ. Ref: Journal of Geophysical Research (at press)
Key: A
- Authors: Acosta, J., Palomo, C., Uchupi, E., Muñoz, A., Escartin, J., Herranz, P., and Sanz, J. L.
Title: Morphology and seismic character of North slope of Tenerife. Canary Islands. Evidence of episodic massive landslides
Publ. Ref: Libro EVOP. European Science Foundation (at press)
Key: CB

ALBUQUERQUE, Alexandre Tagore Medeiros De

(Brazil)

[Original: English]

1. PERSONAL DATA

Born in Rio de Janeiro, Brazil, on 25 November 1940.

2. ACADEMIC BACKGROUND

2.1 Degree in Mechanical Sciences at the Course on Machinery of the Brazilian Navy, 1963;

2.2 Degree in Portuguese Literature, University of Notre Dame, Rio de Janeiro, Brazil.

3. PROFESSIONAL ACTIVITIES

3.1 1986 to 1989: Under-Secretary of the Inter-ministerial Commission for Marine Resources;

3.2 1987 and 1988: member of the Brazilian delegation to the Preparatory Committee to the Implementation of the International Seabed Authority and of the International Tribunal for the Law of the Sea, New York and Kingston;

3.3 Since 1986 has been acting as the Coordinator of the Executive Committee for the limits of the Brazilian continental shelf;

3.4 Since 1991 has been acting as a United Nations consultant on the issue of the external limits of the continental shelf of the coastal countries;

3.5 1995: member of the Brazilian delegation to the first meeting of the Joint Cooperation Commission Brazil/Namibia;

3.6 1995: participated in New York in the United Nations group of experts that made suggestions related to the establishment of the external limits of the continental shelf of the coastal countries aiming at establishing a modus operandi of the future Commission on the Limits of the Continental Shelf;

3.7 Since 1975 has been developing activities in the Brazilian Hydrography and Navigation Department.

4. PUBLICATIONS

In 1991, at the request of the United Nations, elaborated a document on the implementation of article 76 of the United Nations Convention on the Law of the Sea;

/...

In 1993, together with a United Nations group of experts, prepared the document "Definition of the Continental Shelf: A study on the relevant dispositions of the United Nations Convention on the Law of the Sea";

In 1996, at the request of the International Oceanographic Commission/ International Hydrological Organization, prepared chapter 6 of the Technical Manual on the external limits of the continental shelf of the Coastal States with regard to the General Bathymetric Data Collection.

AL-ZAID, Ali Fahad

(Kuwait)

[Original: English and Spanish]

PROFILE

- Born in Kuwait 1947 - Studied his Primary and Secondary High School period in the State of Kuwait after which he was on scholarship to the USA for higher education, where he obtained his Bachelor Degree (B.Sc.) in Political Sciences in 1972.
- Joined the Diplomatic Corps in the Ministry of Foreign Affairs of the State of Kuwait, January 1973.

1973-1986 UNITED NATIONS

- Commissioned to the Permanent Mission of the State of Kuwait to the United Nations 1973. Participated as a member of the delegation of the State of Kuwait to the twenty-eighth session of the General Assembly of the United Nations in 1973 and of every General Assembly for the next 13 years through the thirty-ninth session of the General Assembly of 1986.
- Represented Kuwait in every subsidiary Committee of the General Assembly.

UNITED NATIONS - OTHER ACTIVITIES

- Consequently in the above was extensively involved in the activities of the Group of 77 (Developing Countries), and attended many of its conferences worldwide, as well as in the United Nations Development Programme (UNDP).

1978-1979 UNITED NATIONS SECURITY COUNCIL

- Participated as a member of the State of Kuwait delegation in the United Nations Security Council of which Kuwait was elected a non-permanent member, 1978-1979.

SPECIAL CONFERENCE AGAINST APARTHEID 1977

- Head of the State of Kuwait Delegation to the Special Conference against Apartheid, Lagos, Nigeria, 1977.

1986-1990 MINISTRY OF FOREIGN AFFAIRS - THE STATE OF KUWAIT

- Commissioned to head the Marine Affairs, Legal Department, Ministry of Foreign Affairs of the State of Kuwait - 1986-1990.

1982 - UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

- Member of the Delegation of Kuwait signers of the United Nations Convention of the Law of the Sea, Montego Bay, Jamaica, December 1982.

/...

1983 (AND THEREAFTER)

PREPARATORY COMMISSION FOR THE INTERNATIONAL SEABED AUTHORITY AND FOR THE
INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

- Chairman of the Delegation of the State of Kuwait to the first session of the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea, Kingston, Jamaica, 1983 and each year thereafter until the Preparatory Commission concluded its works in its resumed twelfth session in the United Nations in New York, August 1994.

- Chairman of the Asian Group in the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea.

NOVEMBER 1994 - THE FIRST MEETING OF THE ASSEMBLY OF THE AUTHORITY

- Chairman of the Delegation of the State of Kuwait for the celebrations that took place in Jamaica from 16 to 19 November 1994 on the occasion of the entry into force of the International Convention on the Law of the Sea in coincidence of the first meeting of the Assembly of the Authority.

- Represented Kuwait at the first Meeting of the concerned Parties of the Convention on the Law of the Sea in the United Nations in New York, 21-22 November 1994.

1990-1995 - Ambassador of the State of Kuwait to the Hellenic Republic of Greece

1996 - Ambassador of the State of Kuwait to the Republic of Argentina -
Non-resident Ambassador to the Republic of Paraguay, the Oriental Republic of Uruguay and the Republic of Chile

Head of the State of Kuwait delegation to the first session of the International Seabed Authority in Kingston, Jamaica from 11-22 March 1996 and to the resumed second session that was held from 5 to 16 August 1996, in Kingston, Jamaica

ASTIZ, Osvaldo Pedro

(Argentina)

[Original: English and Spanish]

1. PERSONAL DATA

Born in Buenos Aires, Argentina, on 14 November 1940.

Address: Conesa 977 (1426), Buenos Aires, Argentina.

Married, two children.

National identity document: 5.186.407.

Argentine Passport: 4.734.237.

2. STUDIES, TRAINING, EXPERIENCE

2.1. Superior Officer of the Argentine Navy holding the rank of Capitán de Navío (Captain) since 31 December 1987. Retired since 1992.

2.2. Licensee on Hydrography (Instituto Tecnológico de Buenos Aires - 1971). Subjects of Physic Oceanography and Marine Geophysics.

2.3. Participation in hydrographic and oceanographic cruises: 8 years.

2.4. Planning, coordination and supervision of hydrographic and oceanographic tasks: 9 years.

2.5. Participation in activities related to international maritime boundaries and limits: since 1975.

2.6. Superior Course on Strategy and Course on Prospective at the Superior School of War of the Army.

2.7. Expert in Technical Aspects on Maritime Limits, registered at the International Hydrographic Bureau, since 1990.

2.8. Expert of United Nations on Continental Shelf (United Nations Convention on the Law of the Sea of 1982, UNCLOS).

2.9. In the Foreign Affairs Ministry, Adviser since September 1992 to August 1995 and Cartographic Coordinator since then to present, on boundaries and limits affairs.

2.10. Argentine expert of Inter-Governmental Oceanographic Commission on marine scientific research (Art. 2, Annex VIII, UNCLOS), since 1994.

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3. DEVELOPED ACTIVITIES

1957 to 1962: Military Naval School. Graduated as Guardiamarina.

Eleven years in hydrographic and oceanographic ships, as officer, Chief of Operations, Second in Command and Commander.

Four years in vessels and Staff of the Sea Fleet of the Navy.

Eleven years in the Naval Hydrographic Service, in all the charges from chief of divisions and departments of Hydrography and Security on Navigation, Technical Secretary, Deputy Chief and Chief of the Service during 1990.

One year as chief of an Antarctic base.

Three years full time as pupil of courses of Hydrography, Physica Oceanography, Marine Geophysics and Command and Staff.

Hydrographic and oceanographic surveys in the Río de la Plata, Paraná, Uruguay and Negro Rivers, different places of maritime coast of Argentina, including South Sandwich, South Orkney and Marambio (Seymour) islands, Scotia and Weddell Seas and South Sandwich deep (with National Science Foundation of USA) and Nahuel Huapi Lake. Surveys for dredging controls and lighthousing travels.

Visits to seven Antarctic bases.

Direction of hydrographic studies for the project of a gas pipeline through the Magallanes Strait (1975-1976) and visits to works (1978).

Advice to the República de Bolivia for the hydrographic survey of the Titicaca Lake (1975).

Chief of Operations for hydrographic survey for the study of a port in deep-waters (Médanos point) (November 1973 to March 1974). Studies for the port in deep-waters (1975 to 1979).

1982, 1983 and 1984:

Expert Adviser to the Argentine Delegation before the Holy See, in Rome, until the Exchange of Ratifying Documents of the Peace and Friendship Treaty of 1984, between Argentina and Chile (Holy See, 1984-1985).

Argentine representative before International Hydrographic Bureau for the new edition of Limits of Oceans and Seas (SP 23).

Argentine representative before Security of Navigation Subcommittee, International Maritime Organization.

Technical advice to the President of the Arbitral Tribunal between Guinea-Bissau and Senegal, about maritime boundaries (1989).

/...

Technical project for the Argentine Law No. 23968 (1991), about baselines and maritime spaces.

Delegate of the Navy at the Interministerial Group for Argentine Antarctic Policy (1991).

Since 1979 until October 1992, Argentine member of the Working Group on Geodesy and Geographic Information of the Scientific Committee on Antarctic Research (SCAR).

1992 Retirement from the Navy.

Consultory work on sewer effluents.

Consultory work to prepare the draft of regulations for qualifying the personnel of merchant navy.

Since September 1992 to present, adviser and later cartographic coordinator of the Foreign Affairs Ministry on boundaries and limits. Several studies of geographic-historic problems about territorial boundaries and maritime jurisdictions.

Participation in the project of navigation aids (signals) in Paraguay and Paraná rivers (Hidrografía).

4. TEACHING EXPERIENCE

At the Technological Institute of Buenos Aires, License on Hydrography, full professor (1976-1980) of:

- Instruments
- Hydrography
- Hydrographic projects

At the National Nautical School (1977), professor of Oceanography.

At the Naval Hydrographic Service: professor of hydrography for Petty-Officers (1976-1979).

Several lectures about Argentine boundaries, geographic problems and maritime spaces.

5. PARTICIPATION IN CONGRESSES, CONFERENCES, ETC.

- Week of Geography, Córdoba, Argentina (1976). Lecturer over the studies for the project of a pipeline through Magallanes Strait.
- First United Nations Regional Cartographic Conference for the Americas, Panama (1976).
- First National Meeting on Photogrammetry and Related Sciences, Buenos Aires - member of the Organizing Commission (1976).

/...

- II Inter-American Naval Conference Specialized on Hydrography, Oceanography and Naval Research - Buenos Aires, Argentina (1979).
- International Geodetic and Geophysical Union Conference - Canberra, Australia (1979).
- Meeting of the Working Group on Geodesy and Cartography of the Scientific Committee on Antarctic Research (SCAR) - Canberra, Australia (1979).
- Conference of the Pan-American Institute of Geography and History - Santiago, Chile (1982).
- XII International Hydrographic Organization Assembly, Monaco (1982).
- Conference of the Subcommittee of Security on Navigation, IMO. Argentine representative. London (1984).
- XI OMEGA International Technical Conference - Tokyo, Japan (1988).
- Meeting of the Working Group on Geodesy and Geographical Information of SCAR - Hobart, Australia (1988).
- First panel about Antarctic Update - Panellist over Cartography and Geographic Place Names - Argentina Council for International Relationships - Buenos Aires (1989).
- XV Antarctic Treaty Consultative Meeting - Paris, France (1989).
- U.S. Hydrographic Conference '90 - Norfolk - USA (1990).
- The Antarctic Treaty System. Lecturer at the faculty of Philosophy, Department of Geography - Universidad Nacional de Buenos Aires (1990).
- Second panel about Antarctic Update - 1991 - Panellist - Argentine Council for International Relationships - Buenos Aires.
- First Meeting of the Group of Experts over Antarctic Environmental Monitoring (observer) - Buenos Aires (1992).
- Meeting of the Working Group on Geodesy and Geographic Information of SCAR - Bariloche, Argentina (1992).
- XXII Meeting of Delegates of SCAR (member of delegation) - Bariloche, Argentina (1992).
- Meeting of the Group of Technical Experts on the Definition of the Continental Shelf. UNH, New York, N.Y. (10-12 March 1993).
- Meeting of the Group of Experts on Preparations for the Establishment of the Commission on the Limits of the Continental Shelf. UNH, New York, N.Y. (11-14 September 1995).

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6. ASSOCIATIONS, ORGANIZATIONS

- Argentine Member of the Working Group on Geodesy and Geographical Information of SCAR (1979 to October 1992).
- Member of the Antarctic Studies Committee of the Argentine Council for International Relationships (since 1988).
- Member of the International Law Institute of the Argentine Council for International Relationships (1995).
- Member of the Hydrographic Society (since 1990).
- Others.

7. DECORATIONS

Commendator Knight of the Order of Saint Gregory The Great (civilian class), given by His Holiness, John Paul II (1985).

8. STUDIES, TASKS, ADVICES

- Preparation of technical content of Argentine Law No. 23968, on Baselines and Maritime Spaces.
- Argentine-Chilean boundaries at the sea. Tasks carried out in Buenos Aires, Tierra del Fuego, Paris and Rome.
- Various negotiations about international issues between Argentina and Uruguay on the Río del la Plata and its Maritime Front.
- "Shore Operations", Technical Publication of the Naval Hydrographic Service (1973).
- Advice on maritime limits for Guinea Bissau - Senegal Arbitration (1989).
- Argentine contribution to translation into Spanish of the Hydrographic Dictionary (IHB) (1976 to 1978).
- Argentine contribution to updating IHB Special Publication No. 23, "Limits of Oceans and Seas" (1982-1990)
- "Antártida al Iniciarse la Década de 1990". Author of the chapter "Cartography and Toponomy" - Argentine Council for International Relationships. Buenos Aires - 1992.
- Bibliographic recopilation for consultory work over Topography, Hydrography, Oceanography and Environment Preservation for treatment of sewer effluents (1992).
- "Specifications for Topographic Surveys". Co-author. Consejo Federal para el Agua Potable y Saneamiento (1992).

/...

- Project for the regulation about formation, capacitation and entitling of merchant navy personnel (1992).
- "La Cartografía en la Antártida" (co-author). Boletín Nro. 2 of the Centro Argentino de Cartografía (1992).

AWOSIKA, Lawrence Folajimi

(Nigeria)

[Original: English]

1. OFFICE ADDRESS: Nigerian Institute for Oceanography and Marine Research (NIOMR). P.M.B. 12729, Victoria Island, Lagos, Nigeria.
Tel. 619517 (direct), 617530, 617540.
Fax: 234-1-619517 (direct), 2617530.
E-MAIL: NIOMR.NIG@lagosmail.sprint.com

2. HOME ADDRESS: Nigerian Institute for Oceanography and Marine Research, Staff Quarters, Block A, Flat 8, Wilmot Point Rd., Victoria Island, Lagos.
Tel. 234-1 619247

3. OCCUPATIONAL OBJECTIVES

A professional position of challenge in Marine Science where my knowledge in Marine Geology/Geophysics, Physical Oceanography, Hydrography, Coastal and Marine Management in general can be fully utilized.

4. PERSONAL INFORMATION

Date of birth: 27 July 1949
Place of birth: Ondo, Ondo state, Nigeria
Marital status: Married with four children
Health: Excellent

5. EDUCATION

Aquinas College Akure	1964-1968
Ondo state, Nigeria	West African School Certificate, Grade 1

Howard University	B.Sc. Geology
	Washington, D.C., U.S.A.
	1974-1977 G.P.A., 3.36
	Cum Laude

George Washington University	M.Sc. Geology, 1980
Washington, D.C., U.S.A.	Emphasis: Geophysics, Sedimentology, Stratigraphy, Field Geology, Hydrography and Geochemistry.

RESEARCH: Seismic and Gravity Survey of Triassic Sediments in Arcola Quadrangle, Virginia, U.S.A

THESIS: "Magnetic Survey of Basalt Flows in Remington Quadrangle, Virginia, U.S.A."

/...

6. POST-GRADUATE TRAINING

- (a) Diploma, Marine Geophysics
Spanish Institute for Oceanography, Fuengirola, Malaga, Spain.
June-October 1985
- (b) Course on Ocean Waves and Tides.
International Centre for Theoretical Physics, Trieste, Italy.
26 September-28 October 1988
- (c) Seventh Sea Level Training Course
Proudman Oceanographic Laboratory, Merseyside, Bidston, U.K.
12-30 June 1989
Course organized by the Intergovernmental Oceanographic Commission
(IOC) of UNESCO for Global Sea Level Observing System (GLOSS).
- (d) Five-month work study at Department of Oceanography, University of
Southampton, U.K., October 1990-March 1997 (Project: Sediment
transport dynamics of the western Nigerian continental shelf).

7. AFFILIATIONS

American Geophysical Union
Association of American Petroleum Geologists
Nigerian Association of Petroleum Explorationists
Geological Society of Nigeria
Association of Oceanographers
Nigerian Association of Oceanographers
International Coastal and Ocean Organization

8. EMPLOYMENT CHRONOLOGY

8.1. Washington Metropolitan Area

Transit Authority (METRO)
Washington, D.C., U.S.A.
December 1972-December 1977
Involvement: Maintenance Shop Mechanic; later, Assistant Foreman, Mechanic
Workshop, Bladensburg Road, Washington, D.C., U.S.A.

8.2. Howard University

Washington, D.C., U.S.A.
January 1976-April 1977
Involvement: Graduate Assistant (Sedimentation and Physical Geology).

8.3. University of Maryland

College Park, Maryland, U.S.A.
December 1977-April 1978
Involvement: Laboratory Instructor - Physical Geology.

8.4 Howard University

Washington, D.C., U.S.A.

August 1980-December 1981

Involvement: Lecturer - Geophysics and Environmental Geology.

8.5 Nigerian Institute for Oceanography and Marine Research (NIOMR)

P.M.B. 12729. Victoria Island, Lagos.

21 March 1983 to present.

Present position: Assistant Chief Research Officer, USS 12, step 6.

8.5.1 RESPONSIBILITIES:

- (a) Project leader: Geological/Geophysical survey of the Nigerian continental margin. Project leader: (i) heavy mineral provenance of the Niger/Benue catchment basin and beach sediments along the Nigeria coastline (1983 to 1985). Project leader.
- (b) Project leader: Offshore canyons. Possible importance on erosion along the western Nigerian coastline. Project involves: bathymetric charting of the canyons, current metering, sedimentological and mineralogical studies, shallow seismic and side scan and general hydrodynamic of shelf.
- (c) Project leader: Beach erosion. Coastal zone management and ocean dynamics studies (Assistant project leader, 1983 to 1990; Project leader, 1990 to present).
- (d) Geology and general oceanography of coastal lagoons (Lagos and Lekki lagoons). Project leader.
- (e) Project leader: Global climate change and sea level rise studies in Nigeria.
- (f) Contact person and officer in-charge of Global Sea Level Observing System (GLOSS) tide gauge in Nigeria as well as NOAA (National Oceanographic and Atmospheric Administration of the United States of America) Next Generation Water Level Measuring System (Tide Gauge) in Nigeria.
- (g) Project leader: Video mapping of the entire Nigerian coastline for the assessment of impacts of 1 m sea-level rise on the Nigeria coastline. Collaborative project between NIOMR and the Centre for Coastal Research of the University of Maryland, College Park, U.S.A.
- (h) National Coordinator, COMARAF (Regional Project for Training and Research of African Coastal Systems).
- (i) Project leader: IOC/FAO/UNEP project - Study of physical/geological oceanographic aspects affecting transport and dispersion of pollutants in Lagos Lagoon, Nigeria.

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- (j) Participating geophysicist in African Mapping Project (AMP) in collaboration with Paterson, Grant and Watson, Ltd., of Canada, International Institute of Aerospace and Earth Sciences, Delft, The Netherlands (ITC) and the University of Leeds, U.K. (ULIS).
- (k) Principal scientist in charge of Shipboard Environmental Acquisition System (SEAS III) in the south Atlantic. A NOAA International project.

9. INTERNATIONAL RESEARCH CRUISES

- (a) Participated in a multi-disciplinary research cruise on board R/V CORNIDE SAVEDRA in the Balearic continental shelf, western Mediterranean code named GEOCARBAL 85 (12 May-10 June 1985). Objective of cruise was to establish the bio-sedimentological and geophysical models of the Balearic shelf using 3.5 khz seismic and side scan.
- (b) Participated in the cruise Gravity survey of the Gulf of Guinea shelf, on board R/V STARELLA, 24 September-6 October 1987. A United States of America/Nigeria collaborative project funded by the United States Government.
- (c) Cruise leader: First Intergovernmental Oceanographic Commission (IOC) of UNESCO cruise in the Gulf of Guinea, on board NIOMR R/V SARKIM BAKA, 10-25 October 1989. Objectives of cruise were to collect hydrodynamic and marine geological data affecting coastal erosion in the West and Central African region. Report of cruise and analysis of data already submitted to IOC.
- (d) Intergovernmental Oceanographic Commission/National Oceanic and Atmospheric Administration of the United States of America/Regional Ocean for the Protection of the Marine Environment of the Persian Gulf (IOC/NOAA/ROPME) 100-day cruise in the Persian Gulf to assess the impacts of the Gulf war on the marine environment of the Gulf on board NOAA's R/V MT. MITCHEL. Participated as IOC consultant on leg six, 20-30 May 1992.
- (e) Cruise leader on a total of eight sea cruises since 1984 in the Nigerian continental shelf on board NIOMR's R/Vs OKION and SARKIM BAKA.

10. CONSULTANCIES

- (a) Coastal erosion study at Awoye and Molume, Ondo state, Nigeria. A consultancy for Gulf Oil Corporation, Nigeria, Ltd., 1985.
- (b) A study of current and scouring effects at proposed Davy Banks "A" location in OMNL 14. A consultancy for Shell Petroleum Development Corporation, Nigeria, Ltd., 1985.

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- (c) Coastal erosion problem at Victoria Island, Lagos. Bathymetric survey of nearshore (0-10 metres) areas in Bar Beach, Victoria Island, Lagos. A consultancy for the Federal Ministry of Works and Housing, Lagos, 1986.
- (d) Bathymetric survey and hydraulic studies of the nearshore zone at Ajegunle, Orokin, Ogungbeje and Ago Nati, Ondo state, Nigeria. A consultancy report for Adeyemi Olubowale and Partners, Ibadan, Nigeria.
- (e) Study of physio-chemical parameters and dynamics of the ocean off Lagos. Cruises 1, 2 and 3. A special consultancy for the Nigeria Navy, 1988.
- (f) Hydrographic and topographic survey of the Ugborodo coastline, Bendel state, Nigeria. A consultancy for Oluonye and Partners, 1988.
- (g) Hydrographic and topographic survey of the Rogersville Resort Centre in Lekki, Lagos. A special consultancy for Rogersville and Brothers, Nigeria, Ltd.
- (h) Hydrographic and geophysical survey of Escravos river crossing by-pass pipeline in Delta state, Nigeria. A consultancy for Zenith Nigergroup Company, Ltd., for the Nigerian National Petroleum Corporation, 1992.
- (i) Environmental impact assessment of the North-West Apoi-1 (Kogbene) well location, offshore Nigeria. A consultancy report for Texaco Overseas Nigeria Petroleum Company, Unlimited.

11. MISSIONS, CONSULTANCIES AND ASSIGNMENTS UNDERTAKEN FOR UNITED NATIONS AND OTHER INTERNATIONAL AGENCIES

- (a) Intergovernmental Oceanographic Commission (IOC) of UNESCO, Paris. Consultant to IOC during the IOC/FAO/UNEP workshop on qualitative assessment of pollution in the West and Central African Region (WACAF 11, Phase 2). Lectured participants and conducted field demonstration on physical aspects of transport and dispersal of pollutants in the coastal and marine environment. Calabar, 1991.
- (b) IOC consultancy mission to Nigeria, Benin, Ghana, Côte d'Ivoire and Senegal, July-September 1992, in respect of (1) training of regional scientists and calibration of equipment for the IOC/FAO/UNEP WACAF 2, PHASE 2, Project - Study of physical oceanographic factors responsible for transport and dispersion of pollutant in coastal waters; (2) to facilitate progress in the analysis of data collected during the first IOCEA cruise in the Gulf of Guinea.
- (c) ROPME/IOC/NOAA one hundredth cruise in the Persian Gulf (ROPME Sea area) to assess the impacts of the Gulf war on the marine environment. IOC consultant on board NOAA R/V MT. MITCHELL, leg VIA, 20 May-30 June 1992, Kuwait to Abu Dhabi.

