



Meeting of States Parties

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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

Contents

	<i>Page</i>
I. Introduction	3
II. Curricula vitae of candidates	4
Hilal Mohamed Sultan Al-Azri	4
Alexandre Tagore Medeiros de Albuquerque	6
Osvaldo Pedro Astiz	8
Lawrence Folajimi Awosika	12
Samuel Sona Betah	25
Harald Brekke	28
John R. V. Brooks	33
Galo Carrera Hurtado	36
Peter F. Croker	44
Indurlall Fagoonee	47
Noel Newton St. Claver Francis	55
Mihai Silviu German	57
Asif Inam	59
Abu Bakar Jaafar	68
Mladen Juračić	81

Yuri Borisovitch Kazmin	84
Lu Wenzheng	87
Park Yong-Ahn	89
Fernando Manuel Maia Pimentel	96
Philip Alexander Symonds	102
Kensaku Tamaki	110
Naresh Kumar Thakur	117
Nanayakkarawasam Pallege Wijayananda	123
Yao Ubuènalè Woeledji	129

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/80. The procedures to be followed by the Meeting of States Parties are set out in a note by the Secretary-General (SPLOS/79).

II. Curricula vitae of candidates

Hilal Mohamed Sultan Al-Azri (Oman)

Date of birth: 23 November 1954.

Languages: Arabic, French, English, Swahili.

Education

- | | |
|------|--|
| 1980 | B.Sc., Geology, Université des Sciences et Technologies du Languedoc, Montpellier, France. |
| 1984 | M.Sc., Geochemistry, Université d'Orleans, France. |
| 1986 | Doctorate (3' cycle), Mineral resource geochemistry and prospecting, Université d'Orleans, France. |

Professional experience and activity

- | | |
|--------------|---|
| 1980-1982 | <p>Field geologist, Ministry of Petroleum and Minerals. Mapping and exploration (geochemistry) of various minerals.</p> <p>Six-month intensive training course at the University of Leoben, Austria.</p> <p>Work on old continental shelf (Permian-Cretaceous) currently exposed in the mountains of Oman.</p> |
| 1987-1995 | <p>Ministry of Petroleum and Minerals, Director of Geological Survey. Main duties and objectives of the department are:</p> <ul style="list-style-type: none">– To carry out basic geological studies, prepare geological maps to various scales and prospect for minerals (both metallic and non-metallic) throughout Oman on a regional scale;– To carry out a geological, airborne geophysical and geochemical survey of potential areas on a regional scale to delimit areas for detailed surveys;– To publish geological documents (reports, books and other scientific papers);– To carry out collaborative research projects on Oman's geology and mineral exploration with various foreign universities and organizations, including Oxford, Cambridge, Bern, Monash, Montpellier, Paris, etc. |
| 1999-present | <p>Ministry of Commerce and Industry, Director General for Minerals. Main task: responsible for all the activities of the Ministry related to geological surveys and mineral resources. Supervise the work of the five departments under the Directorate General of Minerals, plan and implement studies and programmes for mineral resource exploration. Propose a mineral development strategy and prepare five-year plan projects.</p> |

Publications:

More then 10 publications on geology and mineral deposits.

Alexandre Tagore Medeiros de Albuquerque (Brazil)

Date and place of birth: 25 November 1940, Rio de Janeiro Brazil.

Academic background

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

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

Professional activities

1986-1989: Under-Secretary of the Inter-ministerial Commission for Marine Resources.

1987 and 1988: Member of the Brazilian delegation to the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea, New York and Kingston.

1986-present: Coordinator of the Executive Committee on the outer limits of the Brazilian continental shelf.

1991-present: United Nations consultant on the issue of the outer limits of the continental shelf of coastal States.

1995: Member of the Brazilian delegation to the first meeting of the Joint Cooperation Commission Brazil/Namibia.

1995: Participated in New York in the United Nations group of experts that made suggestions related to the establishment of the outer limits of the continental shelf of the coastal States aimed at establishing a *modus operandi* of the future Commission on the Limits of the Continental Shelf.

1975-present: Developing activities in the Brazilian Hydrography and Navigation Department.

As a member of the Commission on the Limits of the Continental Shelf:

Member of the following research groups created in 1997 by the Commission in order to elaborate the Commission's Scientific and Technical Guidelines: Hydrography, Geodesy and Outer Edge of the Continental Margin.

Member of the Working Groups on chapters 1, 2, 3, 4 and 5, created in 1998 in order to prepare the draft guidelines.

Chairman of the Working Group on chapter 9 of the guidelines.