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- (d) Member of the United Nations Law of the Sea office group of technical experts on the definition of continental shelf, Law of the Sea office, United Nations, New York, New York.
- (e) IOC mission to Mombassa Kenya to lecture on the oceanographic survey techniques applied to acquisition of marine environmental data during the UNEP/FAO/IOC/IUCN workshop on EAF/5: integrated coastal zone management workshop for eastern Africa, 5-23 July 1994.
- (f) UNEP/FAO/IOC/IUCN mission to Kenya, Tanzania, Zanzibar, Seychelles, Madagascar, La Reunion, Mauritius, Comoros and Mozambique to assess national capabilities for the implementation of EAF/5: integrated coastal zone management workshop for eastern Africa, 13 November 1993-30 January 1994.
- (g) Member IOC Editorial Board for the International Bathymetric Map of the Central Eastern Atlantic (IBCEA).
- (h) Member GESAMP Working Group 30 on impacts of anthropogenically mobilized sediments in coastal areas.
- (i) Member UNEP Task Team on Global Climate Change and Impacts on the West and Central African Region.
- (j) West and Central Africa regional coordinator for GLOSS (Global Sea Level Observing System: an IOC project).
- (k) Intergovernmental Oceanographic Commission Committee of the East Central Atlantic (IOCEA) Regional Coordinator for Global Level of the Sea Surface (GLOSS).
- (l) Consultant to FAO on Integrated Coastal Area Management (ICAM) project for the Gambia - Project WACAF 11 for FAO/UNEP.
- (m) Member of Scientific Committee for Land Ocean Interaction in the Coastal Zone (LOICZ) of the International Geosphere Biosphere Programme (IGBP).

12. JOURNAL AND CONFERENCE PUBLICATION

- Awosika, L. F. (1980). Magnetic survey of Jurassic basalt flows in the north-west portion of the Remington 7 1/2 minute Quadrangle in Fauquier/Culpepper counties, Virginia. GEOLOGOS VI, No. 1, published by the Department of Geology and Geography, Howard University, Washington, D.C., pp. 37-64.
- Ibe, A. C., Awosika, L. F., and Antia, E. A., (1984a). Progress report No. 2., Coastal erosion research programme. Work accomplished in 1983. NIOMR special publication, 106 pp.
- Ibe, A. C., Awosika, L. F., Ihenyen, A. E., Ibe, C. E. and Tiamiyu, A. I., (1985a). Coastal erosion at Awoye and Molume, Ondo state, Nigeria. A consultancy report for Gulf Oil Company, Nigeria Ltd., 123 pp.

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- Ibe, A. C. Awosika, L. F., Ihenyen, A. E., Ibe, C. E., Tihamiyu, A. I., Okonya, E. C. and Orekoya, T., (1985b). A study of current and scouring effects at proposed Davy Bank "A" location in OML "14". A consultancy report for Shell Petroleum Development Corporation, Nigeria, 64 pp. plus charts.
- Ibe, A. C. and Awosika, L. F., (1986a). Sedimentology of beaches of barrier bar complexes in Nigeria. NIOMR technical paper, No. 28.
- Ibe, A. C., Awosika, L. F., Ihenyen, A. E., and Tihamiyu, A. I., (1986b). The erosion problem at Victoria Island, Lagos (1900 to present) and its solution. In proc. National seminar on flooding and erosion along the Nigerian and similar coastlines. University of Lagos, May 1986. Contribution No. 6.
- Ibe, A. C., Awosika, L. F., Tihamiyu, A. I., and Orupabo, A., (1986c). The coastal erosion problem at Victoria Island, Lagos: a study of nearshore dynamics and burrow pit location. A consultancy report for the Federal Ministry of Works and Housing, Lagos, 25 pp.
- Awosika, L. F. and Akpati, B. N., (1988). Grain size and heavy mineral provenance of the Niger/Benue drainage basin and other river basins in Nigeria. NIOMR technical paper, No. 32.
- Awosika, L. F. (1988). Bathymetric and geomorphic features of the western Nigerian continental shelf. In proc. Joint Oceanographic Assembly, 1988, Acapulco, Mexico.
- Ibe, A. C., Awosika, L. F., Ihenyen, A. E., Ibe, C. E., and Inegbedion, L. E., (1988). Coastal erosion survey of nearshore (0 to 10m) areas in Bar Beach, Victoria Island, Lagos. A consultancy report for the Federal Ministry of Works and Housing, Lagos, Nigeria, 25 pp.
- Ibe, A. C., Awosika, L. F., Ihenyen, A. E., Inegbedion, L. E., Adekanye, J. E., (1988). Bathymetric survey and hydraulic studies of the nearshore zone at Ajegunle, Orokin, Ogungbeje and Ago Nati, Ondo state, Nigeria. A consultancy report for Adeyemi Olubowale and Partners, Ibadan, Nigeria, 19 pp.
- Ibe, A. C., Awosika, L. F., Ihenyen, A. E. and Ibe, C. E., (1989). Erosion management strategies for the Mahin mud beach, Ondo state, Nigeria. In proc. Coastal Zone '89. American Society of Civil Engineers, pp. 1740-1754.
- Ibe, A. C., Awosika, L. F., Ihenyen, A. E., Tihamiyu, A. I. and Ibe, C. E., (1989). A study of currents and possible scouring effects at a proposed oil well location in the Cross river estuary, Nigeria. Geomorphology and Geoecology. Second International Conference on Geomorphology, 3-9 September 1989.

Ibe, A. C., Ajao, E. A., Oyewo, E. O., Awosika, L. F., Ihenyen, A. E., Tihamiyu, A. I., Ibe, C. E., Inegbedion, L. E. and Adekanye, J. E. (1989). Physico-chemical parameters and dynamics of the ocean off Lagos. Cruises 1, 2 and 3. A special report for the Nigerian Navy, 38 pp.

Awosika, L. F., Ihenyen, A. E. and Tihamiyu, A. I. (1989). Marine geology of Lekki lagoon, Nigeria. A report for COMARAF project. In press.

Awosika, L. F. and Ibe, A. C. (1989). Results of recent marine related projects in Nigeria including those executed with remote sensing technology as a tool. In proc. United Nations Meeting of Experts on Remote Sensing Meteorology - Applications to resources and coastal management. Las Palmas, Canary Islands, Spain, 8-12 May 1989.

Ibe, A. C. Awosika, L. F., Ihenyen, A. E., Ibe, C. E., Inegbedion, L. E., and Adekanye, J. E. (1989a). Feasibility studies and preliminary engineering design for coastal erosion control works at Ugborodo, Bendel state, Nigeria. (Previous work). A consultancy report No. 1 for Oluonye and Partners, Lagos, 28 pp.

Ibe, A. C., Awosika, L. F., Ibe, C. E., Inegbedion, L. E. and Adekanye, J. E., (1989b). Hydrographic and topographic survey of Ugborodo coastline, Bendel state, Nigeria. A consultancy report for Oluonye and Partners, Lagos, 24 pp. + map.

Awosika, L. F., Ibe, A. C., Ibe, C. E., and Inegbedion, L. E., (1989a). Causes of coastal erosion along the Nigerian coastline. In proc. conference on flood and drainage, University of Ibadan, Nigeria, 15-18 August 1989.

Awosika, L. F., Ibe, A. C., Ibe, C. E. and Inegbedion, L. E., (1989b). Coastal erosion in Nigeria: causes, effects and solutions. In proc. on the relationship between oil companies and the public, sponsored by Gulf Oil Company Nigeria, Ltd., NNPC, and the University of Benin. Petroleum Training Institute, Warri, Nigeria, 6-8 August 1989.

Ibe, A. C., Awosika, L. F., (1989). National assessment of the effects of sea level rise on the Nigerian coastal zone. In proc. International Conference on Global Climate Change at the Center for Climate Change, University of Maryland, U.S.A., 9-23 September 1989.

Awosika, L. F., Ibe, A. C. and Udo-Aka, M. A., (1989). Impacts of sea level rise on the Nigerian coastline. In proc. Changing Climate and the Coast. IPCC conference on adaptive responses to sea level rise and other impacts of global climate change, Miami, 27 November-1 December 1989, Vol. 2, pp. 49-66.

Awosika, L. F., (1989). Coastal geomorphology and effects of sea level rise on the west and central African region (WACAF). UNEP Task Team on Impacts of Global Climate Changes on the WACAF region. UNEP (OCA/PAC)WG.6/INFO.16.

Awosika, L. F. (1990). Coral bank obstruction to trawling in the middle to outer continental shelf east and west of Lagos, Nigeria. NIOMR Pub. No. 57, 13 pp.

Ibe, A. C., Awosika, L. F., Ibe, C. E., and Inegbedion, L. E., (1990). Hydrographic and topographic survey of the Rogersville Resort Centre in Lekki, Lagos state, Nigeria. A consultancy report for Rogersville and Brothers, Nigeria. In press.

Ibe, A. C., Awosika, L. F., Ibe, C. E. and Inegbedion, L. E., (1991). Monitoring of the 1985/86 Beach Nourishment Project at Bar Beach, Victoria Island, Lagos, Nigeria. In proc. Coastal Zone '91. American Association of Civil Engineers, pp. 534-552.

Awosika, L. F., Ibe, A. C., Ibe, C. E. and Inegbedion, L. E., (1991). Geomorphology of the Lekki lagoon barrier coastline in Nigeria and its vulnerability to rising sea level. In proc. Coastal Zone '91. American Society of Civil Engineers, pp. 2380-2393.

Awosika, L. F., (1991a). Geology, hydrography, coastal erosion and settlement planning in relation to fishery development in the Niger delta. In proc. International Fund for Agricultural Development course on Niger delta fishery development, 11 November 1991, Uyo, Akwa Ibom.

Awosika, L. F., (1991b). Offshore Avon Canyon west of the Niger delta: sedimentary processes and possible implications for hydrocarbon entrapment: In proc. Nigerian Association of Petroleum Explorationist, Ninth Annual Conference, 20-22 November 1991.

Awosika, L. F., Gregory T. French; Robert J. Nicholls and Ibe, C. E., (1992). The Impacts of Sea Level Rise on the Coastline of Nigeria. In proc. IPCC Symposium on the Rising Challenges of the Sea. Margarita, Venezuela, 14-19 March 1992.

Awosika, L. F., Ibe, A. C. and Ibe, C. E., (1992). Geomorphic features of the Gulf of Guinea Shelf. In proc. International Geological Congress, Kyoto, Japan, Vol. 1 of 3., pp. 42.

Awosika, L. F. and Dunblin-Green, C. O., (1992). Sand mining in the Lagos and Lekki lagoons and strategies for effective management. In press, Journal of Mining and Geology.

Awosika, L. F., (1992a). Impacts of sea level rise on the Nigerian coastal zone. In proc. Symposium on the potential impacts of climate change for United Nations missions, United Nations, New York, 14-15 April 1992.

Awosika, L. F., (1992b). Coastal erosion in West Africa: causes, effects and response options. In proc. BORDOMER '92. International Convention on Rational Use of Coastal Zone, Bordeaux, 30 September-3 October 1992.

- Awosika, L. F., and Adegbie, T. A. (1993). Assessment of some sediment, foraminifera and current mooring data collected during the 100 day ROPME/IOC/NOAA cruise in the Persian Gulf: implications for transport dynamics in the ROPME sea area. In proc. International Conference on the Results of the ROPME/IOC/NOAA Cruise in the ROPME Sea Area, Kuwait, January 1993.
- Awosika, L. F. (1993). Coastal erosion in Nigeria and some other African coastal States: regional approach to response measures. In proc. 3rd meeting of the Inter-African Committee on Oceanography, Sea and Inland Fisheries. Cairo, Egypt, 12-17 April 1993.
- Awosika, L. F. (1993). The west African coastal zone: regional approach to the process of integrated coastal zone management policy. In proc. World Coast Conference, 1993, Noordwijk, The Netherlands.
- Awosika, L. F. (1993). Towards an integrated coastal zone management policy for Nigeria in response to global climate change and sea level rise. In proc. IPCC World Coast Preparatory Conference on Integrated Coastal Zone Management and Response to Climate Change, New Orleans, U.S.A., 13-16 July 1993.
- Awosika, L. F. (1993). The Nigerian coast: addressing the coastal impacts of climate change through Integrated Coastal Zone Management (ICZM). In proc. International Conference on Coastal Zone Management, World Coast Conference, 1993, Noordwijk, The Netherlands.
- Awosika, L. F., A. C. Ibe and C. E. Ibe (1993). Anthropogenic activities affecting sediment load balance along the west African coastline. In proc. Coastlines of Western Africa, Coastal Zone 93. Published by American Association of Civil Engineers, New York, New York.
- Ibe, A. C., Awosika, L. F. and Ibe, C. E. (1993). Factors responsible for varying granulometric characteristics of sediments from the western Nigeria coastline. In proc. Coastlines of Western Africa, Coastal Zone 93. Published by American Association of Civil Engineers, New York, New York.
- Dublin-Green, C. O. and Awosika, L. F. (1993). Recent benthic foraminifera as a sedimentation tool in the Nigerian coastal environment. In proc. Coastlines of Western Africa, Coastal Zone 93. Published by the American Association of Civil Engineers, New York, New York.
- Awosika, L. F., Ojo, O., Ajayi, T. A. et al. (1993). Implications of Climate Changes and Sea Level Rise on the Niger Delta, Nigeria Phase 1. A report for UNEP, Nairobi.
- Ojo, O., Awosika, L. F. and Ibe, C. E. (1993). Implications of environmental dynamics for sustainable environment and resources of west and central Africa. In proc. Coastlines of Western Africa, Coastal Zone 93. Published by the American Association of Civil Engineers, New York, New York.

Nicholls, R. J., Awosika, L. F., Niang-Diop, I, Dennis K. C. and French G. T. (1993). Vulnerability of west Africa to accelerated sea level rise. In proc. Coastlines of Western Africa, Coastal Zone 93. Published by the American Association of Civil Engineers, New York, New York.

Awosika, L. F. and Ibe, A. C. (1993). Geomorphology and littoral drift along the western Nigeria coastline. In proc. Hilton Head Island International Coastal Symposium, Vol. 2, Ed. P. Bruun.

Awosika, L. F. (1994). Impacts of global climate change and sea level rise on coastal resources and energy development in Nigeria. In proc. International Workshop on the Impacts of Global Climate Change on Energy Development, Lagos, 28-30 March 1994.

Awosika, L. F., Ibe, A. C., Oyewo, A. and Ibe, C. E. (1994). Navigational and surveying techniques employed during the first IOCEA cruise in the Gulf of Guinea. In Proc. International Symposium on the Results of the First IOCEA Cruise in the Gulf of Guinea, 17-20 May 1994.

Awosika, L. F. and Ibe, A. C. (1994). Geomorphic features of the Gulf of Guinea shelf and littoral drift dynamics. In proc. International Symposium on the Results of the First IOCEA Cruise in the Gulf of Guinea, 17-20 May 1994.

Awosika, L. F., Collins, M. and Clay, A. T. (1994). Clay mineralogy variations in the Gulf of Guinea and implications for sediment transport dynamics. In proc. International Symposium on the Results of the First IOCEA Cruise in the Gulf of Guinea, 17-20 May 1994.

Folorunsho, R., Awosika, L. F. and Dublin-Green, C. O. (1994). An assessment of river inputs into the Gulf of Guinea shelf. In proc. International Symposium on the Results of the First IOCEA Cruise in the Gulf of Guinea, 17-20 May 1994.

Awosika, L. F., Dublin-Green, C. O., Adegbe, A., Folorunsho, R. and Ibe, C. E. (1995). Review of oceanographic parameters in and around Oil Prospecting Licence (OPL) 209 in offshore Nigeria. A consultancy report for Environmental Resources Managers, Ltd., 44 pp. January 1995.

Awosika, L. F., Dublin-Green, C. O., Adegbe, A., Folorunsho, R. and Ibe, C. E. (1995). Review of oceanographic parameters in and around Oil Prospecting Licence (OPL) 210 in offshore Nigeria. A consultancy report for Environmental Resources Managers, Ltd., 40 pp., January 1995.

Awosika, L. F., Dublin-Green, C. O., Adegbe, A., Folorunsho, R. and Ibe, C. E. (1995). Review of oceanographic parameters in and around Oil Prospecting Licence (OPL) 213 in offshore Nigeria. A consultancy report for Environmental Resources Managers, Ltd., 34 pp., January 1995.

Awosika, L. F., Folorunsho, R., Isebor, C., Adegbe, A. and Dublin-Green, C. O. (1995). 1994 International Beach Cleanup Exercise at the Bar Beach, Lagos, Nigeria. NIOMR technical publication, No. 98, 14 pp.

Awosika, L. F., Dublin-Green, C. O. Adegbe, A., Folorunsho, R. and Ibe, C. E. (1996). Review of oceanographic parameters in and around Oil Prospecting Licence (OPL) 220 in offshore Nigeria. A consultancy report for Environmental Resources Managers, Ltd., 34 pp., January 1996.

Awosika, L. F., Dublin-Green, C. O. Adegbe, A., Folorunsho, R. and Ibe, C. E. (1996). Review of oceanographic parameters in and around Oil Prospecting Licence (OPL) 221 in offshore Nigeria. A consultancy report for Environmental Resources Managers, Ltd., 39 pp, January 1996.

13. BOOKS AUTHORED OR CO-AUTHORED

- a. Principal co-author: Global Climate Change and the Rising Challenge of the Sea. Intergovernmental Panel on Climate Change Response Strategies Working Group, May 1992.
- b. Editor: Coastlines of Western Africa. Published by the American Association of Civil Engineers, New York, New York, 1993, 399 pp.
- c. Author: Oceanographic survey techniques applied to acquisition of marine environmental data. Course notes for Eastern Africa. In press.
- d. Co-author: Management Arrangements for the Development and Implementation of Coastal Zone Management Programmes. International Conference on Coastal Zone Management, October 1993.
- e. Tourism vs. Environment: The Case for Coastal Areas. Ed. P. P. Wong. Published by Kluwer Academic Publishers, Dordrecht, Boston/London, 1993. Contribution: Geomorphology and tourism related aspects of the Lekki barrier-lagoon coastline in Nigeria.
- f. Co-author. Implications of Climatic Changes and Sea Level Rise On the Niger Delta, Nigeria. In press.
- g. Co-author. Global Climate Change and The Rising Challenges of the Sea. Report of the Coastal Zone Management Subgroup. Intergovernmental Panel on Climate Change Response Strategies Working Group, May 1992.
- h. Co-author. Management Arrangements for the Development and Implementation of Coastal Zone Management Programmes. International Conference on Coastal Zone Management World Coast, The Netherlands, 1-5 November 1993.

14. INTERNATIONAL CONFERENCES AND MEETINGS

- a. UNESCO/United Nations (DIESA). UNEP training workshop on the control of coastal erosion in West and Central African region WACAF/3. At the Nigerian Institute for Oceanography and Marine Research, Victoria Island, Lagos, 4-11 February 1985.

- b. International seminar on flooding and erosion along the Nigerian and similar coastlines. University of Lagos, Nigeria, 22-23 May 1986.
- c. First International Conference on Stability of the African Plate. University of Ibadan, Nigeria, 21-27 September 1986.
- d. Workshop on Mineral Raw Material for the Nigerian Industries held at the Lagos Chamber of Commerce, Lagos, 15-18 October 1985.
- e. Joint Oceanographic Assembly, 1988, Acapulco, Mexico, September 1988.
- f. International Conference on Tidal Hydrodynamics, Gaithersburg, Maryland, U.S.A., 15-18 November 1988.
- g. United Nations Meeting of Experts on Remote Sensing and Satellite Meteorology - Application to Marine Resources and Coastal Management. Las Palmas, Canary Islands, Spain, 8-12 May 1989.
- h. Regional Project for Training and Research on African Coastline Systems (COMARAF) Field Workshop on Productivity of Estuarine and Mangrove areas of Guinea held at the Centre de Scientifique de Conakry, Rogbane (CERESCOR), 19-23 May 1989.
- i. First Meeting of the Task Team on Implications of Global Climatic Changes in the West and Central African (WACAF) Region Organized by UNEP at the Nigerian Institute for Oceanography and Marine Research, Lagos, 7-9 June 1989.
- j. The Sixth Symposium on Coastal and Ocean Management. Coastal Zone '89, Charleston, South Carolina, U.S.A., 11-14 July 1989.
- k. International Sea Level Rise Workshop, Centre for Global Change, University of Maryland, College Park, Maryland, U.S.A., 8-23 September 1989.
- l. Intergovernmental Panel on Climate Change International Conference on Adaptive Options and Policy Implications on the Effects of Sea Level Rise and Other Impacts of Global Climate Change, Miami, U.S.A., 27 November-21 December 1989.
- m. First Joint Meeting of the West and Central African and East African Task Teams on Impacts of Global Climate Change at UNEP, Nairobi, Kenya, 18-21 December 1989.
- n. Intergovernmental Oceanographic Commission of the Eastern Atlantic (IOCEA) second session, Lagos, Nigeria, 19-23 February 1990.
- o. COMARAF field research workshop on the Lake Nokoue lagoon, Cotonou, Benin Republic, 25-30 June 1990.
- p. Ocean science in relation to non-living resources/IOCEA workshop on IOCEA Sea cruise results, 12-27 April 1989.

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- q. The Seventh Symposium on Coastal and Ocean Management Coastal Zone 91. Long Beach, California, U.S.A., 8-12 July 1991.
 - r. FAO/UNEP/IOC workshop on qualitative assessment of pollution in the West and Central African region. Calabar, 19-23 August 1991.
Involvement: Served as IOC consultant to teach physical aspects of transport of pollutants in the coastal and marine environment.
 - s. IPCC Symposium on the Rising Challenges of the Sea, Margarita, Venezuela, 14-19 March 1992.
 - t. United Nations Briefing of United Nations Mission on the Impacts of Climate Change on Developing World, New York, 12-15 April 1992.
 - u. Twenty-eighth International Geological Congress, Kyoto, Japan, 24 August-3 September 1992.
 - v. BORDOMER '92. International Convention on Rational Use of Coastal Zone. Bordeaux, France, 30 September-3 October 1992.
 - w. IPCC World Coast 1993, Preparatory Conference on Integrated Coastal Zone Management and Response to Climate Change. New Orleans, U.S.A. 13-16 July 1993.
 - x. World Coast Conference. International Conference on Coastal Zone Management, Noordwijk, The Netherlands, 1-5 November 1993.
 - y. LOICZ second Open Science Meeting. Manila, Philippines, April 1995.
 - z. First IGPB Congress, Badmunsteriefel, Germany, April 1996.
15. NIOMR SEMINARS
- a. Preliminary report on grain size and heavy mineral gradient of the sediments from the Niger/Benue catchment basin. NIOMR conference room, 1 June 1984.
 - b. Bathymetry and bottom configuration of the western Nigerian continental shelf. NIOMR conference room, 19 February 1986.
 - c. Crustal instability of the continental shelf off Nigeria - possible cause of earthquakes in the coastal zone. NIOMR conference room, 3 October 1986.
 - d. Coral bank obstructions to trawling in the middle to outer continental shelf east and west of Lagos, February 1990.

16. SPECIAL PROFICIENCY

- a. Versatility in use of computers for word processing, communication, analysis and evaluation of oceanographic data and information.
- b. Versatility in automobile repairs and elementary electronics.
- c. Vessel navigating using trisponder, syledis, satellite sat nav, GPS, radar and other conventional methods.

BREKKE, Harald

(Norway)

[Original: English]

Date of birth: 22.05.53

Place of birth: Vik in Sogn, Norway

Nationality: Norwegian

Sex: Male

Marital status: Married

EDUCATION

- 1978-1983 University of Bergen, Norway - Cand. Real degree (Masters/Ph.D. equivalent) in hard rock geology
- 1975-1977 Agder Regional College, Kristiansand, Norway - Additional exams in mathematics, statistics and computer programming as well as exams in philosophy and physics
- 1973-1975 Agder Regional College, Kristiansand, Norway - College degree in analytical chemistry

EMPLOYMENT RECORD

- 1973 Teacher of mathematics and physical education at Chongwe Secondary School, Zambia
- 1975 Teacher of chemistry at Agder Regional College, Norway
- 1980-1983 Part-time research assistant at the Geological Institute, University of Bergen, Norway
- 1983-1984 Full-time research assistant at the Geological Institute, University of Bergen, Norway
- 1984- Senior geologist in the Exploration Department in the Norwegian Petroleum Directorate (NPD), Stavanger, Norway, with the following areas of responsibility:
- Geological/geophysical mapping of the Norwegian Continental Shelf
 - Petroleum resource assessment on regional and national scale
 - Planning and development of resource assessment methods and tools
 - Evaluation of company applications for new exploration licences

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- Providing technical advice to Ministry of Industry and Energy
- Representing the NPD in various geoscientific programmes involving universities and industry
- Project coordination
- External lectures on the geology and prospectivity of the Norwegian Continental Shelf
- Adviser to the Namibian State Oil Company (NAMCOR) under the Norwegian Foreign Aid programme

MISCELLANEOUS SCIENTIFIC QUALIFICATIONS

- 1983 University lecturer in geology ("amanuensis") upon appointment by university commission set down by the University of Rogaland, Norway
- 1990 Regular scientific referee to the international journal of the Norwegian Geological Society ("Norsk Geologisk Tidsskrift")
- 1994 Appointed external examiner at the Institute of Geology and Mineral Resources Engineering, the Norwegian Institute of Technology, University of Trondheim, Norway
- 1995 Member of the Group of Experts convened in September 1995 by the United Nations Secretariat in order to prepare for the establishment of the Commission on the Limits of the Continental Shelf. Member of the core group within the Group of Experts that worked out a draft for a list of scientific documentation required for making claims for the outer limits of the continental shelf

LIST OF PUBLICATIONS

- Brekke, H., Furnes, H., Nordås, J. and Hertogen, J. 1984. Lower Palaeozoic convergent plate margin volcanism on Bømlo, SW Norway, and its bearing on the tectonic environments of the Norwegian Caledonides. J. Geol. Soc. London, vol. 141, 1015-1032.
- Andersen, T. B., Furnes, H., Brekke, H., Sturt, B. A. and Naterstad, J. 1984. The Tørvikbygd Ophiolite - a newly discovered ophiolite fragment with an unconformable cover sequence in the central Hardanger area, West Norway. Norsk Geologisk Tidsskrift, vol. 64, 69-73.
- Nordås, J., Amalixsen, K. G., Brekke, H., Suthren, R., Furnes, H., Sturt, B. A. and Robins, B. 1985. Lithostratigraphy and petro-chemistry of Caledonian rocks on Bømlo, SW Norway. In: Gee, D. G. and Sturt, B. A. (Eds.), The Caledonian Orogen - Scandinavia and related areas. Wiley, New York, 679-692.
- Furnes, H., Brekke, H., Nordås, J. and Hertogen, J. 1986. Lower Palaeozoic convergent plate margin volcanism on Bømlo, SW Norwegian

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- Caledonides. Geochemistry and petrogenesis. Geol. Mag., vol. 123, 123-142.
- Brekke, H. and Solberg, P. O. 1987. The Geology of Atløy, Sunnfjord, western Norway. Norges geologiske undersøkelse Bulletin, vol. 410, 73-94.
 - Brekke, H. and Riis, F. 1987. Tectonics and basin evolution of the Norwegian shelf between 62 N and 72 N. Norsk Geologisk Tidsskrift, vol. 67, 295-322.
 - Larsen, R. M., Brekke, H., Larsen, B. T. and Talleraas, E. (Editors), 1992. Structural and Tectonic Modelling and its Application in Petroleum Geology. Norwegian Petroleum Society, Special publication No. 1. Amsterdam, Elsevier.
 - Brekke, H. and Kalheim, J. E. The NPD Assessment of the Undiscovered Resources of the Norwegian Continental Shelf - Background and Methods. In Dore, T. (Ed.). Quantification and Prediction of Hydrocarbon Resources. Norwegian Petroleum Society, Special Publication (in press). Amsterdam, Elsevier.
 - Kalheim, J. E. and Brekke, H. The Usefulness of Resource Analysis in National Economic Planning - Examples from the Norwegian Shelf. In Dore, T. (Ed.). Quantification and Prediction of Hydrocarbon Resources. Norwegian Petroleum Society, Special Publication (in press), Amsterdam, Elsevier.
 - Brekke, H., Kalheim, J. E., Riis, F., Egeland, B., Blystad, P., Johnsen, S. and Ragnhildstveit, J. 1992. Two-way time map of the unconformity at the base of the Upper Jurassic (north of 69°N) and the unconformity at the base of the Cretaceous (south of 69°N), offshore Norway, including the main geological trends onshore. Scale 1:2 mill. NPD Continental Shelf Map No. 1. The Norwegian Petroleum Directorate/The Geological Survey of Norway.
 - Blystad, P., Brekke, H., Færseth, R. B., Larsen, B. T., Skogseid, J. and Tørudbakken, B. 1995. Structural elements of the Norwegian Continental Shelf. Part II: The Norwegian Sea Region. NPD-Bulletin No. 8. The Norwegian Petroleum Directorate.
 - Brekke, H. 1995. Tektonikk og nomenklatur på sokkelen i Norskehavet, 62°-69°N. Geonytt, No. 1 (extended abstract of invited opening lecture at the annual meeting of the Norwegian Geological Society).
 - Eidvin, T., Brekke, H., Riis, F. and Renshaw, D. K. Neogene and Upper Paleogene stratigraphy on the Mid-Norwegian Continental Shelf. Submitted to Norsk Geologisk Tidsskrift.

- Brekke, H., Amalixsen, K. G., Færseth, R. B., Jorde, K., Naterstad, J., Nilsen, E., Nordås, J., Ragnhildstveit, J., and Ree, R. 1993. Bømlo bedrock map 1114 2, 1:50 000, black and white edition. Geological Survey of Norway.
- Brekke, H. 1995. Tektonikk og nomenklatur på sokkelen i Norskehavet, 62°-69°N. Geouyti, No. 1 (extended abstract of invited opening lecture at the annual meeting of the Norwegian Geological Society).
- Padget, P. and Brekke, H. 1996. Arendal, Bedrock Map. Scale 1:250 000. Norwegian Geological Survey.
- Brekke, H. The Tectonic evolution of the Norwegian Sea Continental Margin with Emphasis on the Vøring and Møre Basins. Submitted to Geol. Soc. London Special Publication.
- Brekke, H., Larsen, B. T., Skogseid, J., Blystad, P., Færseth, R. B. and Tørudbakken, B. Structural Elements of the Norwegian Continental Shelf. The Norwegian Sea and Northern North Sea. Map in scale 1:2 000 000 with map description by H. Brekke. Submitted to Geol. Soc. London Special Publication.
- Brekke, H. and Birkeland, Ø. Near Top Palaeocene in the Norwegian Sea Region of the Norwegian Continental Shelf. Two-way Travel time map in scale 1:2 000 000 with map description by H. Brekke. Submitted to Geol. Soc. London Special Publication.
- Brekke, H. Magmatic Map of the Norwegian Sea Continental Shelf. Scale 1:2 000 000 with map description. Submitted to Geol. Soc. London Special Publication.

CARRERA HURTADO, Galo

(Mexico)

[Original: Spanish]

PERSONAL INFORMATION

Address: 53 Hawthorne St.
Dartmouth, Nova Scotia B2Y 2Y7
Canada

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Internet address: gcarrera@fox.nstn.ns.ca

Date of birth: 19 August 1953

Languages: Bilingual in Spanish and English

Marital status: Married

UNIVERSITY EDUCATION

Studies for licenciatura (first degree) in geophysical engineering, 1971-1976, National Autonomous University of Mexico, Mexico City.

Studies for diploma in philosophy, 1977-1978, Panamerican University, Mexico City.

Studies for master's degree in engineering sciences, 1980-1982, Department of Geophysical Engineering, University of New Brunswick, Fredericton, New Brunswick, Canada.

Studies for doctorate in geophysics, 1982-1985, Department of Geophysics, University of Toronto, Toronto, Ontario, Canada.

Visiting researcher, 1986, Bedford Oceanography Institute, Dartmouth, Nova Scotia, Canada.

Areas of study: geodesy, hydrography and geophysics.

PROFESSIONAL CAREER

1978-1980 Associate Researcher, Engineering Institute, National Autonomous University of Mexico, Mexico City.

Associate Professor, Engineering Faculty, National Autonomous University of Mexico, Mexico City.

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- 1982-1984 Teaching assistant for the Geodesy I and II courses, Department of Geodetic Sciences, University of Toronto, Toronto, Ontario, Canada. Instructor: Dr. Petr Vaníček
- Research assistant in geodesy, University of Toronto, Toronto, Ontario, Canada. Researcher: Dr. Petr Vaníček
- 1982-1983 Translation from English into Spanish of Geodesy: The Concepts, by P. Vaníček and E. Krakiwsky, North Holland, Amsterdam, 651 pp., for the Pan American Institute of Geography and History (PAIGH).
- 1984-1985 Teaching assistant for the Geodesy I and II courses, Department of Geodetic Sciences, University of Toronto, Toronto, Ontario, Canada. Instructor: Dr. Attallah M. Wassef.
- 1986-1987 Visiting researcher with the Canadian Hydrographic Service at the Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada.
- 1987-present External scientific adviser with the following organizations:
Canadian Hydrographic Service, Ministry of Fisheries and Oceans, Canada;

International Centre for Ocean Development (ICOD), Halifax, Nova Scotia, Canada;

Canadian Ocean Institute, Halifax, Nova Scotia, Canada; Canadian Geodetic Service, Ministry of Natural Resources, Canada;

Geological Survey of Canada, Ministry of Natural Resources, Canada;

South Pacific Forum Fisheries Agency (FFA), Honiara, Solomon Islands;

International Hydrographic Organization, Monte Carlo, Monaco;

University of New Brunswick, Fredericton, New Brunswick, Canada;

Commonwealth Secretariat, London, United Kingdom;

Faculty of Engineering, National Autonomous University of Mexico, Mexico City;

Ministry of Foreign Affairs, Kingston, Jamaica;

National Institute of Statistics, Geography and Informatics (INEGI), Mexico;

Brazilian Institute of Geography and Statistics, Rio de Janeiro, Brazil;

Ministry of Foreign Affairs, Manila, Philippines.

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- 1989-present Director and founder of Geometrix - Geodetic and Hydrographic Research Inc., an international consulting firm incorporated federally in Canada, specializing in scientific research and technological development in geodesy and hydrography.
- 1992-1996 Director of Associates of the Canadian Ocean Institute.
- 1994-1995 Coordinator and professor of the Marine Technology course, Marine Administration Programme, Dalhousie University, Halifax, Nova Scotia, Canada.

MAJOR PUBLICATIONS

Carrera, G. (1987), "A method for the delimitation of an equidistant boundary between coastal States on the surface of the geodetic ellipsoid". International Hydrographic Review LXIV, 1, 147-159.

McRae, D. and Carrera, G. (1988), "Investigation of the status of maritime jurisdiction and international boundaries of Western Samoa". Internal report of ICOD, Halifax, Nova Scotia, Canada, 85 pp.

Carrera, G. (1988), "Is there a need for accuracy in the delimitation of international maritime boundaries?" Lecture at the twenty-eighth Summer Training Programme of the International Ocean Institute in Halifax, Nova Scotia, Canada, 24 June.

Carrera, G. (1988), Three lectures presented at the Workshop on Delimitation of Maritime Boundaries organized by FFA and ICOD in Apia, Western Samoa, 22-30 August:

- (a) Introduction to mapping problems: data, projections, positioning;
- (b) New technologies used in the delimitation of frontiers and limits;
- (c) DELMAR software for the delimitation of maritime frontiers.

Hull P., Carrera, G. and R. MacNab (1989), "The Territorial Sea Baselines and Fishing Zone Limits of Canada in Digital Form", Report of the Geological Survey of Canada, 12 February, 10 pp.

Carrera, G. (1989), "DELMAR: A library of programmes for the delimitation of international maritime frontiers" ICOD, 55 pp. Published in English, French and Spanish.

Carrera, G. (1989), "Technical requirements of international maritime boundary delimitation". Two lectures at the twenty-ninth Summer Training Programme of the International Ocean Institute in Halifax, Nova Scotia, Canada, 24 June.

Carrera, G. (1989), Presentation to the official delegations of Papua New Guinea and the Federated States of Micronesia of provisional treaty lines for a fisheries treaty. Sydney, Australia, 30 November-6 December.

Carrera, G. (1990), "First report on the determination of provisional treaty lines and closed areas in support of the US-FFA Tuna Fisheries Agreement". Technical report for the FFA, Honiara, Solomon Islands, 13 pp.

Carrera, G. (1990), "A commentary on Special Publication 51, A Manual on Technical Aspects of the 1982 United Nations Convention on the Law of the Sea". Report for the International Hydrographic Bureau, Monte Carlo, Monaco, 18 pp.

Carrera, G. (1990), "Ocean Management". Three lectures in the Hydrography I course at the Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada, 15 February.

Carrera, G. (1990), "Geodetic and hydrographic aspects of article 76 of the 1982 United Nations Convention on the Law of the Sea" (in French). Lecture as part of the course in "Le droit international sur la délimitation des espaces maritimes" at Mohammed V University, Rabat, Morocco, 9 May.

Carrera, G. (1990), "DELMAR: A computer program for maritime boundary delimitation". Conference paper at the seminar on Technical Aspects of the Law of the Sea, International Hydrographic Bureau, Monte Carlo, Monaco, 15 May.

Carrera, G. (1990), "Technical requirements of international maritime boundary delimitation". Two lectures during the third Summer Training Programme of the International Ocean Institute in Halifax, Nova Scotia, Canada, 21 June.

Carrera, G. (1990), Second report on the determination of provisional treaty lines and closed areas in support of the US-FFA Tuna Fisheries Agreement. Technical Report for FFA, Honiara, Solomon Islands, 45 pp.

Carrera, G. (1990), "The geodesy of international maritime boundary delimitation". Three lectures during the course on the Exclusive Economic Zone at the International Ocean Institute, Valletta, Malta, 3-4 December.

Carrera, G. (1990), "Legal and technical interaction issues in international maritime boundary delimitation". Lecture at the International Ocean Institute, Valletta, Malta, 6 December.

Carrera, G. (1990), "A further look into the 1977 Anglo-French Maritime Boundary Agreement". Conference paper and article presented at the seventh biennial international symposium of the Hydrographic Society (Hydro '90), University of Southampton, United Kingdom, 18-20 December.

Carrera, G. (1991), "Surveying activities in support of maritime boundary delimitation". Lecture at the Department of Geodetic Engineering, University of New Brunswick, Fredericton, New Brunswick, Canada, 13 February.

Carrera, G. (1991), "Three regional cases in international maritime boundary delimitation: Eastern Caribbean, South Pacific, and West Africa". Two lectures as part of the Marine Administration Programme, Dalhousie University, Halifax, Nova Scotia, Canada, 14 February.

Carrera, G. (1991), Objective 1 in "A feasibility study for the implementation of a course on delimitation of maritime boundaries for the Francophone countries", co-sponsored by ICOD, Lachapelle, G., G. Carrera and D. Wells. English-French bilingual report for ICOD, Halifax, Nova Scotia, Canada.

Carrera, G. (1991), "Technical requirements of international maritime boundary delimitation". Two lectures at the thirty-first Summer Training Programme of the International Ocean Institute in Halifax, Nova Scotia, Canada, 19 June.

Carrera, G. (1991), "DELMAR: A computer program library for the delimitation of maritime boundaries". Paper and article for the Second Conference of the International Boundaries Research Unit, "International Boundaries: Fresh Perspectives". University of Durham, Durham, United Kingdom, 20 July. Published in World Boundaries, vol. 5: Maritime Boundaries, 1994, G. Blake (editor), Routledge, pp. 49-58.

Carrera, G. (1991), "International Maritime Boundaries and Limits: an Application for Maritime Positioning Systems". Paper presented at the workshop on the sea bed at the twentieth General Assembly of the International Union of Geodesy and Geophysics, Vienna, Austria, 15 August.

Carrera, G. (1991), "Geodetic Methodology Employed in Past Maritime Boundary Delimitation Cases". Paper presented at the workshop on geodetic aspects of maritime boundary delimitation at the twentieth General Assembly of the International Union of Geodesy and Geophysics, Vienna, Austria, 21 August.

Carrera, G. (1991), "High Technology and UNCLOS III: The Value of Technical Information in the Determination of International Maritime Boundaries and Offshore Limits". Lecture during the regional training programme on integrated administration organized by the International Ocean Institute, the University of the West Indies and the Regional Coordination Unit of the United Nations Environment Programme, Kingston, Jamaica, 2 September.

Carrera, G. (1991), "Technical requirements of international maritime boundary delimitation and UNCLOS III". Four lectures at the training programme on the administration of the Exclusive Economic Area organized by the International Ocean Institute, Valletta, Malta, 2 December.

Carrera, G. (1991), "Legal and technical interaction issues in international maritime boundary delimitation". Two lectures at the International Maritime Law Institute, Valletta, Malta, 4 and 6 December.

Carrera, G. (1992), "Proportionality Concepts in Maritime Boundaries: Length and General Direction of the Coast". Conference paper and article presented at the International Seminar on Frontiers and Territorial Aspects in the Mediterranean Sea at a Time of Geopolitical Change, Valletta, Malta, 24-26 September, published in Mediterranean Social Sciences Review 1, 2, 55-60.

Russell, D., P. Saunders, H. Kindred and G. Carrera (1993), "The Boundary of the Continental Shelf between Nova Scotia and Newfoundland and Labrador: a Review of Relevant Legal Issues". Report for the Provincial Government of Nova Scotia, 17 May, 77 pp.

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Carrera, G. (1993), "An Introduction to Geodetic Aspects of International Maritime Boundaries and Offshore Limits". Report prepared for the International Hydrographic Organization, Monte Carlo, Monaco, 31 May.

Vanícek, P., and Carrera, G. (1993), "Treatment of Sea Level Records in Linear Vertical Crustal Motion Modeling". Conference paper and article presented at the Eighth International Symposium on Recent Movements of the Earth's Crust, Kobe, Japan, 10 December, published in a special issue of the Journal of the Geodetic Society of Japan, pp. 305-309.

Carrera, G. (1994), "A Review of Relevant Technical Issues in Support of the Jamaica - Cayman Islands (UK) Maritime Boundary Negotiations". Presentation for the Ministry of Foreign Affairs, Kingston, Jamaica, 16 January.

Carrera, G. (1994), "Linear Trends and Correlation Matrix for the Sea Level Records of the Permanent Water Level Network in Atlantic Canada and Quebec". Report for the Canadian Hydrographic Service, Scotia-Fundy and Quebec Regions, 31 March, 27 pp.

Carrera, G. (1994), "Background Technical Information Study in Support of the Jamaica - Cayman Islands (UK) International Maritime Boundary Negotiation". Report for the Ministry of Foreign Affairs, Kingston, Jamaica, 3 April.

Carrera, G. (1994), "International Maritime Boundaries and Offshore Limits in the Arctic Ocean". Report for the Atlantic Geosciences Centre, Geological Survey of Canada, Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada, 6 May, 15 pp.

Carrera, G. (1994), "A Review of Maritime Jurisdiction Areas in the South China Sea". Course at the Centre for Asian Legal Studies, University of British Columbia, 14-18 June.

Carrera, G. (1994), "DELMAR and the Convention on the Law of the Sea". Four-day course on the establishment of normal and straight base lines and the definition of outer limits. Directorate-General for Hydrography, Ministry of Defence, Chucuito-Callao, Lima, Peru, 7-12 October.

MEMBERSHIP OF PROFESSIONAL BODIES AND REPRESENTATIONS

1985-present Member of the American Geophysical Union.

1988-1992 Member of the Canadian Hydrographic Association. Vice-President of the Atlantic Section during 1989.

1988-1989 President of the Special Study Group on Geodetic Aspects of the Delimitation of International Maritime Boundaries of the Canadian Hydrographic Association.

1989-present Secretary of the Committee on Geodetic Aspects of the Law of the Sea of the International Association of Geodesy.

- 1990-present Associate member of the Canadian Ocean Institute, Halifax, Nova Scotia, Canada. Director of Associates 1992-1996.
- 1992-1993 Member of the Board of Directors of Hypercomp, an association for high-performance data processing, Halifax, Nova Scotia, Canada.
- 1992-present National representation of Canada at the Commission on Recent Movements of the Earth's Crust of the International Association of Geodesy.
- 1993 Member of the Executive Council of Hypercomp, a high-performance data processing company, Halifax, Nova Scotia, Canada.
- 1996-present Guest member of the Sistema de Referencia Geodésico para América del Sur (Geodetic Reference System for South America) (SIRGAS)

GEODETIC SURVEYS

- 1993 Organizer and administrator of Operation 70, a survey from 15 September to 15 October, using the Global Positioning Satellite (GPS) system, of more than 40,000 points plotted in the Mexican states of Morelos and Guerrero, for the National Institute of Statistics, Geography and Informatics (INEGI), Mexico, in support of the Proyecto de Certificación de Derechos Ejidales (Project for the Certification of Common Land Rights) (PROCEDE).

CHAN CHIM YUK, André C. W.

(Mauritius)

[Original: English]

Date of birth 9 April 1952
Nationality Mauritian
Marital status Married, 1 child
Present position Associate Professor, Department of Civil Engineering,
 University of Mauritius

Education:

B.Sc. Eng. University of New Brunswick (Canada) - May 1976

M.Sc./DIC (Soil Mechanics), Imperial College of Science and Technology,
London (UK) - October 1979

Ph.D. (Geotechnical Engineering), University of Alberta (Canada) -
December 1985

Scholarship/Fellowship:

Commonwealth Undergraduate Scholarship (Canada) - 1973 to 1976

Commonwealth Post Graduate Scholarship (UK) - 1978 to 1979

Levehulme Trust Fellowship - Research on Soil Structure Interaction at
Dundee University (Scotland) - November 1987 to April 1988

Dissertation/Thesis:

B.Sc. Dissertation - "Geotechnical Properties of Rockfill" under the
supervision of Prof. A. O. Landva

M.Sc. Dissertation - "Three Dimensional Slope Stability Analysis" under
the supervision of Prof. J. N. Hutchinson

Ph.D. Thesis - "Geotechnical Characteristics of Genesee clay" under the
supervision of Prof. N. R. Morgenstern

Employment:

August 1996 to date	Dean, Faculty of Engineering
July 1995 to date	Associate Professor, University of Mauritius
July 1988-July 1995	Senior Lecturer, University of Mauritius
January 1993-February 1995	Head, Department of Civil Engineering, University of Mauritius
September 1982-December 1985	Research Assistant, University of Alberta (Canada)

/...

October 1978-June 1988 (on leave from 1982 to 1985)	Lecturer, University of Mauritius
October 1976-September 1978	Assistant Lecturer, University of Mauritius
May 1976-October 1976	Trainee Site Engineer, Building and Engineering Co. Ltd., Mauritius

Research:

Investigation and analysis of embankment failures on soft clays (1982 to 1985).

Survey of local, raw materials for low-cost housing in Mauritius. Research funded by the Commonwealth Science Council under the leadership of Prof. G. Mohamedbhai (1986 to 1987).

Soil-structure interaction in masonry arch bridges (1987 to 1988).

Use of calcarenite blocks for housing construction in Rodrigues. Research funded by the IDRC under the leadership of Prof. G. Mohamedbhai (1988 to 1990).

Supervision of PhD project on Groundwater modelling (1994 to date).

A knowledge-based system for site characterization (1995 to date).

Consultancy:

Supervision of soil tests for the Champagne Hydro Power Project, Mauritius (1981 to 1982).

Member of an advisory committee set up to investigate the "La Butte Landslide" in Port Louis, Mauritius (1987 to 1990)

Supervision of soil tests for the SAJ Dam, Mauritius for the account of the Japan International Co-operation Agency (1988 to 1989).

Design of foundations in swelling clays.

Geotechnical investigation/consultancy for the following major projects in Mauritius and Rodrigues:

Air Mauritius Building, Servansingh Jadav & Partners
Life Insurance Corporation Building, Servansingh Jadav & Partners
Mauritius Telecom Building, Servansingh Jadav & Partners
EIA for landfill sites, Servansingh Jadav & Partners
New Container Terminal, DDS Irrigation
Silos for the Cement Trading Corporation, DDS Irrigation
NHDC Housing project sites, Gibb (Mtius) Ltd.
Oil Storage tanks, REOP Ltd.
Port Mathurin Harbour Works, DDS Irrigation
EIA runway extension SSR Airport, Servansingh Jadav & Partners
Rajiv Gandhi Science Centre, DDS Irrigation

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Small Scale Pilot Irrigation Schemes, DDS Irrigation
St. James Court Building, Servansingh Jadav & Partners
Port Mathurin Power Station, Burmeister & Wain Contractor (BWSC)
Freeport Authority Warehouse, Luxconsult (Mtius) Ltd.
People's Republic of China Embassy, Luxconsult (Mtius) Ltd.
EMI Workshop at Pailles, Central Water Authority
EIA for a morcellement at Tamarin, Seenyen & Kauppaymuthoo
Sterling House, Mascareignes Sterling Co. Ltd.

Other academic activities:

Organized a short course for practising engineers on Geotechnical Engineering and delivered 3 lectures entitled "Residual soils - classification, sampling and testing". "In-situ testing" and "Geotechnical engineering in Mauritius". (1993)

Organized an international workshop on "Groundwater modelling" sponsored by the Commonwealth Science Council. (1994)

Membership of organizations:

Member of the Building and Construction Standards Committee from 1988 to 1996.

Member of the Central Water Board from 1994 to date.

Chairman of the Tender Committee, Central Water Authority from 1994 to 1996.

Member of Senate, University of Mauritius from 1994 to 1995 and from 1996 to date.

Publications:

Mohamedbhai, G., Chan Chim Yuk, A. et al. (1980). Consumption and conservation of energy in buildings. Proceedings, National Energy Conference, Mauritius.

Chan Chim Yuk, A. and Morgenstern, N. R. (1985). Geotechnical characteristics of a soft fissured lacustrine clay. Proceedings, 38th Canadian Conference on "Theory and Practice in Foundation Engineering", Alberta (Canada).

Chan Chim Yuk, A. and Morgenstern, N. R. (1986). Measurement of lateral stresses in a lacustrine clay. Proceedings, 39th Canadian Conference on "Theory and Practice in Foundation Engineering", Alberta (Canada).

Chan Chim Yuk, A. and Morgenstern, N. R. (1987). Influence of geological history on the properties of a lacustrine clay. Proceedings, International Symposium on "Geotechnical Engineering on soft soils", Mexico.

/...