Lectures

Carrera, G., and Albuquerque, A., "Information on the outer limits of the extended continental shelf", presented by Galo Carrera at the ABLOS International Conference on Technical Aspects of Maritime Boundary Delineation and

Delimitation, including UNCLOS article 76 issues, held in Monaco on 9 and 10 September 1999.

Carrera, G., and Albuquerque, A., “An outline for the preparation of a national submission to the Commission on the Limits of the Continental Shelf”, presented by Galo Carrera in the Open Meeting of the Commission, held in New York on 1 May 2000.

Albuquerque, A., “Foot of the continental slope determined as the point of maximum change in the gradient at its base”, presented at the Workshop on the Continental Shelf, held at Buenos Aires from 13 to 17 November 2000.

Albuquerque, A., “Preparation of a submission to the Commission on the Limits of the Continental Shelf”, presented at the Workshop on the Continental Shelf held at Buenos Aires from 13 to 17 November 2000.

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 entitled “Definition of the continental shelf: A study on the relevant provisions 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.

Co-author of the paper “LEPLAC: The Brazilian Continental Shelf Project”, presented by the Brazilian geologist Marcus Gorini at the Workshop on the Continental Shelf, held at Buenos Aires from 13 to 17 November 2000.

Osvaldo Pedro Astiz (Argentina)

Date and place of birth: 14 November 1940, Buenos Aires.

Language skills: Spanish: native speaker.

English: fluent.

Portuguese, French, Italian: reading knowledge.

Studies, training, experience

Graduated as naval officer (1962); Officer of Command and Staff (1980); Capitán de Navío (Captain) (1987); retired (1992).

Licentiate in Hydrography, Instituto Tecnológico de Buenos Aires, ITBA, 1971. Complemented with subjects of Licentiate in Physical Oceanography, including marine geophysics and geology.

Participation in hydrographic and oceanographic cruises (eight years) and in planning and management of hydrographic and oceanographic studies (nine years).

Since 1975: Participation in activities related to international boundaries and limits.

Superior Course on Strategy and Course on Futuristics at the Superior School of War of the Army (1986/87).

1990 to 1992: Expert in Technical Aspects of Maritime Limits (International Hydrographic Bureau, IHB).

1994-present: Argentine expert of the intergovernmental oceanographic Commission (IOC) on marine scientific research (art. 2, Annex VIII, UNCLOS).

Professional activities*Current activities*

1997-2002: Member (Vice-Chairman) of the Commission on the Limits of the Continental Shelf. Participation in the meetings of the Group of Technical Experts on the definition of the continental shelf (March 1993) and in the Group of Experts on preparations for the establishment of the Commission on the Limits of the Continental Shelf (September 1995), United Nations Headquarters, New York.

1992-present: Coordinator on cartographic/geographic limits and boundary affairs, Ministry of Foreign Affairs, Brazil.

Previous activities

Eleven years on hydrographic and oceanographic ships, first as officer and later as commander. Four years in vessels and on staff of the maritime fleet.

Eleven years in the Naval Hydrographic Service (NHS) in all posts of the departments of Hydrography and Security of Navigation: Technical Secretary, Deputy Chief and Chief of Service (1990).

One year as chief of an Antarctic base. Visited seven Antarctic bases.

Hydrographic and oceanographic surveys in rivers, lakes and in the western South Atlantic off South America to Antarctica.

Direction of hydrographic studies for a gas pipeline project across the eastern end of the Straits of Magellan (1975-1976).

Adviser to the Navy of Bolivia on the hydrographic survey of Lake Titicaca (1975).

Hydrographic studies for a deep-water port: Chief of Operations (1973-1974) and Cabinet Chief (1975-1979).

Expert adviser to the Argentine delegation to the Holy See, until the exchange of ratification documents of the 1984 Treaty on Peace and Friendship, between Argentina and Chile.

Argentine representative to IHB for the new edition of *Limits of Oceans and Seas* (SP 23) (1982-1984).

Representative at the International Maritime Organization, IMO Subcommittee on Security of Navigation (1983-1984).

Argentine member of the Working Group on Geodesy and Geographic Information (WGGGI) of the Scientific Committee on Antarctic Research (SCAR) (1979/1992).

Participation in the project on navigational aids (signals) in the Paraguay and Paraná rivers (Hidrovia) (1995).

Conventions, conferences, meetings

Week on Geography, Córdoba, Argentina (1976). Lecturer on the studies for a pipeline project across the eastern end of the Straits of Magellan.

First United Nations Regional Cartographic Conference for the Americas, Panama (1976).

First National Meeting on Photogrammetry and Related Sciences, Organizing Committee, Buenos Aires (1976).

Second Inter-American Naval Conference on Hydrography, Oceanography and Naval Research, Buenos Aires (1979).