- Chan Chim Yuk, A. (1990). Geotechnical problems and development in Port Louis. Mauritius Proceedings, ANSTI Second Regional Seminar in Earth Sciences, Lomé (Togo).
- Mohamedbhai, G., Chan Chim Yuk, A. and Baguant, B. K. (1990). Use of stone masonry in housing construction in Rodrigues. Proceedings, 3rd ANSTI International Seminar on "Local Materials for Housings", Mauritius.
- Mohamedbhai, G., Chan Chim Yuk, A. and Baguant, B. K. (1990). Use of stone masonry in housing construction in Rodrigues. Proceedings, 3rd International Seminar on Structural Masonry for the Developing Countries, Mauritius.
- Chan Chim Yuk, A. and Nowburth, M. (1994). Modelling of the Curepipe Aquifer Paper presented at the workshop on "Groundwater Modelling. A Tool for Water Resources Management and Contamination Assessment", Mauritius.

CROKER, Peter F.

(Ireland)

[Original: English]

Personal:

Date of birth: 8 December 1951
Marital status: Married with 2 children
Nationality: Irish
Place of birth: Dublin

Education:

Secondary school: 1965-1968, H.M.S. Conway, Anglesey, North Wales
GCE 'O' levels
Technical college: 1970, Riversdale College, Liverpool, England
Ordinary National Diploma in Nautical Science
University: 1971-1975, Trinity College, Dublin
B.A. Mod. (Hons) in Geology

Employment history:

1968-1971 Harrison Shipping Line, Liverpool
Cadet officer in Merchant Navy
1975-1978 Institute of Geological Sciences, Continental Shelf
Unit South (Leeds, U.K.)
Geologist/geophysicist responsible for South Irish Sea.
Compilation of regional geology, seabed sampling and
shallow coring, IGS shallow seismic and refraction
data, oil company seismic and commercial well data for
solid geology map 1:250,000 series. Participated in
many marine geophysical surveys and offshore shallow
drilling programmes.
1978-1985 Oil Exploration (Investments) Ltd. (Tel Aviv, Israel)
Geophysicist, chiefly involved in seismic
interpretation, mainly of land data, but gained
considerable experience in land acquisition methods and
data processing. Final position was Interpretation
Supervisor. Was also responsible for setting up the
company's first geophysical database and computer
mapping package.
1985-present Petroleum Affairs Division, Department of Transport,
Energy and Communications, Dublin. Petroleum
Exploration Specialist (geophysicist) responsible for
promotion, monitoring and regulation of petroleum

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exploration activity offshore Ireland. Has been involved in Law of the Sea issues since 1986. Provided all the technical cartography support for the Anglo-Irish delimitation negotiations 1987-1988. Author of many internal reports including "Delineation of the continental shelf - application of Article 76 of UNCLOS on the Irish continental margin", April 1993. Responsible for the design, tender, contract, acquisition, processing and interpretation of seismic and bathymetric surveys over Ireland's continental margin in 1995 and 1996.

UNCLOS Groups of Experts Meetings attended:

March 1993	Member of the Group of Technical Experts on the Definition of the Continental Shelf convened by the United Nations Office of Legal Affairs which prepared the booklet entitled "The Law of the Sea: Definition of the Continental Shelf", published by the United Nations in 1993.
September 1995	Member of the Group of Experts on Preparations for the Establishment of the Commission on the Limits of the Continental Shelf convened by the United Nations Office of Legal Affairs which prepared the report entitled "Commission on the Limits of the Continental Shelf: its functions and scientific and technical needs in assessing the submission of a coastal State" (SPLOS/CLCS/INF/1).

UNCLOS meetings attended:

Member of the Irish delegation at the 5th Meeting of States Parties to the Law of the Sea (SPLOS), New York, July 1996.

Member of the Irish delegation at the Resumed Second Session of the International Seabed Authority, Kingston, August 1996.

Other LOS meetings attended:

Member of the Irish delegation at the EU Working Party meeting on the Law of the Sea, Brussels, October 1996.

Member of the Irish delegation at the EU Working Party meeting on the Law of the Sea, Brussels, December 1996.

Affiliations:

Active member of the Society of Exploration Geophysicists since 1980.
Active member of the European Association of Exploration Geophysicists since 1993.

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Conferences attended:

Society of Exploration Geophysicists Annual Meeting 1981 Los Angeles
Society of Exploration Geophysicists Annual Meeting 1982 Dallas
Society of Exploration Geophysicists Annual Meeting 1983 Las Vegas
European Association of Exploration Geophysicists Annual Meeting 1984
London
European Association of Exploration Geophysicists Annual Meeting 1985
Budapest
Society of Exploration Geophysicists Annual Meeting 1985 Washington, D.C.
European Association of Exploration Geophysicists Annual Meeting 1986
Ostend
BIRPS Deep Reflection Profiling Symposium, Cambridge, July 1986
Petroleum Geology of North West Europe, Barbican, London, October 1986
Geological Society of London Meeting on Early Tertiary Volcanism and the
Opening of the NE Atlantic, March 1987
Society of Exploration Geophysicists Annual Meeting 1987 New Orleans
GAC/MAC Meeting on Extensional Tectonics and Stratigraphy of the North
Atlantic Margins, St. John's, Newfoundland, May 1988
European Association of Exploration Geophysicists Annual Meeting 1988
The Hague
Geological Society of London Meeting on Geology from Seismic Data,
March 1989
European Association of Exploration Geophysicists Annual Meeting 1989
Berlin
European Association of Exploration Geophysicists Annual Meeting 1990
Copenhagen
Conference on Basins on the North West Seaboard, Belfast, September 1990
European Association of Exploration Geophysicists Annual Meeting 1991
Florence
AAPG International Conference London, September 1991
Petroleum Geology of North West Europe, Barbican, London, March 1992
European Association of Exploration Geophysicists Annual Meeting 1992 Paris
European Association of Exploration Geophysicists Annual Meeting 1993
Stavanger
Exploration Software '93 London, November 1993
Petroleum Geology of Ireland's Offshore Basins, Dublin, April 1994
(Chairman of the Organising Committee)
European Association of Exploration Geophysicists Annual Meeting 1994
Vienna
Third International Conference on Gas in Marine Sediments, Texel, Holland,
September 1994
Geological Society of London Meeting on The Petroleum Geology of the Irish
Sea and Adjacent Areas, February 1995
European Association of Exploration Geophysicists Annual Meeting 1995
Glasgow
Geological Society of London Meeting on Passive Margins, February 1996
European Association of Exploration Geophysicists Annual Meeting 1996
Amsterdam

Industry courses attended:

AAPG-SEG "Stratigraphic interpretation of seismic data", London,
September 1979
OGCI "Effective seismic data processing", Los Angeles, October 1981
SEG Continuing Education "Integrated Geophysical Interpretations", Dallas,
October 1982
EAEG workshop on "Planning of marine seismic surveys", Ostend, June 1986
SEG/EAEG "Seismic Velocity Workshop", Cambridge, July 1990

Publications and recent presentation:

- Whittington, R. J., Croker, Peter F. et Dobson M. R. (1981): Aspects of
the geology of the south Irish Sea. Geological Journal 16, 85-88.
- Croker, P. F., Whittington, R. J., Dobson, M. R. (1982): Cardigan Bay
(Sheet 52 degrees N - 06 degrees W) Solid geology, (1:250,000 Offshore
Map series) (Institute of Geological Sciences/Geological Survey of
Ireland).
- Kashai, E. L., Croker, P. F. (1987): Structural geometry and evolution of
the Dead Sea - Jordan rift system as deduced from new subsurface data.
Tectonophysics, 141, 33-60.
- Croker, P. F., Shannon, P. M. (1987): The evolution and hydrocarbon
prospectivity of the Porcupine Basin, offshore Ireland. In:
Petroleum Geology of North West Europe (Eds: Brooks, J.,
Glennie, K. W.) Graham & Trotman, London, 633-642.
- Croker, P. F., Klemperer, S. L. (1989): Structure and stratigraphy of the
Porcupine Basin: relationships to deep crustal structure and the
opening of the North Atlantic. In: Extensional Tectonics and
Stratigraphy of the North Atlantic Margins. (Eds: Tankard, A. J.,
Balkwill, H. R.), American Association of Petroleum Geologists,
Memoire, 46, 445-459.
- Croker, P. F. (1992): The Goban-Cockburn Fault Zone - a major crustal
feature (Annual Irish Geological Research Meeting, T. C. D.,
February 1992).
- Croker P. F. (1992): Seabed mounds (carbonate knolls) in the Porcupine
Basin, W. Ireland (Annual Irish Geological Research Meeting, T. C. D.,
February 1992).
- Murphy, N. J. and Croker, P. F. (1992): "Many play concepts seen over wide
area in Erris, Slyne troughs off Ireland". Oil and Gas Journal,
90(37), 92-97, (14 September).
- Croker, P. F. (1993): Shallow gas accumulation and migration in the
western Irish Sea (Annual Irish Geological Research Meeting, U. C. C.,
February 1993).

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Croker, P. F. (1994): Shallow gas in the Irish Sea and associated seafloor morphology (Paper presented as poster at 3rd International Conference on Gas in Marine Sediments, Texel, The Netherlands, 25-28 September 1994).

Hovland, M., Croker, P. F., Martin, M. (1994): Fault-associated seabed mounds (carbonate knolls?) off western Ireland and north-west Australia, Marine and Petroleum Geology, 11(2), 232-246.

Croker, P. F. (1995): New images of the Codling Fault (Annual Irish Geological Research Meeting, Sligo RTC, February 1995).

Croker, P. F., Shannon, P. M. (1995): The petroleum geology of Ireland's offshore basins: introduction. In: The Petroleum Geology of Ireland's Offshore Basins (Eds: Croker, P. F., Shannon, P. M.), Geological Society, London, Special Publication, 93, 1-8.

Croker, P. F. (1995): Shallow gas accumulation and migration in the western Irish Sea. In: The Petroleum Geology of Ireland's Offshore Basins (Eds: Croker, P. F., Shannon, P. M.), Geological Society, London, Special Publication, 93, 41-58.

Croker, P. F. (1995): The Clare Basin – a geological and geophysical outline. In: The Petroleum Geology of Ireland's Offshore Basins (Eds: Croker, P. F., Shannon, P. M.), Geological Society, London, Special Publication, 93, 327-339.

Croker, P. F., Power, K. T. (1996): Revising the solid geology map of the western Irish Sea – evidence from shallow gas, seismic, bathymetry, gravity and high-resolution aeromagnetic data (Annual Irish Geological Research Meeting, U.C.D., February 1996).

Corfield, S., Croker, P. F., Footitt, R., Murphy, N., Parker, S. (1996): The petroleum geology of the Rockall Trough, Irish sector (PESGB London Evening Lecture Meeting, November 1996).

Forthcoming publications:

Croker, P. F. (1997): Chapter 13: Limits based on foot of slope and sediment thickness. In: IOC-IHO Book on Continental Shelf Definition entitled "Sovereign Limits Beneath The Ocean: the scientific and technological aspects of the definition of the continental shelf under the United Nations Convention on the Law of the Sea."

DEBONO, Godwin

(Malta)

[Original: English]

Date of birth: 13 January 1950

Nationality: Maltese

Marital status: Married with 2 children

Languages: English, Italian and French

Academic qualifications:

B.Sc. in Physics and Chemistry - Royal University of Malta (1971)

M.Sc. in Geophysics - University of London (1973)

DIC - Imperial College of Science and Technology, London (1973)

Ph.D. in Geophysics - University of London (1977)

Continued education:

Attended several oil industry courses in geology and geophysics in the United Kingdom, U.S.A. and Holland.

Actively participated in several seminars and conferences on offshore petroleum exploration.

Positions:

1993 Director - Department for Oil Exploration of the Malta Government: responsible for implementing the provisions of the Petroleum Production Act (1958) and the Continental Shelf Act (1966), including the surveillance of the continental shelf; reports directly to the Prime Minister.

1990 Chairman - Oil Committee of the Malta Government: responsible for formulating and executing oil exploration policies on Malta's continental shelf, negotiating contracts with oil companies and making recommendations to the Government.

1980 Geophysicist with Malta Government: responsible for planning and supervising seismic surveys on Malta's continental shelf; seismic interpretation and prospect generation.

1978 Research Geophysicist - Royal Dutch Shell, The Hague: responsible for development of geophysical processing methods.

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- 1977 Geophysicist - Shell UK: responsible for reprocessing of geophysical data from the British sector of the North Sea.
- 1973 Trainee Geophysicist - Canadian Superior Oil Company, Alberta, Canada.

Boards and Commissions:

Member of Maritime Jurisdiction Commission of the Malta Government; Responsible for providing the Commission with technical advice on Malta's continental shelf including the delineation of maritime boundaries and the preparation of hydrographic maps; participate in bilateral meetings with neighbouring States on the delimitation of the continental shelf.

Supervise M.Sc. and Ph.D. geophysics students at the University of Malta; member of Board of Examiners.

Publications:

Mesozoic Structuring and Volcanics along the Pelagian-Ionian Boundary - A prelude to foundering of the Ionian Basin, Geological development of the Sicilian-Tunisian Platform, UNESCO reports in marine science 58, 1993.

Mediterranean Sea potential seen in area south of Malta, Oil and Gas Journal, 5 July 1993.

The Hydrocarbon Geology of southern offshore Malta and surrounding regions, Journal of Petroleum Geology, vol. 19(2), April 1996.

The Ragusa Basin in offshore Malta - an untapped province, paper for publication in Oil and Gas Journal.

FRANCIS, Noel Newton St. Claver

(Jamaica)

[Original: English]

Date of birth: 27 August 1950

Citizenship: Jamaican

Marital status: Married

Sex: Male

Education

1987	M.B.A. (Master of Business Administration) Nova University, U.S.A.
1987	Certificate in Maritime Boundary Delimitation University of Toronto
1983	Canadian Hydrographic Service (Survey II Course)
1978	Post Graduate Diploma (Surveying) University College London
1975	BSc (Natural Sciences) University of the West Indies

Professional qualification

1987	C.L.S. (Commissioned Land Surveyor)
1983	A.R.I.C.S. (Associate of Royal Institute of Chartered Surveyors)

Experience

Present	Deputy Director of Surveys Survey Department, Jamaica
1996	Member of the Jamaican Delegation on Maritime Boundary Delimitation Negotiations with Nicaragua
1995-1996	Member of the Jamaican Delegation on Maritime Boundary Delimitation Negotiations with Britain in respect of the Cayman Islands

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1995	Member of the Jamaican Delegation on Maritime Boundary Delimitation Negotiations with Cuba
1992-1995	Member of the Jamaican Delegation on Maritime Boundary Delimitation Negotiations with Colombia
1990-present	Member of the Inter-Ministerial Committee on Maritime Matters
1985	Assistant Direction of Surveys with responsibility for Hydrography
1982-1985	Surveyor in charge of Extension of Geodetic Survey Network around Jamaica
1982	Surveyor in charge of Field Surveys
1980-1982	Various Harbour Survey Projects along with a Survey of the Rosalind Banks

International meetings and conferences

1996	Meetings of the International Seabed Authority, Kingston, Jamaica
1996	Conference on the Caribbean Sea/Gulf of Mexico, Curaçao
1992-1995	Preparatory Commission for the International Seabed Authority, Kingston, Jamaica
1987	The Canadian Hydrographic Conference, Canada
1986	Meeting on the Status of Regional Hydrography Port of Spain, Trinidad
1981	International Federation of Surveyors Conference, Canada
1981	The Canadian Hydrographic Conference, Canada

Papers written

1995	"Siltation Pattern in Kingston Harbour" - A Technical Study for the Port Authority of Jamaica
1987	"The Status of Hydrographic Surveying in Jamaica" - Presented at the 1987 Canadian Hydrographic Surveying Conference

HAMURO, Kazuchika

(Japan)

[Original: English]

Date of birth: 15 April 1949

Place of birth: Kumamoto, Japan

Age: 47

Nationality: Japanese

Marital status: Married

Sex: Male

Education

1973 B.A. (Chemistry), International Christian University, Japan

1975 M.Sc. (Geology), University of Tokyo, Japan

1979 D.Sc. (Geology), University of Tokyo, Japan

1983-1985 Visiting Scientist, Woods Hole Oceanographic Institution, U.S.A.

Professional experience

1980 Joined the Ministry of Foreign Affairs

1980-1983 Ocean Division, Ministry of Foreign Affairs

1983-1985 Vice-Consul, Consulate-General of Japan in Boston

1985-1987 Consul, Consulate-General of Japan in Boston

1987-1989 Ocean Division, Ministry of Foreign Affairs

1989-1992 Assistant Director, Ocean Division, Ministry of Foreign Affairs

1992-1994 Deputy Director, Ocean Division, Ministry of Foreign Affairs

1994-present First Secretary, Delegation of Japan to the Conference on Disarmament (Geneva)

International meetings and conferences attended

UNCLOS

1980-1982 The Third United Nations Conference on the Law of the Sea

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- 1988-1992 Preparatory Commission for the International Seabed Authority and the International Tribunal for the Law of the Sea
- December 1991 SG Informal Consultation for part XI of the UNCLOS
- 1993 Meeting of the Group of Technical Experts on the Definition of the Continental Shelf
- 1995 Meeting of the Group of Experts on preparations for the establishment of the Commission on the Limits of the Continental Shelf

Antarctica

- 1988 11th Session of the Special Antarctic Treaty Consultative Meeting on Antarctic Mineral Resources

Disarmament

- 1994-present Conference on Disarmament
- 1995 Group of Governmental Experts to prepare the Review Conference of States Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to Have Indiscriminate Effects (fourth session)
- 1995 1995 Review and Extension Conference of the Parties to the Treaty on Non-Proliferation of Nuclear Weapons
- 1996 United Nations Disarmament Commission
- 1996 Ad Hoc Group of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (fifth session)

Major research papers

- Fukuyama, H. and K. Hamuro, 1977, Melting experiment of abyssal tholeiite at 1 atm. under controlling f_{O_2} , Bulletin Volcanological Society of Japan II, 22, 112 (in Japanese).
- Aramaki, S. and K. Hamuro, 1977, Geology of the Higashi-Izu monogenetic volcano group, Bulletin of the Earthquake Research Institute, University of Tokyo, 52, 235-278 (in Japanese).
- Hamuro, K., 1978, Geology of Omuroyama volcano group, The Journal of the Geological Society of Japan, 84, 433-444 (in Japanese).

Hamuro, K., S. Aramaki, H. Kagami, and K. Fujioka, 1980, The Higashi-Izu-oki submarine volcanoes, Part 1, Bulletin of the Earthquake Research Institute, University of Tokyo, 55, 159-297 (in Japanese).

Hirano, M., K. Hamuro and N. Onuma, 1982, Sr/Ca-Ba/Ca systematics in Higashi-Izu monogenetic volcano group, Izu Peninsula, Japan, Geochemical Journal, 16, 311-320.

Hamuro, K., S. Aramaki, K. Fujioka, T. Ishii, T. Tanaka, and K. Uto, 1983, The Higashi-Izu-oki submarine volcanoes, Part 2, and the submarine volcanoes near the Izu Shoto Islands, Bulletin of the Earthquake Research Institute, University of Tokyo, 58, 527-557 (in Japanese).

Hamuro, K., 1985, Petrology of the Higashi-Izu monogenetic volcano group, Bulletin of the Earthquake Research Institute, University of Tokyo, 60, 335-400.

Thompson, G., W. B. Bryan, R. Ballard, K. Hamuro, and W. G. Melson, 1985, Axial processes along a segment of the East Pacific Rise, 10°-12° N, Nature, 318, 429-433.

HINZ, Karl H. F.

(Germany)

[Original: English]

Date of birth: 12.04.1934
Place of birth: Klebow, Germany
Nationality: German
Sex: Male
Marital status: Married

EDUCATION

1953-1958 Study of geology at the Humboldt University, Berlin, Germany -
DIPLOM-Geologe degree (M.Sc. equivalent).
1962-1964 Advanced study of geophysics and geology at the Bergakademie
Clausthal, Germany - Dr. rer. nat. degree (Ph.D. equivalent).
Theme of the dissertation: "Geology of the southern North Sea
from seismic reflection studies".

PROFESSIONAL CAREER AND EXPERIENCE

1958-1959 Exploration geologist at VEB Erdöl & Erdgas Company, Gommern,
Germany.
1959-1960 Research scientist at the Geological Survey of Lower Saxony,
Germany.
1961-1965 Marine Research scientist at the German Geological Survey
(BfB), Germany.
1967-1974 Senior Research Geophysicist in the Division of Geophysics at
the Federal Institute for Geosciences and Natural Resources
(BGR), Hannover, Germany, with the following assignments and
responsibilities:

- Scientific and technical preparation of marine cruises and
their carrying out in the Indian Ocean, Arabian Sea,
Mediterranean Sea, central and northern Atlantic, Yellow
Sea.
- Scientific interpretation of the acquired data.

1975-1985 Head of the Sub-Division "Exploration Geophysics" at the
Federal Institute for Geosciences and Natural Resources (BGR),
with the following assignments and responsibilities:

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- Coordination of BGR's geophysical exploration programmes on- and offshore.
- Geoscientific advice to German Ministries and to National and International Organizations (e.g. IOC, CCOP, UN, ODP).
- Planning, coordination and carrying out of marine research cruises for a more realistic assessment of the hydrocarbon potential of deep-water areas worldwide.
- Planning and development of resource assessment methods and especially marine geophysical tools.
- Representing the BGR in various national and international programmes and organizations.

1985 Appointment to Director and Professor at the BGR, Hannover, Germany.

1986-1992 Head of the Sub-Division "Marine Geophysics and Polar Research" with similar assignments and responsibilities as above.

Since 1992 Head of the Division "Geological and Geophysical Research" at the BGR, Hannover, Germany.

During my more than 30 years' research work in the field of marine geosciences including geodynamics, plate tectonics, resources, marine environment and methodical and technical development, I participated in 48 marine expeditions (1,910 days aboard research vessels) worldwide, on 34 of them as chief scientist.

MISCELLANEOUS INTERNATIONAL SCIENTIFIC AND ADVISORY FUNCTIONS

Since 1968 Member of several Advisory Panels and Working Groups of the International Deep Sea Drilling Project (DSDP) and the International Ocean Drilling Program (ODP). At present member of the ODP-Site Survey Panel.

Since 1973 Adviser of the Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas (CCOP).

1981 Co-Chief Scientist of the DSDP drilling Leg 79 off Morocco with GLOMAR CHALLENGER.

1987-1990 Member of the Scientific Committee of International Geological Correlation Programme (IGCP).

Since 1990 Member of the Project Team "The Ocean-Continent Lithosphere Boundary" of the International Lithosphere Program (ILP).

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|------------|---|
| 1987-1994 | Member of the Editorial Board of the Journal "Marine Geophysical Researches". |
| Since 1984 | Member of the Editorial Board of the Journal "Marine and Petroleum Geology". |
| 1995 | Member of the Group of Experts convened in September 1993 by the United Nations Secretariat in order to prepare for the Establishment of the Commission on the Limits of the Shelf. |

AFFILIATION

European Association of Exploration Geophysicists

American Geophysical Union

Geologische Vereinigung

Deutsche Gesellschaft für Polarforschung

Deutsche Geophysikalische Gesellschaft

Deutsche Geologische Gesellschaft

LIST OF PUBLICATIONS

by Karl Hinz

1. Hinz (1959): Zum Abhängigkeitsverhältnis zwischen Geochemie und Nutzporosität in der Karbonatfolge des Zechstein 2 im Westteil der Struktur Mulkwitz, Niederlausitz Ztschr. f. Angew. Geologie, Bd. 5, H. 10.
2. Hinz, Closs, Bungenstock (1963): A Geophysical Survey of the Southern Part of the North Sea. World Petroleum Cong., Section I, paper 18, PD4, Frankfurt 1963.
3. Hinz, Bungenstock (1966): Seismische Untersuchungen im nördlichen Teil des Arabischen Meeres. Erdöl u. Kohle; 19 Jhg., Nr. 4.
4. Hinz (1968): A Contribution of the Geology of the North Sea according to Geophysical Investigations by the Geological Survey of the German Federal Republic in The Geology of Shelf Seas, Edinburg. London 1968.
5. Hinz, Plaumann, Stein (1966): Geophysikalische Untersuchungen im Raum des Ringkjöbing-Fünen-Hochs. ESC, Kopenhagen 1966.
6. Bungenstock, Closs, Hinz (1969): Ergebnisse seismischer Untersuchungen im nördlichen Arabischen Meer, ein Beitrag zur Internationalen Indischen Ozean Expedition. Meteor-Forschungsergebnisse, C, H.2, Stuttgart.
7. Hinz (1969): The Great Meteor Seamount. Meteor-Forschungsergebnisse, C, H.2, Stuttgart.

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8. Hinz (1970): Neuere geophysikalische Ergebnisse aus dem Bereich des äußeren Schelfs und Kontinentalabfalls. Erdöl und Kohle, 23. Jhg., Nr. 2.
9. Hinz, Richter, Sieber (1972): Reflexionsseismische Untersuchungen im Zürichsee. Eclogae geol. Helv., Vol. 63/2, Basel.
10. Plaumann, Hinz, Roeser (1970): Gegenwärtige Möglichkeiten geophysikalischer Lagerstättenprospektion in Meeresgebieten. Erzmetall, Bd. 23, H.1.
11. Hinz (1970): Seismic Reflection Measurements with a Pneumatic Sound Source in the Ria de Arosa (NW Spain). Leidse Geolog. Mededelingen, Vol. 37, Leiden 1970.
12. Alinat, Hinz, Leenhardt (1970): Quelques Profils en Sondage Sismique Continue en Méditerranée Occidentale. Revue de l'Institut Français du Pétrole, Paris 1970.
13. Bungenstock, Closs, Deppermann, Harjes, Hinz, Stein (1971): Results with Seismic Developments in Oceanographic Research Proceedings of the Eighth World Petroleum Congress, London 1971.
14. Hinz, Kögler, Richter, Seibold (1971): Reflexionsseismische Untersuchungen mit einer pneumatischen Schallquelle und einem Sedimentecholot in der westlichen Ostsee. Meyniana, 21, Keil 1971.
15. Roeser, Hinz, Plaumann (1971): Continental margin structure in the Canaries. In: The Geology of the East Atlantic Continental Margin, No. 70/16, Cambridge 1971.
16. Weigel, Hinz (1971): Seismic Measurements in the Ionian Sea and on the Malta Shelf. Observatoire Royal de Belgique, Serie A, No. 13, Luxembourg, 1971.
17. Matter, Süssstrunk, Hinz, Sturm (1971): Ergebnisse reflexionsseismischer Untersuchungen im Thunersee. Eclogae geol. Helv., Vol. 64/3, Basel 1971.
18. Hinz, Moe (1971): Crustal Structure in the Norwegian Sea. Nature Physical Science, Vol. 232, No. 35, London 1971.
19. Hinz (1972): Zum Diapirismus im westlichen Mittelmeer. Geolog. Jahrb. 90, Hannover 1972.
20. Hinz (1972): Crustal Structure of the Balearic Sea. Tectonophysics, 20, Amsterdam 1973.
21. Closs, Hinz, Maucher (1972): Mittelmeerfahrten 1969 (Nr. 17) und 1971 (Nr. 22) des Forschungsschiffes "Meteor". Meteor-Forschungsergebnisse, Reihe A, No. 10, Stuttgart 1972.
22. Hinz (1972): Der Krustenaufbau des Norwegischen Kontinentalrandes (Vøring Plateau) und der Norwegischen Tiefsee zwischen 660 und 680N nach

- seismischen Untersuchungen. Meteor-Forschungsergebnisse, Reihe C, No. 10, Stuttgart 1972.
23. Hinz (1972): Results of Seismic Refraction Investigations (Project ANNA) in the Western Mediterranean Sea, South and North of the Island Mallorca. Bull. Centre Rech. PAU-SNPA, 1972.
 24. Hinz, Seibold, Wissmann (1974): Continental slope anticline and unconformities of West Africa. Meteor-Forschungsergebnisse, Reihe C, No. 17, Stuttgart 1974.
 25. Sigl, Hinz, Garde (1973): "Hummocky and rolling landscape" in the Ionian Sea - a contribution to the "cobblestone" problem. Meteor-Forschungsergebnisse, Reihe C, No. 14, Stuttgart 1973.
 26. Hinz, Schlüter (1973): Ergebnisse reflexionsseismischer Messungen der VALDIVIA "Manganknollenfahrt I" im äquatorialen Pazifik Forschungsbericht BMFT-FB 73-01, München 1973.
 27. Hinz (1973): A Low Velocity Layer in the Upper Crust of the Ionian Sea. Rapp. Comm. int. Mer. Medit., 21, 11, 1973.
 28. Seibold, Hinz, Wissmann (1973): Aussichten auf Kohlenwasserstoffe im tiefen Wasser nach Meteor-Ergebnissen. Paper 1073-01-09, Inter-Ocean, Düsseldorf 1973.
 29. Hinz (1974): Results of seismic refraction and seismic reflection measurements in the Ionian Sea. Geol. Jhb., E2, Hannover 1974.
 30. Seibold, Hinz (1974): Continental slope construction and destruction, West Africa. In: The Geology of Continental Margins - New York, Heidelberg, Berlin 1974.
 31. Hinz (1975): Results of Geophysical Surveys in the Area of the Aegir Ridge, the Iceland Plateau and the Kolbeinsey Ridge. Norges geologiske undersøkelse, 316, Oslo 1975.
 32. Hinz (1975): Erdölexploration in tieferem Wasser - Geologische Möglichkeiten - Erdöl u. Kohle, H.4, 1975.
 33. Hinz, Weber (1975): Zum geologischen Aufbau des Norwegischen Kontinentalrandes und der Barents-See nach reflexionsseismischen Messungen. Compendium 75/76, Ergänzungsband Ztschr. Erdöl und Kohle, Erdgas, Petrochemie: 3-29.
 34. Hinz, v. Stackelberg (1975): Geophysikalisch-geologische Untersuchungen mit M. S. VALDIVIA vor Westafrika. Nachrichten Deutsche Geologische Gesellschaft, 13, 1975.
 35. Jongsma, Wissmann, Hinz, Garde (1977): The Southern Aegean Sea: An extensional basin without spreading? Meteor-Forsch. Ergebnisse, Reihe C, No. 27, 3-30, 1977.

/...

36. Seibold, Hinz (1976): German Cruises to the Continental Margin of North West Africa in 1975: General reports and preliminary results from "VALDIVIA" 10 and "METEOR" 39. Meteor-Forsch. Ergebnisse, Reihe C, No. 25, 47-80, 1976.
37. Hinz, Makris, Weigel, Wissmann (1977): Seismic studies in the Cretan Sea. - Synoptic considerations and their geotectonic implications. Meteor-Forsch. Ergebnisse, Reihe C, No. 25, 44-45, 1977.
38. Hinz, Schlüter (1978): The geological structure of the Western Barents Sea. Marine Geology, 26, 199-230.
39. Weigel, Goldflam, Hinz (1978): The crustal structure of the Conception Bank. Marine Geophysical Researches 3, 381-392.
40. Hinz (1978): Geophysical studies in Antarctic water with the "M.S. Explora". Meerestechnik 9, Nr. 3, 83-87.
41. Hinz, Beiersdorf, Exon, Roeser, Stagg, von Stackelberg (1978): Geoscientific investigations from the Scott Plateau off Northwest Australia to the Java Trench. BMR Journal of Australian Geology and Geophysics, 3, 319-340.
42. Hinz, Schlüter, Grant, Srivastava, Umpleby, Woodside: Geophysical Transects of the Labrador Sea: Labrador to Southwest Greenland. Tectonophysics, 59, 151-183.
43. Hinz, Schlüter (1978): Der Nordatlantik - Ergebnisse geophysikalischer Untersuchungen der Bundesanstalt für Geowissenschaften und Rohstoffe an nordatlantischen Kontinentalrändern. Erdoel-Erdgas-Ztschr., 94 Jhg., 271-280.
44. Hinz (1979): Seismic sequences of Cape Bojador, Northwest Africa. Initial Reports of the Deep Sea Drilling Project, Leg. 47.
45. Schlüter, Hinz: The continental margin of West Spitsbergen; Polar Forschung, 48 (1/2): 151-169, 1978.
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109. K. Hinz: Greenland: East Greenland Continental Margin. S. 335-339.
110. H. H. Lohmann, J. Hoffmann-Rothe & K. Hinz: Argentina, S. 549-575.
111. H.-U. Hark & K. Hinz: Uruguay, S. 577-581.
112. K. Hinz: Solomon Islands, SW Pacific, S. 651-653.
113. K. Hinz: Vanuatu, SW Pacific, S. 655-657.
114. K. Hinz: Fiji, SW Pacific, S. 659-661.
115. K. Hinz: Tonga, SW Pacific, S. 663-665.
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Education

Ph.D. in (Marine) Geography, University of Hawaii at Manoa, May 1984.
M.En. in Environmental Science, Miami University, Ohio, June 1976.
B.E. (Hons) in Mechanical Engineering, University of Newcastle, Australia,
March 1973.
Sijil Pelajaran Malaysia (SPM) (1966), and Higher School Certificate (HSC)
(1968), Sekolah (M) Alam Shah, Kuala Lumpur.

Current position

Managing Director, Alam Sekitar Malaysia Sdn. Bhd. (since 1 October 1996).

Other current position(s)

Adjunct Professor, Faculty of Science and Environmental Studies, Universiti
Pertanian, Malaysia.
Member of Board of Directors, Maritime Institute of Malaysia (MIMA).
Chairman, IRPA Panel on the Environment.
Chairman, National Committee on Environmental Standards (ISO-14000).

Positions previously held

Managing Director, Guthrie Industries Malaysia, Sdn. Bhd. (1 April-
30 September 1996).
Senior Controller (Processing and Engineering), Kumpulan Guthrie Berhad
(September 1995-30 March 1996).

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Director-General, Department of Environment, Malaysia (16 April 1990-31 August 1995).
Deputy Director-General (Planning and Development), Department of Environment, Malaysia (January 1988-April 1990).
Director (Operations), Department of Environment, Malaysia (May 1985-31 December 1987).
Principal Assistant Director, Economic Planning Unit, Prime Minister's Department, Malaysia (November 1984-May 1985).
Principal Assistant Director, Department of Environment, Malaysia (February 1984-November 1984).
East-West Grantee, Environment and Policy Institute, East-West Center, Honolulu (August 1980-November 1984).
Principal Assistant Director (Water Quality), Division of Environment, Ministry of Science, Technology and the Environment, Malaysia (December 1976-August 1980).
Staff Engineer, U.S. EPA Industrial Environmental Research Laboratory, Cincinnati, Ohio (October 1975-April 1976).
Factories and Machinery Inspector, Department of Factories and Machinery, Malaysia (January 1973-September 1974).
Engineering Trainee, Alcan (Australia), Ltd., N.S.W., Australia (November 1971-February 1972).
Engineering Trainee, John Lysaght (NSW) Ltd., N.S.W., Australia (November 1970-February 1971).
Engineering Trainee, Commonwealth Steel (NSW) Ltd., N.S.W., Australia (November 1969-February 1970).

Other positions previously held

Member of the Natural Resources and Environment Board of Sarawak (1994-1995).
Secretary to the Environmental Quality Council of Malaysia (April 1990-August 1995).
Secretary to the Meeting of State EXCOs for the Environment (MEXCOE) (April 1990-August 1995).
Member of the Atomic Energy Licensing Board (16 April 1990-August 1995).
Chairman and Member of the Revolving Fund Committee for Straits of Malacca (16 April 1990-31 August 1995).
Member of Advisory Committee on Research for Public Works Department, Malaysia (29 August 1990-31 August 1995).
Member of Advisory Board on Graduate Studies in Coastal and Marine Studies, Universiti Sains Malaysia (USM) (March 1991-August 1995).
Member of the Board of Studies, Fakulti Sains, University of Malaya.
Member of the Cabinet Committee for Investment and Infrastructure (11 October 1991-August 1995).
Member of the Federal Heads of Government Meeting (14 October 1991-31 August 1995).
Member of the Special Cabinet Committee on KL International Airport.
Member of the Cabinet Committee on "Highland Towers Tragedy" (13 December 1993).
Member of Maritime Enforcement and Coordination Committee of National Security Council, and National Maritime Council (October 1984-August 1995).
Member of National Committee on Antarctica (1985-1995).
Member of National Panel on Strategic R & D under IRPA (1986-1994).
Member of the Cabinet Committee on Bakun Hydroelectric Project.

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See Attachment I for Other Positions held for the Period, 1977-1991.

Professional Association

Fellow of the Institution of Engineers, Malaysia (FIEM)

Past Secretary-General

Environmental Management and Research Association of Malaysia (ENSEARCH) of
Malaysia (February 1984-April 1990)

Hon. Secretary-General of Business Council for Sustainable Development, Malaysia

Fellow of the Institute of Environment and Development, UKM

Federal/State National Award

Kesatria Mangku Negara (K.M.N.) on June 5, 1985 by the Yang Di Pertuan Agung
(the King), VIII, Sultan Iskandar

Johan Setia Mahkota (J.S.M.) on June 6, 1992 by the Yang Di Pertuan Agong (the
King) IX, Sultan Azlan Shah

Dato' Paduka Mahkota Perlis (D.P.M.P.) on July 21, 1993 by the Raja of Perlis
Tuanku Syed Putra

Other Awards

Federal Scholarship 1969-1972

Federal Scholarship 1974-1976

East-West Center Grant 1980-1984

Publications

Thesis

1. "Prospects for Marine Regionalism in the Straits of Malacca and Singapore",
Ph.D. Dissertation, University of Hawaii (Manoa), May 1984. 272 pp.
2. "Application of Solar Energy Technology for Pollution Control: The Case of
Copper Smelting Industry". M.En. Internship Report, Miami University,
Ohio. June 1976. 268 pp.
3. "Dynamic Characteristics of Souble-Shear Rubber". B.E. (Hons.) Thesis,
University of Newcastle, Nov. 1972.

Government Documents

1. (Draft) Environmental Quality (Sewage and Industrial Effluents)
Regulations, 1978.
2. (Draft) Chapter IX on the Environment of the Fifth Malaysian Plan, 1986-
1990, pp. 279-290.
3. A Handbook of Environmental Impact Assessment Guidelines.

Books

1. "Marine Pollution" in Marine Policy in Southeast Asia.
Eds. George Kent and Mark J. Valencia, Berkeley, California: University of
California, 1985, pp. 267-309 (Co-authored with Mark J. Valencia).

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2. "The Changing Legal Status of the Straits of Malacca and Singapore", in Consensus and Confrontation: United States and Law of the Sea Ed. Jon Van Dyke, Honolulu, HI: Law of the Sea Institute, 1985. pp. 285-311
3. "Prospects for Regional Cooperation in the Straits of Malacca", in Coastal Zone Management in the Straits of Malacca Eds. Peter R. Burbridge, et al.; School for Resource and Environmental Studies, Dalhousie University, NS, 1988. pp. 255-263
4. "Environmental Monitoring and Assessment: The Malaysian Experience", in Environmental Monitoring and Assessment: Tropical Urban Applications Eds. Sham Sani and M. Ahmad Badri. Bangi: Penerbit Universiti Kebangsaan Malaysia, 1988. pp. 184-190.
5. "Kerajaan dan Pengurusan Alam Sekitar" (Government and Environmental Management) in Pembangunan dan Alam Sekitar (Development and the Environment in Malaysia). Eds. Sham Sani and Abdul Samad Hadi, Kuala Lumpur: Dewan Bahasa dan Pustaka, 1990, pp. 392-405.
6. "Harmonization of Technology and the Environment: The Malaysian Experience" in Environment and Development: Ethical and Educational Considerations. Ed. Azizan Haji Baharuddin, Kuala Lumpur: IKD, 1994, pp. 245-261.
7. "Malaysia Country Report" in Environmental and Urban Management in Southeast Asia. Eds. Azan Awang, et al., Johor Bharu: Institute Sultan Iskandar, 1993. pp. 87-109.
8. "Malaysia: Policy, Laws and Responses to Environmental Issues", in Malaysian Development Experience: Changes and Challenges, Kuala Lumpur: National Institute of Public Administration, 1994. pp. 386-401.

Journals

1. "Legal and Institutional Issues in the Management of the Malacca Straits", Natural Resources J. 25 (Jan. 1985), 195-232. (Co-authored with Mark J. Valencia).
2. "Malaysia and Extended Maritime Jurisdiction: The Foreign Policy Issues" in Malaysian J. of Tropical Geography (10 December 1984), 567-87. (Co-authored with Mark J. Valencia).
3. "Management of the Malacca/Singapore Straits: Some Issues, Options and Probable Responses", Akademika (26 Jan. 1985), 93-117. (Co-authored with Mark J. Valencia).
4. "A Review of the Proposed Environmental Impact Assessment Procedure for Malaysia". Asian Environment 11 (Third Quarter 1979); 20-29.

5. "Future inter-relationships between Technology and the Environment" Ensearch 1 (1) 1986, pp. 5-7.
6. "The Quality and Control of River Discharges into Malaysian Coastal Waters", Ensearch (Journal of Environmental Research and Management, Association of Malaysia). 1 (2) 1986. pp. 5-13.
7. "Engineering and the Environment: Towards Sustainable Development", Khidmat.
8. "National Response and Transnational Issues", Marine Pollution (1981), 270-271. (written Mark J. Valencia).
9. "Environmental Impact Assessment Procedure and Requirements". Khidmat, March 1994, pp. 34-36.

Proceedings/Monographs

1. "Straits Talk" in U.S. Naval Institute Proceedings, March 1985, 120-127. (Co-authored with Joseph R. Morgan).
2. "Applicability of Solar Energy Technology for Pollution Control: The Case of the Primary Copper Smelting Industry". In Proceedings 31st Annual Purdue Industrial Waste Conference, Purdue University, May 4-6, 1976. Ann Arbor, MI: Ann Arbor Science, 1977. (Co-authored with A. Dwight Baldwin, Jr.)
3. "Environment and Pollution Control under the Third Malaysian Plan", in Proceedings of the Symposium on Improving the Quality of Life in Malaysia: The Role of Chemistry Eds. M. Mohinder Singh, Merlin Hotel, Kuala Lumpur. March 24-26, 1977. Institute Kimia Malaysia. pp. 31-39.
4. "Proceedings of the System Engineering Seminar on Water Quality", 17-28 July 1978, Kuala Lumpur. (Co-authored with Hasmah Harun).
5. "Managing the Marine Environment: The Case of the Straits of Malacca and Singapore". Proceedings of the Second IOC/WESTPAC Symposium, 2-6 Dec. 1991. pp. 17-27.

Research Reports

1. Comparative Analysis of Marine Pollution in the Straits of Johore. Department of Environment, Kuala Lumpur, September 1984, 26 pp.
2. Analysis of Water Pollution Complaints in Peninsular Malaysia 1978. Kuala Lumpur: Division of Environment, Ministry of Science, Technology and Environment, May 1980.
3. Analysis of Water Pollution Complaints in Peninsular Malaysia 1978. Kuala Lumpur: Division of Environment, Ministry of Science, Technology and Environment, May 1979.

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4. A Study on Occupational Exposure to Inorganic Lead at a Battery Manufacturing Factory, Petaling Jaya, Peninsular Malaysia. Monograph Series in Pollution of Environment by Industries. Kuala Lumpur: Factories and Machinery Department. Nov. 1976. (Co-authored with Wan Kar Chan and Abu Bakar Che' Man).
5. Palm Oil Processing Effluent Treatment: Sedimentation of Raw Palm Oil Processing Effluent. Monograph Series in Pollution of the Environment by Industries. Kuala Lumpur: Factories and Machinery Department, 1974. (Co-authored with Frank Lee).
6. Comparative Analysis of Marine Pollution in the Straits of Johore. Department of Environment, Kuala Lumpur, September 1985, Second Issue, 9 pp., 3 Tables, 11 Figures.

Working Paper Study Series

1. "Development and the Environment in Malaysia: Prospect for Balanced Growth" Working Paper, East-West Environment and Policy Institute, July 1981. 31 pp.
2. "Legal and Institutional Arrangements for Natural Resources Management in Malaysia", Honolulu, HI: East-West Environment and Policy Institute Working Paper, Dec. 1983, iv, 48 pp.
3. "Review of Past and On-going Research and Monitoring Relevant to Oil Pollution and its Control in the East Asian Seas Region", in UNEP Regional Seas Reports and Studies, No. 96, UNEP/ASEAMS Na. 88-5624, 1988, pp. 51-78.

Seminar Papers

1. "Organisation of Occupational Safety and Health". Paper presented at the Occupational Safety and Health Conference, Ministry of Health, TB Centre, Kuala Lumpur, 18-23 March 1974.
2. "Environmental Pollution Control and TMP". Paper presented at the Role of Chemistry in Environment Seminar, Institute Kimia Malaysia, Kuala Lumpur, 21-25 March 1977.
3. "Recovery Against Disposal of Solid Wastes". Paper presented at the Applications of Sciences, Technology Seminar, Ministry of Science, Technology and Environment, Kuala Lumpur, 20-22 June 1977.
4. "The Environment and Development: An Integrated and Not Conflicting Approach to Growth". Paper presented at the Human Responses to the Environment Seminar, The Philippines. American Educational Foundation (PAEF), Manila, 24-29 Oct. 1977.

5. "Environmental Imperatives of Solar Energy Technology Application and Pollution Control".
Paper presented at the International Sun Day Seminar, Environmental Protection Society of Malaysia, Kuala Lumpur, 3 May 1978.
6. "Water Quality Management in Malaysia".
Paper presented at the Symposium on the Interdependence of Economic Development and Environmental Quality in Southeast Asia: Malaysia as a Case Study. Miami University, Ohio. 5-7 Aug. 1980. (Co-authored with A. Maheswaran and Godwin Singam.)
7. "The State of the Environment in Malaysia: Public Sector Perspective".
Paper presented at the Environmental Quality Seminar 1985, APDC Kuala Lumpur, 8-11 July 1985.
8. "ASEAN AND THE LAW OF THE SEA: The Case of the Straits Used for International Navigation".
Lecture delivered at the INTAN Foreign Service Course for ASEAN Diplomats, 17 July 1985, Kuala Lumpur.
9. "Tourism and the Environment".
Paper presented at the ITM/MAS/TDC Seminar on the significance of Tourism in the Malaysian Society, P. J. Hilton, Selangor, 8-14 August 1985, 15 pp.
10. "Environmental Problems in Malaysia: An Overview".
Paper presented at the Selangor and Federal Territory Consumers Association Workshop on "Consumer and the Environment for Secondary School Teachers", Rumah Universiti, Universiti Malaya, Kuala Lumpur, 27 October 1985. 35 pp.
11. "The Future Inter-Relationships Between Technology and the Environment".
Paper presented at the MAE/CETDEM Seminar on Technology and Environment, Federal Hotel, Kuala Lumpur, 26-27 October 1985. 12 pp.
12. "Environmental Management of the Malacca Straits: Some Issues, Options, and Probable Responses".
Paper presented at the Symposium on Environmental Research and Coastal Zone Management Problems in the Straits of Malacca, Medan, 11-13 November 1985. EMDI/USU.
13. "Environmental Planning and Implementation in Malaysia: An Overview".
Paper presented at the EPU/OSA/DOE/INTAN/BPSSM Seminar on "Conservation for Development at INTAN, Bukit Kiara, Kuala Lumpur. May 6-7, 1986. 31 pp. 14 Figures. 9 Tables.
14. "Water Quality Monitoring".
Paper presented at the ASEAN-US Training Course on Watershed Research and Management, Serdang, Selangor. June 22-July 5, 1986. 15 pp.
15. (a) "Prospects for Improvement in River Water Quality"
(b) "Water Quality Criteria and Standards for Water Resources Management"
(c) "Water Quality Monitoring, Design and Operation"

Papers presented at the "National IHP Kursus Asas Penilaian Sumber Air" (Water Resource Assessment Course) Universiti Teknologi Malaysia, Kuala Lumpur. June 30-July 5 1986, 3 July 1987.

16. "National Contingency Planning in Malaysia"
Paper presented at the ASCOPE/UN-CCOP/NECOR Seminar on Regional Cooperation on Oil Spill Contingency Planning and Response, 4-8 August 1986, Holiday Inn City Centre, Kuala Lumpur.
17. "Monitoring and Evaluation"
Paper presented at the DOE/CETDEM Workshop on Environmental Impact Assessment, Kuala Lumpur, 8-12 December 1986.
18. "Environmental Monitoring Assessment in Malaysia"
Paper presented at the UKM/MARC-London Workshop on Environmental Monitoring and Assessment, Bangi, Selangor, 24-29 November 1986.
19. "The Status of Coastal Area Planning and Management in Malaysia"
Paper presented at the ASEAN-US AID Training Course on the Principles of Coastal Resource Management, 10-21 August 1987, Johor Bharu.
20. "Environmental Risk Assessment in Malaysia"
Paper presented at the Second United States-Japan International Workshop on Risk Assessment and Risk Management, Suita City, Osaka, Japan, 26-30 October 1987.
21. "Risk Assessment of Hazardous Chemicals in Developing Countries: The Case of Malaysia"
Paper presented at the VII Meeting of the International Association of Impact Assessment (IAIA '88), Griffith University, Brisbane, Australia, 5-9 July 1988.
22. "Protection and Preservation of the Marine Environment"
International Ocean Institute Lecture Series, Kuala Lumpur, 17 November 1988.
23. "Resource Flows in Science and Technology for the Environment"
Paper submitted to the CSC/COMMANSAT/UK ODA Meeting on Institutional Development for Environmental Action, London, 7-10 January 1989.
24. "Concept of Coastal Zone Management"
Paper presented at the PDC Conference-UUM Exhibition on Improving Visual Environment in Penang, 25-26 February 1989.
25. "Energy and the Environment"
World Energy Conference: Malaysian National Committee, Petaling Jaya, 5 May 1990.
26. "The Development of International Marine Environmental Laws and its Implications"
Paper presented at the Maritime Industry Seminar of Malaysia, Petaling Jaya, 21 May 1990.