International Geodetic and Geophysical Union Conference, Canberra (1979).

Meetings of WGGGI of SCAR: Canberra (1979), Hobart (1988), Bariloche (1992).

Conference of the Pan-American Institute of Geography and History, Santiago (1982).

Twelfth International Hydrographic Organization (IHO) Assembly, Monaco (1982).

Conference of the Subcommittee on Security of Navigation, IMO, Argentine representative, London (1984).

Eleventh Omega International Technical Conference, Tokyo (1988).

First (1989) and Second (1991) Panel about Antarctic Update. Panellist on cartography and geographic place names and on services for Antarctic activities. Argentine Council for International Relations (CARI), Buenos Aires.

Fifteenth Antarctic Treaty Consultative Meeting, Paris (1989).

United States Hydrographic Conference '90. Norfolk, Virginia (1990).

“The Antarctic Treaty System”. Lecture delivered at School of Philosophy (Geography), University of Buenos Aires (1990).

First meeting of the Group of Experts on Antarctic Environmental Monitoring (observer), Buenos Aires (1992).

Twenty-second meeting of delegates to SCAR (member of delegation), Bariloche, Argentina (1992).

Member of the Argentine delegation at the preparatory meetings with Chile of the Working Groups on Shared Water Resources and on Air and Maritime Navigation, Santiago (1996). Participation at the meetings of the Group (1996-1998).

Panel on “Judicial settlement of disputes between States”, Prof. Bardonnnet, Buenos Aires (26 August 1996).

Sixth Meeting of States Parties to UNCLOS, March 1997. Member of the Argentine delegation.

Participation at all the nine sessions of the Commission on the Limits of the Continental Shelf from its establishment to the present.

Open session of the Commission on the Limits of the Continental Shelf, 1 May 2000, United Nations Headquarters Presenter.

Workshop: Continental Shelf — Buenos Aires 2000, 13-15 November 2000. Lecturer on “The United Nations Convention on the Law of the Sea and the Outer Limits of the Continental Shelf”.

Invited lecturer on “Some aspects of the Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf”. Rio de Janeiro, Brazil, 20 November 2000.

Lecturer on “The Argentine continental shelf, article 76 of the Convention and the Scientific and Technical Guidelines of the Commission”, National Academy of Geography, Buenos Aires, 22 June 2001.

National Conference on Geography, Puerto Madryn, Argentina, 19-23 September 2001. Invited lecturer on “The Argentine continental shelf and its challenges”.

Decorations, associations and organizations

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

Member of the Committee on Antarctic Studies (since 1988) and of the International Law Institute (since 1995) of CARI.

Member of the Argentine Academy of the Sea since 24 June 1997.

Teaching experience, studies, advice and publications

Full Professor (1976-1980). Instruments for Hydrography, Hydrography and Hydrographic Projects, at ITBA, Licentiate in Hydrography.

Professor of Oceanography at the National Nautical School (1977).

Several lectures on boundaries, limits, geographic affairs and maritime spaces.

Preparation of technical aspects of Argentine law on baselines and maritime space (1975-1991).

“Operaciones en Playas” (Shore Operations), technical publication of NHS (1973).

Adviser on maritime limits for the Guinea-Bissau/Senegal arbitration (1989).

Argentine contribution to translation into Spanish of the *Hydrographic Dictionary* (1976-1978) and for updating “Limits of Oceans and Seas” (1982-1990), of IHB.

Antártida al Iniciarse la Década de 1990. Author of the chapter entitled “Cartography and Toponymy”, CARI (1992).

Consultant on topography, hydrography, oceanography and preservation of the environment for the treatment of sewer effluents (1992).

Specifications for Topographic Surveys, co-author. Federal Council for Freshwater and Drainage (1992).

Preparation of the regulation on the education, training and certification of merchant navy personnel (1992).

“La Cartografía en la Antártida”, co-author, Boletín No. 2/92 of the Centro Argentino de Cartografía (1992).

Antártida y el Sistema del Tratado Antártico, co-author, CARI (1996).

“Plataforma Continental — La Determinación del Límite Exterior” (Continental Shelf — The Establishment of the Outer Limit), chapter of the book entitled *El Nuevo Derecho del Mar* (The New Law of the Sea), Institute of International Law, CARI (1997).

“La Argentina, la Antártida y el Sistema del Tratado Antártico” (Argentina, the Antarctic and the Antarctic Treaty System). Basic information document for the educational area, produced by the Antarctic Studies Committee, CARI. Co-author (1999).

Lawrence Folajimi Awosika (Nigeria)

Date and place of birth: 27 July 1949, Ondo, Ondo State, Nigeria.