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27. "Toxic and Hazardous Waste Management in Malaysia"
Paper presented at the CETDEM-DOE Joint Training Course on Toxic and Hazardous Waste, Kuala Lumpur, 10 September 1990.
28. "Engineering and the Environment Towards Sustainable Development"
Paper at the Seminar of Malaysia Consult 90, Subang Jaya, 21 September 1990.
29. "Status of Environmental Compliance in the Palm Oil Industry"
Paper presented at Eleventh Annual Meeting of Palm Oil Process Supervisors PORIM, 2 November 1990.
30. "Policy on Wastewater Treatment and Discharges"
Paper presented at National Seminar on Sewerage and Sewage Treatment, Tropical Inn, Johor Bahru, 12 November 1990.
31. "Global Environmental Issues in Regional Perspectives"
Keynote address at ENVIROWORLD '91 WTC, Singapore, 27 June 1991.
32. "Wastewater Management Policy in Malaysia"
Paper presented at ADB/ICLARM Conference on Waste Management Problems in the Coastal Areas of ASEAN Region, Singapore, 28-30 June 1991.
33. "Balancing Development and the Environment: Issues and Challenges"
Paper presented at the INTAN Economic Lecture Series 4/91, 28 August 1991.
34. "Malaysia: Policy, Laws and Responses to Environmental Issues"
Paper presented at ENVIROASIA '91, World Trade Singapore, 8 November 1991.
35. "Status of Implementation of EIA Procedure and Requirements in Malaysia"
Paper presented at the Sixth Meeting of Federal Heads of Department, Serdang, Selangor, 28 November 1991.
36. "Protection and Preservation of the Marine Environment: The Case of the Straits of Malacca and Singapore"
Paper presented at the IOC/WESTPAC Regional Seminar, Penang, 2-6 December 1991.
37. "Business Opportunities for Environment Engineering"
Paper presented at the Malaysian Technology Development Corporation (MTDC) Seminar series, Kuala Lumpur, 16 June 1994.
38. "Real Estate and the Environment"
Paper presented at the International Real Estate Federation (IREP) Investment Tour of Malaysia, Kuala Lumpur, 13 September 1994.
39. "Environmental Waste Management in Malaysia"
Keynote address at the Faculty of Engineering, Universiti Kebangsaan, Malaysia, Bangi, 28 September 1994.

40. "Haze Episode in Malaysia: Sources and Control"
Paper presented at the Malaysian Asthmatic Society, PWTC, Kuala Lumpur, 15 October 1994.
41. "Environmental Quality and Development"
Paper presented at the Q-Day, MAMPU, Kuala Lumpur, 17 October 1994.
42. "Environment and Development in Malaysia"
Lecture presented at the INTAN Pra-JUSA Training Course, Kuala Lumpur, 28 November 1994.
43. "Development and the Environment: Progress Toward Sustainability"
Keynote Address at the Sabah Science and Technology Week, 9 December 1994.
44. "Unplanned Land Conversion and Its Impact on the Environment"
Paper presented at the Ministry of Land and Cooperative Development, Malacca, 19 December 1994.
45. "Protecting Coastal Zone of Malaysia: Strategies for Pollution Control"
An address at the MIMA Seminar Series, Kuala Lumpur, 22 December 1994.

Appearances on Panel of Experts on the following subject matters:

1. "Energy and the Environment" at TENAGA '85 organized by the Malaysian National Committee of the World Energy Conference (MNC-WEC), 29-30 April 1985, PJ Hilton, Selangor.
2. "Malaysia and the Law of the Sea" at the National Seminar on Malaysian Maritime Resources: Potentials and Opportunities, 25 September 1986, Kuala Lumpur. Organized by ISIS/Ministry of Transport and Ron Nisay and Associates.
3. "Limiting Emissions While Sustaining Economic Growth"
United States EPA and World Resources Institute Workshop on Developing Country Energy Strategies: Implications for the Greenhouse Problem, Washington, D.C., 28-29 April 1988.
4. "Interdisciplinary Natural Resources Development and Management Program", Asian Institute of Technology (AIT), Bangkok, 2-3 June 1988.
5. "Register of Potentially Toxic Chemicals", UNEP-IRPTC Program Review and Evaluation, 1976-1988, Geneva, 21-25 November 1988.
6. "Priority setting for the Seventh Malaysian Plan, 1996-2000: Strategic Sector", Universiti Sains Malaysia, Penang, 7-8 May 1994.
7. "Policy Options for Planning and Management for Sustainable Development" at the 1993 ISIS Environmental Conference on Economics and the Environment, Kuala Lumpur, 2 September 1993.

8. "Energy and the Environment". Paper presented at the Energy Research, Engineering Design, and Commercialisation (REDC) Forum, Langkawi, 26 November 1993.
9. "Business Opportunities for Environment in Malaysia". Luncheon talk given at the Malaysian-Germany Chamber of Commerce and Industry, Pan Pacific Hotel, Kuala Lumpur, 24 August 1993.
10. "Progress in Malaysia Towards Environmentally Sound and Sustainable Development with Emphasis on the Materials and Mineral Resources Industries". Keynote address at the International Conference on Advanced Materials and Minerals (RAMM), Universiti Sains Malaysia, Penang, 3 May 1994.

Appearance on TV

1. "RTM - IKIM Forum on Human Responsibility Towards the Environment", Kuala Lumpur, 16 May 1994 (In the chair: Y. Bhg. Datuk Dr. Syed Othman Alhabshi).

Citation in Book Publication

1. "Richard E. Benedick, Ozone Diplomacy: New Directors in Safeguarding the Planet", Cambridge MA: Harvard University Press, 1991, p. 100: "... trade war by environmental decree ...".

Experience in the Organization of Seminars/Workshops/Meetings

1. DOE/MITRE Corp. System Engineering Seminar on Water Quality, 17-28 July 1978, Kuala Lumpur.
2. DOE Environmental Quality Seminar, APDC, Kuala Lumpur, 8-11 July 1985.
3. EPU/OSA/DOE/INTAN/SPSSM Seminar on Conservation for Development at INTAN, Bukit Kiara, Kuala Lumpur 6-7 May 1986.
4. ASEAN-Canada Regional Workshop on Pollution and Other Ecological Factors in relation to Living Marine Resources, Phuket, 23-26 June 1987.
5. ASEAN USAID Policy Workshop on Coastal Resources Management, Johor Bahru, 25-27 October 1988.
6. ASEAN-Canada Project Steering Committee. Second Meeting, 24-26 February 1988, Kuching; Third Meeting, Kuala Lumpur, 2-4 February 1989. Phase II First Meeting, 24-26 February 1992, Kuala Lumpur.
7. National Seminar on United Nations Conference on Environment and Development (UNCED), 16-19 July 1990, Kuala Lumpur.
8. National Workshop on UNCED, Port Dickson, 11-15 November 1990.

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9. UNESCO/DOE Workshop on Carbon Cycle and Global Climate Change, Kuala Lumpur, 24-26 October 1991.

Official Guest Status

1. Guest of New Zealand Government: Exchange of Views with New Zealand Government Officials and Non-Governmental Organizations on environment-related institutions and facilities, 18-24 November 1991.
2. Guest of Danish Government: Assessment on Aerial Surveillance for Pollution in Europe, 13-18 March 1995.

Training in Advanced Management

1. INTAN Workshop "Meeting the Challenges: Leadership and Leadership Development", by Professor Warren Bennis, Kuala Lumpur, 16 July 1992.

ATTACHMENT I

1991 A Delegate to the Malaysia-Singapore Joint Committee on Environment, Johor Bahru, 5 February 1991.

Leader of the Malaysian Delegation and Vice-Chairman of United Nations ESCAP Meeting of Senior Officials on Environment and Development in Asia and the Pacific, 13-19 February 1991, Bangkok, Thailand.

A Malaysian Delegate to ASEAN Preparatory Meeting for the ASEAN-AUSTRALIA Forum, 8-9 March 1991, Singapore.

A Malaysian Delegate to the 7th ASEAN-Canada Joint Cooperation Committee (JCC), 3-5 April 1991, Ottawa, Canada.

A Malaysian Delegate to the 14th ASEAN-Australia Forum, 22-23 April 1991, Canberra.

Co-Chairman of ASEAN-Australia Forum Workshop on the Environment, 23 April 1991, Canberra.

A Malaysian Delegate to an International Conference on Toward a Sustainable Environmental Future for the Southeast Asian Region, 6-10 May 1991, Yogyakarta, Indonesia.

A Delegate to the Malaysia-Singapore Meeting on UNCED, Langkawi, 16-18 May 1991.

A Malaysian Delegate to the 9th ASEAN-EC Ministerial Meeting, Luxembourg, 30-31 May 1991, and its preparatory meeting, 26-29 May 1991.

A Delegate to the Environment Congress for Asia and the Pacific, Tokyo, 4-5 July 1991.

The Representative of ASEAN/ASOEN at the United Nations Interagency Committee on Environment and Development, Bangkok, 17 July 1991.

A Delegate to the Second Meeting of ASEAN Senior Officials on the Environment (ASOEN), Singapore, 17-19 July 1991.

A Delegate to the 24th ASEAN Ministerial Meeting and Post Ministerial Conference, Kuala Lumpur, 19-24 July 1991.

A Delegate to the Second Meeting of Malaysia-Singapore Joint Committee on the Environment, 24-25 July 1991, Singapore.

1990 A Delegate to the First Meeting of Malaysia-Singapore Joint Committee on the Environment, 5 December 1990, Johor Bahru.

A Delegate to Experts' Review Panel to update the UNEP List of Environmentally Harmful Chemical Substances, Processes and Phenomena of Global Significance, 26-29 November 1990, Geneva, Switzerland.

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A Malaysian Delegate to Ministerial Level Conference on Environment and Development in Asia and the Pacific, 10-16 October 1990, Bangkok, Thailand, and Vice-Chairman of SOED Meeting.

Leader of ASEAN Delegation to Japan-ASEAN Environmental Experts' Meeting, Tokyo, 5-8 September 1990.

Leader of Malaysian Delegation to the 4th Plenary Session of Intergovernmental Panel on Climate Change (IPCC), 27-30 August, Sundsvall, Sweden.

A Delegate to the 29th ASEAN-Ministerial Meeting, Jakarta, 24 July 1990.

Delegate to the Senior Officials Meeting and to the Third ASEAN Ministerial Meeting on the Environment, Kuala Lumpur, 16-19 June 1990.

Chairman of the 13th Meeting of ASEAN Experts Group on the Environment, Kuala Lumpur, 13-15 June 1990.

The Malaysian Delegate at the WMO/UNEP/IPCC Meeting of Response Strategies Working Group on Legal Measures, Geneva, 10-11 April 1990.

The Malaysian Representative at the UNEP/IRPTC Informal Consultative Meeting on the Implementation of the London Guidelines, Geneva, 2-3 April 1990.

Leader of Malaysian Officials at the ASEAN-Australia Project Management Committee Meeting, Singapore, 14-15 March 1990.

A Malaysian Delegate on the ASEAN-USAID Policy Workshop on Coastal Zone Management, Manila, 2-3 March 1990.

Leader of Malaysian Officials at the UNEP Meeting on Legal and Technical Experts to Review a Proposed Legal Framework for the East-Asian Seas Region Action Plan, Bangkok, 12-16 February 1990.

1989 Leader of Malaysian Officials in the ASEAN-Australia Project Management Committee on Coastal Living Resources, Sixth Meeting, Townsville, 16-18 August 1988; 7th Meeting, Manila, 23-24 January 1989.

A Delegate to the 14th Meeting of ASEAN Committee on Science and Technology (COST), 22-24 April 1986, Putra World Trade Center (PWTC), Kuala Lumpur; 19th Meeting, Brunei Darussalam, 28-30 September 1988; 20th Meeting, Manila, 26-28 January 1989.

An Expert to Review UNEP Action Plan in the East-Asian Seas, Bangkok, 8-12 December 1986; 4-6 December 1988, Manila, 7-11 January 1989.

1988 A Leader of Malaysian Officials and Chairman of the ASEAN-Canada Project Steering Committee on the Management and Development of Living Marine Resources; Second Meeting, Kuching, 24-26 February 1987; Third Meeting, Kuala Lumpur, 2-4 February 1988.

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1987 The Malaysian Delegate to the Conference of Plenipotentiaries on the Protocol on Chlorofluorocarbons (CFCs) to the Vienna Convention for the Protection of the Ozone Layer, Montreal, 14-16 September 1987 and its preparatory meetings, 8-11 September 1987.

A Delegate to the Seventh Meeting of Revolving Fund Committee, 16-17 February 1987, Kota Kinabalu, Sabah.

A Delegate to the Third Meeting of ASEAN-Australia Project Management Committee on Tides and Tidal Phenomena, Singapore, 20-22 January 1987.

1986 Head of Malaysian Delegation to the RFC Technical Meeting, Fraser's Hill, 18-19 December 1986.

1985 An Alternate Interim Coordinator of ASEAN Experts Group on Environment at the ESCAP Committee on Industry Technology, Human Settlements and the Environment, 9th Session, Bangkok, 10-16 September, 1985.

1984 The Malaysian Delegate to the IMO International Conference on Liability and Compensation for Damage in Connection with the Carriage of Certain Substances at Sea, London, 20 April-25 May 1984.

A Delegate to the Inter-Governmental Meeting of the Coordinating Body for the Southeast Asian Seas Action Plan, Kuala Lumpur, 4-6 April 1994.

1980 A Delegate to the UNEP Meeting of Government-Nominated Experts to Review the Draft Action Plan for the Protection and Development of Coastal Areas and Marine Environment in the East-Asian Region, Baguio City, June 1980.

A Member of Malaysian National Delegation to the 21st Session of the Asian-African Legal Consultative Committee (AALCC), Jakarta, April 25-May 1 1980.

1979 A Member of Malaysian Official Group to the Second and Seventh Meetings of ASEAN Experts on the Environment, Penang, 1979; Kuala Lumpur, 1984.

A Member of Malaysian Delegation to the Third United Nations Conference on the Law of the Sea at its 8th and 9th Sessions in Geneva and New York, 1978-1979.

A Leader of Malaysian Official Group to the First Meeting of ASEAN Working Group on Marine Science, Jakarta, 1979.

1977 A Member of Malaysian Delegation at the Second Session of the Intergovernmental Council for International Hydrological Program (IHP) of UNESCO, Paris, June 20-28 1977.

JAÉN SUÁREZ, Omar

(Panama)

[Original: Spanish]

Date and place of birth: Antón, Coclé province, Republic of Panama,
20 October 1942

Nationality: Panamanian

Address: Apartado 55-0439 Paitilla, Panama City, Republic of Panama.
Telephone 263-5419

OVERVIEW

Dr. Omar Jaén Suárez is an expert in the social sciences, particularly geography, history and population studies, and has extensive experience in the university, diplomatic and technical fields, in the service of Panama for over 25 years. He is the only Panamanian and one of the few Latin Americans to have earned the highest degree granted by French universities, the Docteur d'Etat ès Lettres et Sciences Humaines (Doctor of State in the Arts and the Social Sciences), specializing in geography, at the University of Paris I, Panthéon-Sorbonne, in 1977. He has published numerous articles, essays and monographs and various books on the history and geography of Panama which are considered to be authoritative on the subject. Most of his research relates to rural geography, demographic geography and the human environment, emphasizing the aspects of human geography, historic geography, geohistory and thematic cartography. He has also worked in the national and regional planning sector and especially in urban, rural and interoceanic communications studies. Alongside his activities in scientific research, Dr. Jaén Suárez has also had varied experience in the field of diplomacy and, in particular, technical diplomacy, through his participation in major international negotiations: multilateral, within the framework of the United Nations, and bilateral, between Panama and Colombia, Panama and Costa Rica, Panama and the United States of America, and Panama and Japan, particularly with regard to the law of the sea and the Panama Canal. He was Vice-Minister for Foreign Affairs of Panama and Acting Minister for Foreign Affairs on many occasions from 1994 to 1996. He was co-founder and general coordinator of the Library of Panamanian Culture, a project for the publication of 16 volumes on Panama. His work has won national and international recognition; he was elected as a regular member of the Panamanian Academy of History and corresponding member of the Colombian Academy of History, the Panamanian Institute of Historical Research and the Panamanian Institute of Art, and has been decorated by the Government of France, in his personal capacity, with the Legion of Honour (Officer), the Order of Merit (Commander) and the Palmes Académiques (Commander), by the Government of the United Mexican States with the Order of the Aztec Eagle (Grand Cross), and by the Government of Venezuela with the Francisco de Miranda Order (Grand Cross). He has also received special invitations from the Governments of the United States of America and Japan to visit those countries, particularly their research institutions, universities and cultural centres, and give lectures about Panama. He currently works privately as a consultant and partner of

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Panamanian private firms to which he provides professional advice, carries out location and feasibility studies for national and foreign firms, and administers development projects. He also engages in scientific research, in his personal capacity, on historical, social, environmental and geographical subjects. He is a member of the Pen Club.

EDUCATION AND DEGREES

Docteur d'Etat ès Lettres et Sciences Humaines, mention très honorable (Doctor of State in the Arts and the Social Sciences, summa cum laude), specializing in geography, University of Paris I, Panthéon-Sorbonne, France, 1977.

Docteur de Troisième Cycle en Géographie, mention très bien (doctor in geography, corresponding to a Ph.D. in the United States of America, summa cum laude), University of Aix-Marseille, France, 1967.

Professor of geography and history, University of Panama, 1964.

Bachelor of Philosophy, the Arts and Education, specializing in geography and history, University of Panama, 1964.

Other studies:

- Seminars for doctorate in geography
- Seminars for doctorate in sociology
University of Aix-Marseille
- Advanced courses in demography
Institute of Demography of the University of Paris
- Research seminars
Institute for Advanced Studies of Latin America, University of Paris
- Aerophotointerpretation courses
National Geographical Institute, France

PROFESSIONAL ACTIVITY

Posts and functions

Vice-Minister for Foreign Affairs of Panama from 1994 to 1996 and Acting Minister for Foreign Affairs on many occasions between those two dates.

Head of the delegation of Panama to the fiftieth session of the United Nations General Assembly in 1995.

Adviser to the President of the Republic of Panama, 1978-1982 and 1984-1990; as such, he also performed the following functions:

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- Founder and coordinator of the Library of Panamanian Culture, 1981-1982.
- Director of the Office for Studies of Alternatives to the Panama Canal, 1982.
- Member of the special subcommittee on sea-level canal studies of the Panama Canal Advisory Committee, 1981-1982.
- Coordinator at the presidential level of the relations between Panama and Japan, 1979-1982 and 1984-1989.
- Ambassador of Panama for special missions, ad honorem, since 1979.
- Adviser in the Ministry of Finance and the Treasury, with responsibilities in the executive office for Panama Canal Treaty Affairs, 1982-1984; as such, he was also a member of the Panamanian delegation to the Preparatory Committee on Studies of Alternatives to the Panama Canal, 1982-1985.
- Adviser in the Ministry of Economic Planning and Policy, 1978; as such, he was a member of the executive secretariat of the National Commission for the Implementation of the Panama Canal Treaty.
- Adviser to the national executive branch in the Ministry of Foreign Affairs, with the rank of ambassador, 1974-1977; as such, he performed the following functions: he was a member of the Panamanian negotiating commission for the formulation of the 1977 Panama Canal Treaty and a negotiator in matters relating to the land, waters and administration of the Canal and a member of the Panamanian Commission on the Land, Waters and Administration of the Panama Canal, 1976-1977.
- Negotiator of the maritime boundary agreements between Panama and Colombia and Panama and Costa Rica, with the rank of ambassador, 1976 and 1977.
- Representative of Panama to the third United Nations Conference on the Law of the Sea, with the rank of ambassador, 1973-1977.
- Technical adviser to the Ministry of Foreign Affairs of Panama, 1972-1974.
- Professor of economic geography at the University of Panama, 1972-1976.
- Director of the Social and Economic Research Centre of the University of Panama, 1971-1972; as such, he also performed the following functions: researcher and founding director of the journal Anales de Ciencias Humanas (Annals of Social Science).
- Chargé d'Affaires a.i. of Panama to the United Nations Educational, Scientific and Cultural Organization (UNESCO), 1971.

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He entered the diplomatic service through a competitive examination and was appointed First Secretary of the Embassy of Panama in France, 1970-1971.

- Planner in the central planning office of Panama. Member of the interdisciplinary commission on nationality studies, 1968.
- Fellow of the Centre for the Study of Mediterranean Societies, University of Aix-Marseilles, France, 1967.
- Resource evaluator, rural registry, Office of Agrarian Reform of Panama, 1964.

International conferences

- Head of the Panamanian delegation at the Mexico-Panama binational commission, Mexico, 1996.
- Delegate of Panama at the fiftieth anniversary session of UNESCO, Paris, 1995.
- Head of the Panamanian delegation at the fiftieth session of the United Nations General Assembly, New York, 1995.
- Representative of Panama at ministerial meetings of the Central American Group, the Association of Caribbean States, the Ibero-American Group and the Rio Group between 1994 and 1996 in Rio de Janeiro, Quito, San Carlos de Bariloche, Guatemala, Managua, San José, San Pedro Sula, New York, Paris and Florence.
- Representative of Panama at the meetings on hemispheric security held in Miami and Williamsburg, 1995.
- Member of the UNESCO meeting on the subject of migration and cultural contributions, Panama, 1981.
- Delegate of Panama, with the rank of ambassador, at the third United Nations Conference on the Law of the Sea, at its first to sixth sessions, held in Caracas, Geneva and New York, 1973-1977. Head of the delegation on one occasion.
- Delegate of Panama at the preparatory conferences of the Latin American Economic System (SELA), Panama, 1975.
- Delegate of Panama at the Conference of the Pan American Institute of Geography and History, Panama, 1973.
- Delegate at the congress on demographic, economic and social history, San José de Costa Rica, 1973.
- Head of the Panamanian delegation at the sixteenth General Assembly of UNESCO, Paris, 1970.

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Scientific meetings and national symposia

- National symposium on the anthropology, archaeology and ethnohistory of Panama, various years.
- Symposium on the botany and natural history of Panama, Panama City, 1980.
- First national meeting on cultural policy, Panama City, 1983.
- Week of the bicentenary of the French revolution, University of Panama. "Science and Revolution", Panama City, 1989.
- "Geography Week", Department of Geography, University of Panama, various years.

Official visits and lectures abroad

Main official visits and lectures delivered abroad:

- Presidential summit meetings of the Rio Group held in Rio de Janeiro, Brazil and Quito, Ecuador, 1994 and 1995.
- Ibero-American presidential summit meeting, held in San Carlos de Bariloche, Argentina, 1995.
- Central American presidential summit meetings held in San José de Costa Rica, Managua and San Pedro Sula in 1995 and 1996.
- Ministry of Foreign Affairs of Brazil, official visit, Brasilia, 1994.
- Ministry of Foreign Affairs of Ecuador, working visit, Quito, 1994 and 1995.
- Ministry of Foreign Affairs of Venezuela, working visit, Caracas, 1994.
- Ministry of Foreign Affairs of Colombia, working visit, Bogota, 1994.
- Ministry of Foreign Affairs and Transportation of Japan, official visit, Tokyo 1995.
- Ministry of Foreign Affairs of Belgium, working visit, Brussels, 1996.
- European Union headquarters, working visit, Brussels, Belgium, 1996.
- Ministry of Foreign Affairs of Italy, working visit, Rome, 1996.
- Ministry of Foreign Affairs of France, working visits, Paris, 1995 and 1996.
- Ministry of Foreign Affairs of Mexico, working visit, Mexico, 1996.

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- University of Paris, lectures at the Institute for Advanced Studies of Latin America: in 1975, "Geography of the Panama isthmus" and in 1979 "Establishment of a pioneer strip on the banks of the Panama Canal".
- Universities of Harvard, Clark, Minnesota, California (Berkeley), Stanford, San Francisco, Texas (Austin) and Florida (Gainesville) in 1976: lectures on "The Panama Canal".
- Headquarters of the Inter-American Development Bank (IDB), Washington, 1979, lectures on "Men and human groups in the construction of the Panama Canal".
- Chamber of commerce and industries of Japan, Tokyo, 1981, lectures on "Geopolitics of the function of the Panama isthmus".
- Panama-Japan Friendship Association, Tokyo, 1986, lecture on "Perspectives of inter-oceanic communication in Panama".
- Visits to the Universities of Tokyo, Sophia and Tsukuba, Japan, 1981.
- Visits to the departments of geography and the centres for Latin American studies of the Universities of Columbia, Harvard, Clark, Minnesota, California, Texas and Florida in the United States of America, in 1976.
- Mission to UNESCO, Paris, in 1982, to promote the project for a Panama Canal museum and study centre.
- Mission to the national scientific research centre of France to establish links with the University of Panama, in 1982.
- Mission to Japan to accompany the President-elect of Panama (Dr. Nicolás Ardito Barletta) in his talks with the Japanese Government in 1984.
- Mission to the United States of America to accompany the President-elect of Panama (Dr. Nicolás Ardito Barletta) in his talks with the United States Government in 1984.

PUBLICATIONS

Books

- "Disparités de développement dans trois régions de la Basse Provence" (Disparities of development in three regions of the Basse Provence), unpublished, Aix-en-Provence, 1967.
- "El hombre y la tierra en Nata de 1700 a 1850" (Man and the land in Nata from 1700 to 1850), University Press, Panama City, 1971. 101 pp.

- "Análisis regional y espacio derivado, regiones y regionalización en Panama" (Regional analysis and derived space, regions and regionalization in Panama), M.R.E., Panama City, 1974. 135 pp.
- "Population et peuplement dans l'isthme de Panama du XVI siècle à 1920" (Population and settlement in the isthmus of Panama from the sixteenth century to 1920), unpublished, Paris, 1977.
- "La población del istmo de Panama del siglo XVI al siglo XX" (The population of the isthmus of Panama from the sixteenth century to the twentieth century). Impresora de la nación, INAC, first edition, Panama City, 1978. Second edition, Panama City, 1979. 603 pp.
- "Análisis regional y canal de Panama" (regional analysis and Panama canal) geographical essays, University Press, Panama City, 1981. 235 pp.
- "Hombres y ecología en Panama" (Men and the environment in Panama), Smithsonian Tropical Research Institute - University Press, Panama City, 1981. 157 pp.
- "Geografía de Panama" (Geography of Panama), introductory study and anthology, volume 1 of the library of Panamanian culture, Presidency of the Republic, National Bank of Panama press, Panama City, 1985. 472 pp.
- "Un estudio de historia rural Panameña, la región de los llanos del Chiru" (A study of rural Panamanian history, region of the Chiru plains), (essay prize in the 1990, Ricardo Miró contest), National Institute of Culture, Impresora de la Nación, Panama City, 1991. 236 pp.

Technical articles and documents

Over 40 technical articles and documents in specialized journals of Europe, the United States of America and Panama on history, geography, geopolitics, diplomatic negotiations, historical relations, feasibility studies, cultural issues and the environment of Panama. He was the main author of the technical document drawn up in collaboration with various authors entitled "National development and the recovery of the Panama Canal Zone", Ministry of Planning and Economic Policy, Panama City, 1978, the basis of all plans for the use of the lands returned under the Panama Canal Treaty. He also had primary responsibility for devising the themes of the studies on the geographical, political, social, economic and environmental situation of Panama and the impact on the Panamanian environment of alternatives to the Panama Canal. Also, as a United Nations consultant and for the Ministry of Planning and Economic Policy, he prepared the draft for the Panamanian position on socio-economic aspects for the United Nations Conference on Environment and Development, 1992. Since 1990 he has prepared technical documents as a consultant to the Chamber of Commerce, Industry and Agriculture of Panama, the Panamanian Association of Business Executives, the Panamanian Institute of Foreign Trade and various national, European, North American and Japanese private firms.

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JURAČIĆ, Mladen

(Croatia)

[Original: English]

Born: 22 June 1953, Rijeka, Croatia

Nationality: Croatian

Marital status: Married, two daughters

Current Position/Address:

Professor of Marine Geology, Department of Geology, Faculty of
Science, University of Zagreb, Kralja Zvonimira 8,
10 000 Zagreb, Croatia

Home: Ljerke Šram 10
10 000 Zagreb, Croatia

Phone/Fax: ++ 385 (1) 41 62 60
W-mail: juracic@olimp.irb.hr

Languages: English, Italian (fluent)
French, German (fair)

Education:

1971	Graduate Secondary School Opatija
1976	B.Sc. Geology, Faculty of Science, University of Zagreb
1979	M.Sc. Oceanography, University of Zagreb
1987	Ph.D. Geology, University of Zagreb

Professional positions:

1995-	Associate Professor of Marine Geology, Environmental geology and Karst geology, Department of Geology, Faculty of Science, University of Zagreb
1990-1995	Assistant Professor, Department of Geology, Faculty of Science, University of Zagreb
1976-1990	Research Assistant, Center for Marine Research, Ruder Bošković Institute, Zagreb (presently as adjunct researcher)

Awards:

1974	University award for the best student
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1975 Rectors awards for student's work Adriatic bottom sediments

Special skills:

1971- Licensed skipper

1972- SCUBA diver

Other teaching:

1987- Lecturing marine geology on Graduate Study in Oceanology, University of Zagreb, Croatia

1987-1988 Visiting professor (professore a contratto) at Università di Venezia, Sezione Geomineralogica, Venice, Italy

International training:

1980 Ecole Normale Supérieure, Laboratoire de Géologie, Paris, France, one month research grant

1984-1985 Università di Venezia, Sezione Geomineralogica, Venice, Italy, research grant

1983-1989 Short-term research and lecture visits (three weeks) to USA (Woods Hole Oceanographic Institution, Massachusetts; US EPA Environmental Laboratory, Gulf Breeze, Florida; Lamont-Doherty Geological Observatory, Palisades, New York; College of Marine Studies, University of Delaware; Graduate School of Oceanography, University of Rhode Island, Narragansett, R.I. and others)

Main research activities:

Marine geology, sedimentation pattern on continental shelf, sedimentation in river mouths, surface characteristics of mineral suspended and sedimented particles, the role of suspended particles in transport and fate of contaminants, marine geological cartography

Professional activities:

Principal investigator (Pollutant receiving capacity of a karstic estuary, JFP EPA 717) 1986-1989. Investigator on number of national and international scientific projects in marine geology, geochemistry and marine pollution research (US EPA, CNR-Italy, UNEP, WHO, EC)

Different applied research (e.g. Environmental impact assessments; Feasibility studies; Applied marine geological cartography; Definition of optimal routes for laying cables on/in the seabed in the Adriatic Sea)

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Member of the organizing committees of national and international conferences (First International Symposium on Small Estuaries, Primošten, Croatia, 1990; Twelfth International Conference, Chemistry of the Mediterranean, Primošten, Croatia, 1990; 12th International Conference, Chemistry of the Mediterranean, Rovinj, Croatia, 1992; Eurocoast International Conference, Littoral '96 (Partnership in Coastal Zone Management), Portsmouth, England, September 1996)

Member of the Editorial Board of the scientific journal Geologia Croatica

Field experience:

- 1976-1993 Number of research cruises in the Adriatic Sea and sediment and suspended matter sampling, on board R/V Vila Velebita, Blos, Junak, Salvatore lo Bianco (CNR Italy), etc.
- 1976- Sediment sampling by SCUBA diving in the inner shelf and sublittoral zone.

Membership Professional Societies:

- 1975- Croatian Geological Society (Secretary 1991-1993)
- 1980- Croatian Natural History Society (Treasurer 1992-1996)
- 1993- Council for the Scientific Research of the Adriatic Sea of the Croatian Academy of Sciences and Arts
- 1994- Eurocoast - Croatia (Vice-President 1994-)
- 1995 National Committee for IGCP (IUGS/UNESCO International Geological Correlation Programme) (Secretary 1995-)
- 1978- International Commission for the Scientific Exploration of the Mediterranean Sea (ICSEM)
- 1983- International Association of Sedimentologists
- 1993- The Association of Geoscientists for International Development

Meetings, Conferences, Congresses:

54 presentations (see attached list, appendix 1)

Publications:

Total of 73 publications, of which 15 published in journals covered in SCI (Science Citation Index). See attached list (appendix 2)

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LAMONT, Iain C.

(New Zealand)

[Original: English]

Head of Nautical Information Division
Hydrographic Office
ROYAL NEW ZEALAND NAVY
Auckland, New Zealand
Tel: +64 9 489 7227
Fax: +64 9 489 5063
Email: noi@hydro.navy.mil.nz

Date of Birth: 16 January 1936

QUALIFICATIONS

1954	Second Mates Navigational Certificate - United Kingdom
1956	First Mates Navigational Certificate - United Kingdom
1970	Member of the Royal Institute of Navigation
1982	Member of the IHO Commission on the Promulgation of Radio Navigational Warnings
1986	Navigational Examiners Warrant
1990	Maritime Boundary Delimitation Diploma - University of Toronto
1993	Member of a United Nations Group of Experts on the Definition of the Continental Shelf
1995	Member of the IHO/IAG Advisory board on Hydrographic and Geodetic Aspects of the Law of the Sea
1995	Member of a United Nations Group of Experts on the Organisation of the Work of the Commission on the Limits of the Continental Shelf

MARITIME BOUNDARY DELIMITATION ACTIVITY

1973-1996	Hydrographic Office, RNZN New Zealand Government Commonwealth Secretariat United Nations and International Hydrographic Organisation Maritime Boundary Delimitation Expert
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NAVIGATIONAL AND HYDROGRAPHIC EXPERIENCE

1982-1996	<u>Nautical Information Officer</u> Assessing hydrographic data, position fixing methods, compiling and editing nautical almanacs, maritime boundary delimitation and expert witness for Crown Fishery Prosecutions. Revision of Hydrographic Sailing Directions. Identifying low water basepoints of the New Zealand Territorial Sea for National Data Base.
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- 1986-1996 Navigational Examiner
Examined Candidates in Navigation and Seamanship.
- 1968-1996 Navigational Tutor
Lectured in position fixing methods, general Navigation and Seamanship.
- 1971-1982 Notices to Mariners Officer
Assessing hydrographic data for amendments to nautical charts and publications. Field work on hydrographic harbour surveys, tidal studies and quality assessment of oceanic depths and doubtful data.
- 1960-1971 Chart Officer
Checking navigational charts.
- 1952-1960 Navigating Officer, Merchant Navy
General Navigational Duties. Rendering of oceanic depths and position fixing of navigational features to hydrographic Offices.

MARITIME BOUNDARY DELIMITATION (MBD) EXPERIENCE

- 1992-1996 Project Officer and MBD consultant for delimitation of New Zealand Continental Shelf and maritime boundaries with Australia.
- 1971-1996 MBD Consultancy work in association with the NZ Ministry of Foreign Affairs and Trade, Ministry of Commerce and Solicitors of the Crown.
- 1996 Expert witness in MBD for Solicitors of the Crown in Fishery Prosecution.
- 1995 Advised on maritime boundary limits and navigational aspects for Crown Fishery Prosecution. Attended United Nations meeting of a group of technical experts to prepare working papers for the Commission on the Limits of the Continental Shelf. Attended a meeting of the Advisory Board on the Law of the Sea.
- 1994 MBD and navigational expert witness for Solicitors of the Crown in six Fishery Prosecutions within maritime boundaries.
- 1993 On behalf of the United Nations, checked and advised on the selection and accuracy of the basepoint positions and the maritime boundary between Iraq and Kuwait. Attended United Nations meeting of experts on the Definition of the Continental Shelf.
- 1992 MBD expert Crown witness for NZ Ministry of Agriculture and fisheries prosecution involving maritime boundaries.

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- 1991 Attended and presented a paper on "Special Problems in Maritime Boundary Delimitation in the South Pacific" at the Australasia Hydrographic Symposium in Sydney, Australia.
- 1990 Attended and completed a maritime boundary delimitation course at the University of Toronto conducted by Rear Admiral D. C. Kapoor
- 1989 Expert crown witness for NZ Ministry of Agriculture and fisheries prosecution involving EEZ maritime boundary dispute. Delimitation of tuna fishing zones of New Zealand, Cook Islands, Niue and Tokelau within the Territorial Sea and EEZ limits. Advised on technical and legal aspects of maritime boundary delimitation on navigational charts for fishery prosecutions.
- 1988 Attended and presented paper on technical hydrographic aspects of maritime boundary delimitation at the International Centre for Ocean Development/Forum Fisheries Agency Workshop, Apia, Western Samoa
- 1987 Delimitation of provisional equidistant maritime boundaries between Australia and New Zealand
- 1985 Delimitation of provisional maritime boundaries measured between Niue, Cook Islands, American Samoa
- 1980-1981 Determination of median line boundaries on behalf of the Cook Island Government and Tokelau Administration with the Government of the USA
- 1978 Provisional delimitation of the EEZ of the Cook Islands, Niue and Tokelau
- 1977 Delimitation of New Zealand EEZ
- 1975 Delimitation of the Territorial Seas of the Cook Islands, Niue and Tokelau
- 1973 Defined basepoints and measured the Territorial Sea of New Zealand

REFERENCE BIBLIOGRAPHY

Author

Title

United Nations	The Law of the Sea
United Nations	Baselines
United Nations	National Legislation on the Continental Shelf
United Nations	Definition of the Continental Shelf
United Nations	Marine Scientific Research
Beazley P. B.	Maritime Limits and Baselines
Beazley P. B.	Maritime Boundaries
Beazley P. B.	Development in Maritime Delimitation

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<u>Author</u>	<u>Title</u>
Kerr A. J. & Kapoor D. C.	A guide to Maritime Boundary Delimitation
Dundas C. W.	Practical Steps in Negotiating Maritime Boundary Agreements
IHO TALOS Working Group	A Manual on Technical Aspects of the United Nations Convention on the Law of the Sea - 1982
IHO	Seminar on Technical Aspects of the Law of the Sea
US Dept of State	Maritime Boundaries of the World
US Dept of State	Developing Standard Guidelines for evaluating Straight Baselines
US Dept of State	Law of the Sea Convention
Prescott J. R. V.	The Maritime Boundaries of the World
Roach & Smith	Excessive Maritime Claims
Dept of Geodesy & Geomatics Eng	Proceedings of the Law of the Sea Article 76 Workshop
Stuart Kaye	Australia's Maritime Boundaries

HYDROGRAPHIC WORK EXPERIENCE RELATED TO THE COMMISSION ON THE OUTER LIMITS OF THE CONTINENTAL SHELF

1. Over 30 years experience of quality assessment of hydrographic data.
2. Rendering of passage soundings and position fixing of navigational features during 12 years service as navigator in the Merchant Navy.
3. Field work experience on harbour surveys, tidal studies and quality assessment of oceanic depths and doubtful data.
4. Experience in the following position fixing methods:
 - (a) GPS
 - (b) Transit Sat
 - (c) Omega
 - (d) Loran
 - (e) Decca

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(f) Radar

(g) Sextant observations

5. Identifying low water basepoints of the Territorial Sea for national database.
6. Five years experience in the revision of the hydrographic sailing directions for New Zealand.
7. Quality assessment of rendered hydrographic notes and echo traces.
8. The determination of the Territorial Seas and EEZ's of New Zealand, Cook Islands, Niue and Tokelau.
9. The determination of the maritime boundaries between American Samoa/Cook Islands/Niue/Tokelau.
10. Expert witness on navigation and maritime boundaries for fishery prosecutions.
11. National/Commonwealth/United Nations Maritime boundary expert.
12. Invited by the United Nations to assist in the preparation of a publication on the definition of the continental shelf and prepare guideline terms of reference for the commission on the outer limits of the Continental Shelf.
13. Member of the Advisory Board on the Law of the Sea.
14. Presented technical papers on hydrographic aspects at a Maritime Boundary Workshop in Apia, Western Samoa for Pacific Islands States.
15. Presented paper at the University of New South Wales on special surveying problems in the South West Pacific.
16. Lectured to RNZN midshipmen on the Law of the Sea.
17. Participant in the determination of the outer limits of New Zealand's continental shelf.

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LU, Wenzheng

(China)

[Original: English]

Sex: Male
Date of Birth: 25 June 1944
Place of Birth: Chongqin City, Sichuan Province, China
Marital Status: Married
Nationality: Chinese
Position: Professor
Major: Marine Geophysics
Language: Chinese, English, German
Address: Second Institute of Oceanography (SIO)
State Oceanic Administration (SOA)
Wener Street, Hangzhou, China 310012
Tel: (0571) 8076924 Ext. 2317
Fax: (0571) 8071539

Educational Background:

1980-1990 Associate Professor
Centre for Geophysics, SIO
1978-1980 Centre for Marine Geology, SIO
1970-1978 Centre for Desalination, SIO
1961-1967 Department of Geophysics
China University of Geology

Academic Activities:

1996 Chief Scientist, SeaBeam Topography Survey for the East
China Sea
1990-1996 Exploration Project for Chinese Pioneer Area of Manganese
Nodule Mine
Respond Scientist for SeaBeam 2112.360 System and SIMRAK Deep
Tow of R/V Dayang No. 1

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Deputy Director of Exploration and Research Expert Group of China Ocean Mine Resource Research and Develop Association (COMRA)

- | | |
|-----------|--|
| 1989-1990 | Study for Terrain System of the South China by State Nature Science Foundation |
| 1987-1988 | Chief of Chinese Scientists, Sino-German Joint Survey for Geoscience of the South China Sea
R/V SONNE49, 58 Cruises |
| 1985-1986 | Geophysics Study for the First China Antarctic and South Ocean Expedition |
| 1983-1984 | Magnetic and Gravity and Bathymetry Study of the Central Part of the South China Sea |
| 1980-1981 | Magnetic and Gravity Study of the East China Sea |

Main writings:

1. Normal Geomagnetic Field of the South China Sea, Donghai Marine Science, Vol. 3, No. 3
2. Characteristics of Magnetic Lineations and Tectonic Evolution of the South China Sea Basin
3. Characteristics of the Magnetic Field in Southeast Pacific and its Tectonic Evolution. Proceedings of the International Symposium on Antarctic Research, Shanghai Science and Technology. Co-author
4. Atlas of Marine Geology and Geophysics of the Bo, Yellow and East China Seas, Ocean Press, 1989
5. Tectonic Origin and Evolution of the South China Sea Basin. International Symposium of Geology and Geophysics Mapping in West Pacific
6. The Bransfield Trough-A Cenozoic Rift, Antarctic Research, Vol. 1, No. 4. Co-author
7. Spreading Age of Subbasin in the South China Sea and their Relationship. Marine Geology and Geophysics of the South China Sea, Ocean Press
8. 3-D Seafloor Topography Characteristics and its Tectonic Origin of Clarion-Clipperton Block of the Eastern Pacific 30th International Geological Congress

M'DALA, Chisengu Leo

(Zambia)

[Original: English]

Address: School of Mines, Box 32379, Lusaka, Zambia

Date of birth: 26 July 1946

Nationality: Zambian

Profession: Geophysicist/Hydrogeologist

Education

- 1980 Ph.D. Geophysical Engineering; Colorado School of Mines, U.S.A.
Title of thesis: "Magnetotelluric Investigation in the San Luis Valley, Colorado, USA".
- 1976 M.Sc. Geophysics UNZA; Zambia
Title of thesis: "Geophysical Exploration for Groundwater in Limestone Aquifer of Zambia".
- 1973 Diploma Hydrology: Hebrew University, Jerusalem, Israel.
- 1972 B.Sc. (Maths and Physics) UNZA, Zambia.
- 1966 Secondary Education; St. Marks college, Mapanza, Zambia.
- 1960 Primary Education St. Francis Primary School. Msoro, Chipata, Zambia.

Present employment

Lecturer in Geophysics, Hydrogeology and Engineering Geology; Geology Department, School of Mines, UNZA.

1991-1993 Head of Geology Department, School of Mines, UNZA.

Secondment

1983-1987 Was seconded to the Hydrocarbon Unit of the Ministry of Mines, as the project coordinator for Petroleum Exploration Promotion Project. The project was funded by a World Bank Loan. During the period of secondment:

- (a) I actively participated in the formulation and implementation of the Petroleum Act (1985).

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- (b) I Coordinated, together with Ministry personnel tender activities between international organizations (oil companies, contractors and consultants) and GRZ.
- (c) Participated in the negotiations of Production Sharing contracts, on behalf of GRZ, with international oil companies. The Oil Companies included Placid Oil of USA, and Mobil Oil also of USA.
- (d) Coordinated and monitored data acquisition programmes (by oil companies and contractors) including the drilling of oil exploration wells.

Seminars and workshops

- 1986: Attended a workshop, in Washington, USA on Negotiating Petroleum Agreements organized by the International Law Institute.
- 1985: Attended a workshop in Dallas, Texas on Seismic data processing and interpretation.
- 1984: Participated in the Remote Sensing Workshop in Nairobi, Kenya.
- 1982: Attended a conference in Tanzania, organized by the Economic Commissioner for Africa.

Consultancy work done:

- Nov. to present (1996): Resistivity Survey and Formation Evaluation for ZCCM, Nchanga Division.
- May to July 1996: Groundwater Survey for Kalomo, Mbabala and Sinazongwe for the Germany supported Water Project for Government of Zambia.
- Oct. to Dec. 1995: Geophysical survey for Environmental Monitoring Boreholes West of the Davies Shaft, ZCCM, Kabwe.
- Sept. to Dec. 1995: Surface and Groundwater Assessment on Ngoli, Kateshi and Mbala Coffee Farms Northern Province for an Israel Investor, on behalf of InterAfrica Ltd.
- Oct. 1994 to April 1995: Groundwater investigation for irrigation of grounds for the Zambia International Trade Fair, in Ndola.

- Sept. 1992 to Jan. 1993: Carried out a Geophysical Mapping of the Labengele Fault/Structure and Associated Fracture Zones, for the Konkola Division of the Zambia Consolidated Copper Mines (ZCCM) Limited towards the solution of the Mine dewatering problem.
- 1992: Carried out an Environmental Impact Study for the University Staff Housing Development Project at Chudleigh, Lusaka, for Nicholas O'Dwyer and partners.
- 1991: Sited twelve (12) boreholes for the Mulungushi Agricultural project in Kabwe subsidiary of the Zambia Consolidated Copper Mines (ZCCM) Ltd.
- 1991-1992: Sited and monitored drilling for irrigation boreholes for Steelco Farm. A total of nine (9) were drilled and commissioned. Yields in the order of 25 litres per second, per borehole were obtained.
- 1991: Sited several boreholes for the Nakambala Sugar Estates Limited, Mazabuka.
- 1990: Sited and monitored drilling of ten (10) irrigation boreholes for Tata Farms Limited. Yields were in the order of fifteen (15) litres per second per borehole.
- 1986 to 1990: Carried out Hydrogeological, geophysical and monitoring drilling for groundwater resources in the Ukwimi Refugee Settlement, Petauke, to resettle the approximately ten thousand Mozambican refugees. The work was done under contract for UNHCR and the Lutheran World Federation. About fifty (50) boreholes were drilled.
- 1989: Sited several boreholes for the National Hotels Limited in the Luangwa National Park under contract with National Hotels Ltd.
- 1987 to 1988: Sited and monitored drilling of several boreholes for ZAMSEED Limited for irrigation. This was followed by a pump testing programme.
- Sept. 1988 to March 1989: Borehole siting and drilling supervision for ten (10) drill sites in the north and south sectors of the Ukwimi settlement. The work was done under contract with the Baptist Mission in Zambia.
- July 1988 to Nov. 1988: Siting and drilling supervision for high yielding boreholes for wheat irrigation at Kashima Commercial Farm, Lusaka.

Sept. 1988 to Oct. 1988:	Siting and drilling supervision of irrigation boreholes at the Marydale Farm, Lusaka.
May 1988 to July 1988:	Groundwater Feasibility studies (for industrial use) at the Livingstone Motor Assemblers Ltd., Livingstone.
Aug. 1988 to Sept. 1988:	Cattle Watering Investigations in Masese Agriculture Project in Sesheke.
Aug. 1988 to Oct. 1988:	High yielding borehole siting and drilling supervision at the Zambia Breweries Ltd., for industrial use.
1986 to 1987:	Feasibility Studies, siting and drilling supervision at the Mwembeshi State Farm for INDECO/MALTINGS (Z) Ltd.
1987:	Groundwater supply for ZAMSEED's Abdul Farm, Lusaka. Contract with Zamseed.
1987:	Groundwater supply for Zambezi Rangching and three other commercial farms in Mazabuka.
1986:	Evaluation for groundwater and siting of high yielding boreholes at Steelco farm; Lusaka West.
1986:	Dam Site Investigation Lublinkoff Farm in Mazabuka, for irrigation.
1985 to 1986:	Sited and monitored drilling of several boreholes for ZAMANGLO Ltd. for cattle ranching.
1983 to 1986:	Carried out groundwater siting survey for Zambia Breweries Limited, yields obtained were in the order of 50 litres per second. A total of five boreholes were drilled.
1985:	Groundwater supply for Zambia Breweries Ltd.; siting and drilling monitoring.
1985:	Dam Site Investigation at Ngwerere River for Brian Colquhoun and Partners; worked as a subcontractor.
1985:	Groundwater survey and drilling supervision at N.R.D.C. farm for Brian Colquhoun and Partners.
1984:	Groundwater survey and drilling supervision at Minisini and other Zambia Agricultural Development Ltd. Farms.

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June-July 1983:	Groundwater survey and drilling supervision at Palabana Government Dairy Farm.
June 1983:	Groundwater survey at Water Green Farm for Electrical maintenance Lusaka Ltd.
May 1983:	Groundwater Exploration and drilling supervision at Grasmere Farm.
March-May 1983:	Exploration and drilling supervision for groundwater on the Lion's Bush and Marvia Farms: under contract with ZAMANGLO Industrial Ltd.
Jan. 1983-March 1983:	Groundwater survey and drilling supervision on Matendere Farm: under contract with E.R.Z. Ltd.
April 1982:	Borehole siting at the Zambia Breweries premises. (The survey produced the best borehole for the Breweries with the borehole having a capacity of 60,000 gallons per hour.)
July-Sept. 1981:	Engineering Geological study on the Chilanga Cement Quarry (Dewatering Problem). The work was under contract with Chilanga Cement Limited.
May 1980:	Kafue Rail Bridge study, Geophysical site investigation for TAGS Ltd., under contract with Simon Zukas and Partners.
1976 to 1980:	Worked on the following projects while on Ph.D. studies in U.S.A.:
	(a) Dipole-Dipole electrical technique as applied to oil exploration in Fort Morgan, Colorado, U.S.A.
	(b) Search for Petroleum using electrical technique, in Taft, California, under contract between Colorado School of Mines (C.S.M.) and Chevron Oil Company, U.S.A.
	(c) Application of magnetotelluric technique in the search for geothermal energy resources in San Luis Valley, Colorado contract between C.S.M. and Colorado Water Department, U.S.A.
	(d) Groundwater survey in sandstone Aquifers of Pueblo, contract between C.S.M. and Mac Culloch Oil Company.
1975:	Groundwater study for Kabwe Municipal Council: contract between UNZA and the Kabwe Municipal Council.

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1974: Groundwater investigations in the Kalulu Area,
contract between UNZA and ZCCM (then NCCM/RCM).

Between 1974 to date: Have sited a total of about three hundred boreholes
for private individuals in Zambia.

Professional Membership:

1. Society of Exploration Geophysicists (SEC).
2. Engineering Institution of Zambia (EIZ).

PAPANIKOLAOU, Dimitrios

(Greece)

[Original: English]

Dimitrios J. Papanikolaou was born in Athens (Greece) in 1949. He obtained his first Diploma of Physiognosy and Geography (University of Athens, 1971), then a second diploma on Geology (University of Athens, 1976) and his PhD on Geology (University of Athens, 1978).

He carried out post-doctoral studies in Structural Geology, at the University of Lausanne (Switzerland) during 1978, 1979-1980 and 1981 with research in the Western Alps.

His career in the University of Athens (1979) followed all steps from lecturer (1979), assistant Professor (1985), associate Professor (1989) and full Professor of Geology (1993).

He has been elected Director of the Section Dynamic, Tectonic, Applied Geology at the University of Athens (1991, 1992, 1993).

During 1982-1983, he was associate Professor of Geology in the University of Reims (France).

He has been elected repeatedly President of the Geological Society of Greece (1988-1990, 1990-1992 and 1994-1996) and also President of the "Carpatho-Balkan Geological Association" (1993-1995).

He has been Project Leader of IGCP 276 "Palaeozoic in the Tethys" (UNESCO and I.U.G.S.) (1988-1995).

Currently, he is President and General Director of the National Centre for Marine Research (since 1994) and President of the Board of the "Earthquake Planning and Protection Organization" (since 1993), and also President of the Board of the European Centre on Prevention and Forecasting of Earthquakes, sieged in Athens, which belongs to the Council of Europe.

He is member of the Editorial Board of the scientific journals:

- (i) Annalles Geologiques des Pays Helleniques (1985-present), edited in Athens;
- (ii) Geologica Balkanica (1991-present), edited in Sofia;
- (iii) Slovak Geological Magazine (1994-present), edited in Bratislava.

He has published more than 130 papers in various international scientific journals and has participated in more than 30 Congresses and Meetings. In several Congresses he has been the Organizer or member of the Scientific Committee.

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In the University of Athens he has been giving lectures since 1982-1983 in the subjects of "Geology of Greece", "Microtectonics", "Tectonic Analysis", "Geological mapping" and "Geology of Europe".

He has published a book entitled "Geology of Greece" (240 pages 1986) and also the textbook "Geology" (182 pages, 1985) for the Lyceum.

His main research activity has been related to the following subjects:

- (i) Tectonic Analysis especially in the metamorphics of the Aegean Region;
- (ii) Neotectonics with special emphasis on Neotectonic mapping at 1/100,000 scale with distinction of active faults;
- (iii) Palaeozoic events within the Alpine-Tethyan belt and geotectonic correlation in the Eastern Mediterranean;
- (iv) Submarine neotectonic structures with publication of maps at 1/100,000 scale of the Messiniakos, Saronikos and S.Evoikos gulf;
- (v) Tectonic analysis of geological fields in volcanic areas (Milos, Nisyros, Lesbos);
- (vi) In situ stress measurements and tectonoelectric zonation in relation to active tectonic activity and earthquake prediction.

He is member of the board of CIESM (Comite International Scientifique de la Mediterranee, sieged in Monaco), member of the European Board on Marine Sciences, sieged in Paris, President of the MEDMARIS (Mediterranean Marine Research Institutes within the European Union), President of the National Committee of Greece on Marine Sciences and Technology and member of the International Scientific Committee of the Continental Deep Drilling Project.

PARK, Yong-Ahn

(Republic of Korea)

[Original: English]

Date of birth : 1 January 1937
Place of birth: Korea
Address : Department of Oceanography
Seoul National University
Seoul 151-742, Korea

EDUCATIONAL ACCOMPLISHMENT

1961	B.S. Sedimentary Geology Seoul National University Seoul, Republic of Korea
1964	M.S. Stratigraphy and Sedimentation Seoul National University Seoul, Republic of Korea
1966	M.S. Sedimentary Geology Brown University Providence, Rhode Island, U.S.A.
1973	Ph.D. Marine Geology (Continental Shelf) Kiel University Kiel, Federal Republic of Germany

PROFESSIONAL EXPERIENCE

1967-Present	Seoul National University, Korea Professor of Geology
1975-1985	Intergovernmental Oceanographic Commission Occasional Korean delegation member
1978	Continental Shelf Exploitation Planning Ministry of Energy and Resources, Korea Special committee member
1978-1979	Duke University North Carolina, U.S.A. Visiting Professor
1979-1981	Oceanological Society of Korea Vice-President
1979-1982	Ministry of Foreign Affairs for the Law of the Sea Advisor

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1996 IGCP-396
(Late Quaternary records of continental shelves of the world)
Sydney, Australia
Korean Delegate

PROFESSIONAL SOCIETIES MEMBERSHIP

Society of Economic Sedimentologists and Mineralogists, U.S.A.
Oceanological Society of Korea
Geological Society of Korea
Korean Quaternary Association
American Geophysics Union, U.S.A.
International Association of Sedimentologists

PUBLICATIONS

Authored and edited over 100 research papers, monographs and reports on continental shelves in Korean, English and German.

LANGUAGES SPOKEN

Korean, English and German

HONOURS

Distinguished Scientific Paper Award. Korean Society of Oceanography.
1987.
Note of Commendation (Geological Oceanography) from the President of the Republic of Korea, 1989.

RIO, Daniel

(France)

[Original: French]

Born on 19 June 1960 in Maisons-Laffitte, Yvelines

Education

- Engineering degree (diplôme) from the Polytechnic School (graduated in 1980).
- Engineering degree (diplôme) from the National School of Geographical Sciences (1986).

Career

- 1986-1992: Engineer at the National Geographical Institute.
- 1992-1995: Engineer at the General Research Office of the headquarters of the Hydrographic and Oceanographic Service of the Navy (SHOM - Brest).
- Since 1995: Design engineer at the chief establishment of SHOM.

Activities concerning the law of the sea

- Since 1992: SHOM expert on maritime delimitation issues.
 - Participation, as a surveying and hydrography expert, in negotiations on maritime boundaries.
 - Preparation of technical studies for the following negotiations:
 - France-United Kingdom (Anglo-Norman islands);
 - France (Saint-Martin)-United Kingdom (Anguilla);
 - France (Guadeloupe)-United Kingdom (Montserrat);
 - France (Guadeloupe)-Antigua and Barbuda;
 - France (Polynesia)-Kiribati;
 - France (New Caledonia)-Solomon;
 - France (Wallis and Futuna)-Tuvalu.
 - Preparation of technical studies defining French baselines. Preparation, in this context, of studies on the overseas departments and territories of the French Republic (Antilles, Polynesia, New Caledonia).
 - Preparation of technical studies on the delimitation of France's continental shelf.

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- Development of software to assist in the research and preparation of delimitation studies.
- Since 1993: Corresponding member of the International Association of Geodesy-International Hydrographic Organization (IAG-IHO) Advisory Board on the law of the sea (ABLOS);
- Since 1995: French expert on the list filed with the International Hydrographic Bureau (IHB);
- 1995: Representative of France in the United Nations group of technical experts on the limits of the continental shelf.

SANTOS, Teodoro Macapagal

(Philippines)

[Original: English]

Present position: Professor XII, Geology and Mineral Economics

Office address: National Institute of Geological Sciences
College of Science
University of the Philippines
Diliman, Quezon City 1001

Personal information:

Birth: 1 April 1938 Place: Pulilan, Bulacan

Civil status: Married Wife: Thelma M. Llana

Children: Roxana Chrystal (VI-10-71),
Bertrand Theodor (III-9-74)
Kathleen Beryl (X-24-77)

Residence: 64 Gomburza St., Area 1 UP Campus Diliman, Quezon City

Telephone: 926-20-83

Educational background:

Penn State University - Ph.D. (1976) Mineral Economics

University of the Philippines - Ph.D. Candidate (1972-73)
Economic Geology and Geochemistry

Johns Hopkins University - M.A. (1966) Geology

University of the Philippines - B.S. (1961) Geology

University of the Philippines - A.S. (1960) Surveying

Akademie Klausenhof, Dingden, Germany - Diploma (1986) Project Management

Special training:

Economics and Management

(1) Certificate in "Advanced Course in Project Management and Program Administration in Developing Countries". Granted by the Akademie Klausenhof of Dingden, Germany and the Management Development Foundation of Ede, Netherlands, 10 February-25 April 1986.

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(2) Certificate of Attendance in "How to Prepare a Project Study", sponsored by the Center for Research and Communication, 2-12 October 1990, Pearl Drive, Ortigas Complex, Pasig, 1600 Metro Manila.

(3) Training on Advanced Financial Management in the Research System, sponsored by the IDRC of Canada and the Ministry of Science and Technology, held from 19-21 January 1984 in Puerto Azul, Cavite.

(4) Certificate of Attendance in "Training Workshop on Housing Cooperative and Society", at the Institute of Small Scale Industries, UP Diliman, Quezon City from 24-27 April 1991, sponsored by the UP Employees Housing Cooperative, Inc. and The Philippine-Canadian Human Resources Development.

Remote Sensing and Geographic Information System

(1) Certificate of completion of a short course "INTRODUCTION TO REMOTE SENSING AND GIS", offered by the UP Training Center for Applied Geodesy and Photogrammetry (UP-TCAGP) from 10-21 February 1992, UP, Diliman, Quezon City with Dr. Tony Milne of the University of New South Wales as Lecturer.

(2) Certificate of satisfactory completion of a short course "RADAR REMOTE SENSING", conducted by the UP-TCAGP, College of Engineering, University of the Philippines, Diliman, Quezon City under the Philippine-Australian Remote Sensing Project, 20-31 January 1992 with Prof. Bruce Foster, Director of the Institute of Remote Sensing, University of New South Wales as Lecturer.

(3) Certificate of satisfactory completion of a short course "GEOLOGIC INTERPRETATION (of remotely Sensed Imageries)", offered by the Philippine-Australian Remote Sensing Project from 11-22 November 1991 at the Training Center for Applied Geodesy and Photogrammetry, with Prof. Geoffrey R. Taylor, Director of the Key Mining Center and Head of the Department of Applied Geology of the University of New South Wales, Australia, as Lecturer.

Special training:

(4) Certificate of satisfactory completion of the short course "DISASTER MAPPING", offered by the UP-TCAGP on 20 April 1992 to 2 May 1992, at the UP, Diliman, Quezon City with Mr. Graeme Lacy, a consultant, as Lecturer.

(5) Certificate of satisfactory completion of the short course "PROJECT DESIGN AND IMPLEMENTATION" offered by the UP-TCAGP from 15-28 June 1992 at the UP, Diliman Quezon City with Mr. Graeme Lacy, Consultant, as Lecturer.

(6) Certificate of satisfactory completion of the short course "GEOGRAPHIC INFORMATION SYSTEM" offered by the UP-TCAGP from 11-22 May 1992 at the UP, Diliman, Quezon City with Dr. Kevin McDougal of the University of Queensland as Lecturer.

(7) Certificate of satisfactory completion of the short course "ADVANCED IMAGE PROCESSING" offered by the UP-TCAGP from 13-24 July 1992 at the UP, Diliman, Quezon City with Dr. Jeremy Wallace of the CSIRO as Lecturer.

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(8) Certificate of satisfactory completion of the short course "REMOTE SENSING AND GIS FOR LOCAL GOVERNMENTS" offered by the UP-TCAGP from 10-21 August 1992 with Mr. Graeme Lacy, a consultant, as Lecturer.

(9) Certificate for satisfactory completion of the short course "DATA INTEGRATION TECHNIQUES" offered by the UP-TCAGP from 7-18 September 1992 at the UP, Diliman, Quezon City with Mr. Graeme Lacy, a consultant, as Lecturer.

(10) Certificate of satisfactory completion of the short course "REMOTE SENSING AND GIS IN FOREST MANAGEMENT" offered by the UP-TCAGP from 19-30 October 1992 at the UP, Diliman, Quezon City, with Dr. Andrew Skidmore, Director of the Remote Sensing Institute of the University of New South Wales as Lecturer.

(11) Certificate for satisfactory completion of a short course "GEOGRAPHIC INFORMATION SYSTEM", granted under the Natural Resources Management and Development Project, a Joint Project between the Australian Government and the Philippine Government implemented by Consultants from the University of Queensland of Australia. Held from 7-17 November 1989 at the PCED Hostel, Diliman, Quezon City: Lecturers, Prof. Ken Lyons and Prof. P. Sharma, Queensland University.

Other technical training

(1) Certificate of satisfactory completion of the short course "GEOSTATISTICAL RESOURCE EVALUATION", held at the Midtown Ramada Hotel from 23-27 March 1992 with Ms. Vivienne Snowden of Snowden and Associates of West Perth, Australia as Lecturer. It was sponsored by COMPUWARES, a local company, and GEMCOM of Australia and Canada.

(2) Certificate in DBASE II Programming, granted by the National Engineering Center, University of the Philippines, 15 October to 15 November 1985.

Research area of specialization

Resources Economics, particularly the economics of energy, metallic minerals, and environment; effects of resources on development; analysis of pertinent policies. Geology, especially Mineralogy, Petrology, and Economic Geology.

Other positions held

Director, National Institute of Geological Sciences (NIGS), University of the Philippines, Diliman, Quezon City, 1983-1986

Chairman, Department of Geology and Geography, University of the Philippines, Diliman, Quezon City, 1979-1982.

Director, Research, Evaluation and Monitoring, DOST-UP Program A (1993-present)

Deputy Director, Office of Research Coordination at the University of the Philippines, Diliman (1993-present)

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Vice-President, Philippine Social Science Council (PSSC) (1993-1994); Member, PSSC Executive Board (1992-1994); Chairman, Institutional Development Committee (1993-1994); Member, PSSC Research Committee (1992-1994).

Chairman, Research Subcommittee of the Remote Sensing Advisory Committee, UP Training Center for Applied Geodesy and Photogrammetry (1992-1994). Member, RS Advisory Committee (1991-1994).

Research Fellow, Center for Integrative Development Studies, University of the Philippines System (1993-present)

Researcher, ASEAN-Australian Trade in Energy, Minerals and Processed Mineral Products (based in Thailand and Australia), 1982-1988.

Other positions held

Chairman, DENR Task Force Preparing Guidelines for the Implementation of EO 279 (1988-1989).

Chairman, Inter-Agency Group to Prepare, Evaluate and Recommend for Approval Implementing Guidelines for EO 279 (1988-1989).

Chairman, Mining and Geology Subgroup, Policy Advisory Group, Ministry of Natural Resources (December 1986-March 1987) Prepared Policy Guidelines for the Ministry of Natural Resources (now Department of Environment and Natural Resources).

Chief Consultant, Inter-Agency Negotiating Panel for Mineral Resources (1988-1989). Under the Authority of Presidential A.O. No. 68, Series of 1988.

Chairman of the Board and Director, Science Action Center, Inc. (1994-present).

Acting Chairman, UP Science Foundation (1993-1994); Member of the Board of Trustees, UP Science Foundation (1992-present).

Executive Director, UP Science Foundation, 1994-present.

Director, Geographical Society of the Philippines, 1987-1990.

Chief Researcher (p.t.): Natural Resources Management Center of the Ministry of Natural Resources, 1981-1986.

Chairman, Section of Geology and Seismology, Division of Earth Sciences, National Research Council of the Philippines (1985-1988).

Research Director, Impact of Deep Seabed Mining on the Philippine Mineral Economy, Ministry of Foreign Affairs and the Development Academy of the Philippines, 1982-1983.

Chairman, Finance/Management/Livelihood Committee; Member.

Executive Committee: Consultant; UP Employees Housing Cooperative, April 1991-present.

Member, Executive-Advisory Council, Natural Science Research Center (NSRC) (now Natural Science Research Institute, NSRI), 1972-1973; 1981-1983.

Member, UPS Task Force on Distance Education, 1995-

Member, CS Komite ng Wika, 1995-

Other positions held

Chairman of the Board, Center for Management Services, Philippines, Inc. 1994-present.

Director and Consultant, resources, Environment and Economics Consultants, Inc., 1993-present.

Selected work experience

International

Visiting Scholar (visiting professor), Akita University, Japan, 14 July 1996 to 14 January 1997.

Senior Energy Expert, ESCAP, 12-16 August 1991

Researcher, contributed to a chapter on a book on energy edited by Dr. F. Fesharaki of the East West Center and Dr. Shankar Sharma of the Institute of Southeast Asian Studies, 1989-1990.

Researcher, ASEAN-Australian Research Group, contributed a chapter each to two books, edited by R. B. McKern of McQuarrie University of Australia and Praipol Koomsup of Thammasat University of Thailand, 1982-1985.

Consultant, Asian Development Bank, 28 November 1977 to 31 January 1978.

Selected work experience

Local

Consultant, Natural Resources Accounting Project, Phase I, A Joint Project of the DENR, Mandala Development Corporation and the USAID, July-October 1991.

Consultant, Natural Resources Accounting Project II, A Joint Project of the DENR and USAID. Implemented by the International Resources Group, Inc. of Washington D.C., USA and the Edgevale & Associates of Maryland, USA (1993-1994).

Professor of Geology and Mineral Economics, National Institute of Geological Sciences of the University of the Philippines in Diliman, Quezon City, 1980-present; Instructor to Associate Professor, 1962-1980.

Director of the National Institute of Geological Sciences of the University of the Philippines, Diliman, Quezon City, 1983-1986.

Chairman, Department of Geology and Geography, University of the Philippines, Diliman, Quezon City, 1980-1983.

Selected work experience

Local

Expert of the Institute of International Legal Studies on the Law of the Sea [Authority by the UP Board of Regents, meeting held on 24 June 1985]
1990-present.

Consultant on Mineral Resources Policies, Ministry of Natural Resources (now Department of Environment and Natural Resources), 1982-1989.

Consultant on Geology, UP Employees Housing Cooperative, Inc.,
1993-present.

Member, Inter-agency Committee for Earthquake Inventory and Monitoring System (EIMAS), 1991-1992.

Honours, scholarships, fellowships, grants, awards

Presidential Award for Outstanding Administrator, University of the Philippines System, 1986

Cited in Philippine Men of Science, Taguig, Bicutan: Science and Technology Promotion Institute, Department of Science and Technology, v.6, 1990.

Diamond Jubilee Professorial Chair, 1990-1991.

Lepanto Consolidated Mining Professorial Chair, 1985.

Philippine Geothermal, Inc. Professorial Chair, 1994-present.

Member, Phi Kappa Phi Honor Society: Penn State University Chapter (1975-present).

Member, Omieron Delta Epsilon Honor Society in Economics, Penn State University Chapter (1975-)

Geologist's Board Exam, Third Place, 1970.

Valedictorian, Baliuag Provincial High School, 1956.

Valedictorian, Pulilan Elementary School, 1952.

Membership in professional organizations

Member (Life), Director (1988-1990), Philippine Geographical Society

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Member, National Research Council of the Philippines

Member, American Institute of Mining Engineers

National Geographics

Member (Life), Philippine Economics Society

Member (Life), Geological Society of the Philippines

Member, Philippine Futuristics Society, 1992-present

Publications:

International

SRINIVASAN, K. R.

(India)

[Original: English]

1. Born on 16 June 1946, Commodore K. R. Srinivasan did his pre-university education from St. Xaviers College, Calcutta and obtained his Bachelors Degree in Science from Loyola College, Madras in 1966. After doing a stint as a tutor in Chemistry at the College, he joined the Indian Navy as a commissioned officer on 15 May 1967 with a good academic background. He completed the initial Naval and Nautical training in 1968, and specialized in Hydrographic Surveying in January 1969. He did the advanced Course in Hydrography in 1981 after being promoted to the rank of Commander in 1980. He became a Master Mariner and was issued with the Master's Certificate (Foreign Going) by Registrar General of Shipping UK and the Director General Shipping, India. He became the "Charge Hydrographic Surveyor" in 1982, achieving the highest hydrographic qualification in the Naval Hydrographic Department, India. He had served as Harbour Master (Marine and Shipping) Port Blair at the Andaman and Nicobar islands which involved management of over 100 Intra/Inter Island passenger and cargo ships/ferries and 20 minor ports. He was commended by the Andaman and Nicobar Administration for the stellar role played in improving the passenger and cargo services at these islands. He was promoted to the rank of Captain in 1989 whilst in command of INS Darshak. On promotion to the rank of Commodore, he served at the Naval Headquarters as Director, Contract and Cost Management, involving contract and financial management of ship building activities of the entire Indian Navy. In August 1994, he took over as the Chief Hydrographer to the Government of India and represented the country in many national and international forums.

2. In his capacity as the Chief Hydrographer and Adviser to the Government of India on Hydrographic Matters, he is represented in many Committees/Councils/Associations of which a few important ones are as follows:

National

- (a) Central Water and Power Research Station, Pune - Governing Council
- (b) Light House and Light Ships - Advisory Council
- (c) Continental Shelf Committee under Department of Ocean Development - Chairman
- (d) Geological Survey of India - Marine Wing Cruise Planning Board
- (e) Tidal Power Committee - Ministry of Non-Conventional Energy - Member
- (f) Underwater Ranges Steering Committee - Member
- (g) National Natural Resources Management System, ISRO - Member
- (h) Bureau of Indian Standards - Member

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International

(A) International Hydrographic Organisation

- (a) Committee on Electronic Chart Display and Information System
- (b) Committee on Exchange of Digital Data
- (c) Commission on Promulgation of Radio Navigational Warnings
- (d) Coordinator International Charting Area "J"
- (e) Permanent Working Group in Cooperation in Antarctica
- (f) World Electronic Navigational Chart Data Base (WEND)

(B) International Cartographic Association

(C) Hydrographic Society of UK

3. Commodore Srinivasan has undergone a "Senior Defence Management Course" at Secunderabad and "Zero Base Budgeting Course" at NITIE and a higher Defence Management Course at the College of Naval Warfare at Bombay.

4. Commodore Srinivasan is a member of many professional bodies such as Fellow of the Institution of Surveyors, Member All India Management Association, Member, Executive Council Indian National Cartographic Association, etc.

5. The officer has wide ranging experience of hydrographic surveying onboard Indian Naval Surveying, Ships Investigator, Darshak, Sutlej and Jamuna for over 12 years and has in addition commanded IN Surveying ships Nirdeshak, Darshak and Sandhayak for over 6 years. During this period he has conducted 25 Major Hydrographic Surveys along Western and Eastern Coasts of India, Lakshadweep and the Andaman and Nicobar Islands. In addition he has actively participated in over 30 Minor Surveys, 5 Defence Surveys and 3 Oceanographic Cruises between 1979 and 1992.

6. Commodore Srinivasan has to his credit many technical and professional papers which have been published in various journals or presented during seminars especially related to Marine Archaeology, Oceanology, Oceanography, Navigation and Direction and Hydrography.

7. Commodore Srinivasan takes keen interest in improving the training methods and curriculum on professional hydrography and in extending state of the art training activities to the underdeveloped coastal States.

8. Commodore Srinivasan has worked extensively on Law of the Sea matters and has kept himself abreast with the developments taking place on the Law of the Sea Convention right from its formulation stage. He has the in-depth knowledge of the technical aspects of the Law of the Sea.

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9. Commodore Srinivasan is a keen sportsman and received commendations for Afloat Support at the IX Asian Games Yachting Championship at Bombay. The officer is medically fit in category S1A1 of Indian Armed Forces (Fit for all appointments at Sea and Ashore without restrictions).

10. The officer is married to Mrs. Prathima Srinivasan and they have a son and daughter presently college going.

11. Commodore Srinivasan is well read on national and international issues and has special abiding interest in advanced technology. He has a passion for photography especially related to marine field. He firmly believes in supporting programmes towards development of hydrographic facilities in developing and third world countries towards greater economic development and prosperity of coastal States and World Navigation Services at least cost.

12. Nomination of Commodore K. R. Srinivasan, an expert adviser on hydrographic matters at the national level, on the United Nations Commission on Continental Shelf will go a long way in providing correct professional input, protection of environment and impartial examination of claims by the coastal States before the Commission.

SUDRADJAT, Adjat

(Indonesia)

[Original: English]

DATE OF BIRTH: 14 January 1942

PLACE OF BIRTH: Tasikmalaya, Indonesia

POSITION: Director General for Geology and Mineral Resources

EDUCATION: Bachelor of Science in Geology at Bandung Institute of Technology (1965)

Master of Science at International Institute for Aerial Survey and Earth Science (ITC) - Delft, the Netherlands (1971)

Doctor in Geology at Bandung Institute of Technology (1982)

OTHERS: Graduate of Regular Course of National Defence Institute (1985)

CAREER: 1963

Geological Expert at Directorate of Geology, Department of Mining and Energy

1966-1977

Head of Geological Photography Section

1977-1978

Head of Sub-Directorate of Vulcanology

1978-1988

Director of Vulcanology

1988-1989

Secretary of the Directorate General of Geology and Mineral Resources

1989-present

Director General for Geology and Mineral Resources

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EXPERIENCE: Participated in various national and international training programmes.

Participated in various national and international symposia, conferences and seminars.

Participated in various expeditions in Kalimantan, Sulawesi, Nusa Tenggara, Irian Jaya and Baruna Sea.

Chairman and members of various international organizations under United Nations system and other organizations.