Occupational objectives

A professional position of challenge where my knowledge in oceanography, marine geology/geophysics, hydrography, land-ocean interactions, coastal and marine management in general and project management can be fully utilized.

Education

1974-1977 Howard University, Washington, D.C., B.Sc., Geology (cum laude).

1978-1980 George Washington University, Washington, D.C., M.Sc., Geology, 1980. Emphasis: Geophysics, sedimentology, stratigraphy, field geology and geochemistry.

Research

Seismic and gravity survey of Triassic sediments in Arcola Quadrangle, Virginia, United States of America.

Thesis: "Magnetic Survey of Basalt Flows in Remington Quadrangle, Virginia.

Postgraduate training

Diploma, Marine Geophysics, Spanish Institute for Oceanography, Fuengirola, Malaga, Spain. June-October 1985.

Course on Ocean Waves and Tides, International Centre for Theoretical Physics, Trieste, Italy. September-October 1988.

Seventh Sea level Training Course, Proudman Oceanographic Laboratory, Merseyside Bidston, United Kingdom. June 1989. Course organized by the Intergovernmental Oceanographic Commission (IOC) of UNESCO for Global Sea Level Observing System (GLOSS).

Five-month work study at Department of Oceanography, University of Southampton, United Kingdom, October 1990-March 1991, on "Sediment transport dynamics of the western Nigerian continental shelf".

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.

Employment chronology

Howard University, Washington, D.C., January 1976-April 1977. Graduate Assistant (Sedimentation and Physical Geology).

University of Maryland, College Park, Maryland, December 1977-April 1978. Laboratory instructor, Physical Geology.

Howard University, Washington, D.C., August 1980-December 1981. Lecturer, Geophysics and Environmental Geology.

Nigerian Institute for Oceanography and Marine Research (NIOMR), Victoria Island Lagos, March 1983 to present. Chief Research Officer.

Current responsibilities

Project leader: Geological/geophysical survey of the Nigerian Continental Margin.
Project leader: (1) Heavy mineral provenance of the Niger/Benue catchment basin and beach sediments along the Nigeria coastline (1983 to 1985).

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.

Project leader: Beach erosion, coastal zone management and ocean dynamics studies (Assistant project leader 1983 to 1990, Project leader 1990 to present).

Project leader: Geology and general oceanography of coastal Lagoons (Lagos and Lekki lagoons)

Project leader: Global climate change and sea level rise studies in Nigeria.

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.

Project leader: Video mapping of the entire Nigerian coastline for the assessment of impacts of 1m sea level rise on the Nigeria coastline. Collaborative project between NIOMR and the Centre for Coastal Research of the University of Maryland, College Park, United States of America.

National Coordinator, COMARAF (Regional Project for Training and Research of African Coastal Systems).

Project leader: IOC/FAO/UNEP project — Study of physical/geological oceanographic aspects affecting transport and dispersion of pollutants in Lagos Lagoon, Nigeria.

Participating geophysicist in African Mapping Project (AMMP) 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, United Kingdom (ULIS).

Principal scientist in charge of Shipboard Environmental Acquisition System (SEAS III) in the south Atlantic. A NOAA International project in support of the World Ocean Climate experiment — WOCE.

Project leader and coordinator: Study of drainage systems in Lagos and Victoria Island and effects of sea level changes. A project funded by the Coast and Small Island Division UNESCO Paris 1998-1999

Member — Interministerial Committee on the final solution to the erosion problem on the Bar Beach, Lagos

Part time Lecturer of Marine Geology/Oceanography — University of Lagos Akoka, Lagos — Department of Marine Sciences (August 1996 to present)

International assignments undertaken for United Nations agencies and other international organizations

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, 19 to 23, 1991.

IOC Consultancy Mission to Nigeria, Benin, Ghana, Côte d'Ivoire, and Senegal, July to September 1992, in respect of:

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.

To facilitate progress in the analysis of data collected during the First IOCEA cruise in the Gulf of Guinea.

ROPME/IOC/NOAA 100 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 to 30 June 1992, Kuwait to Abu Dhabi.

Member of UN 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 1993-96.

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 the eastern Africa, 5-23 July 1994.

UNEP/FAO/IOC/IUCN mission to Kenya, Tanzania, Zanzibar, Seychelles, Madagascar, La-Reunion, Mauritius, Comoro and Mozambique to assess national capabilities for the implementation of EAF/5: Integrated coastal zone management workshop for eastern Africa. 13 Nov. 1993 30 Jan. 1994.

Member IOC Editorial Board for the International Bathymetric Map of the Central Eastern Atlantic (IBCEA) 1989-present.

Member United Nations Group of Experts on the Scientific Aspects of the Marine Environmental Protection (GESAMP) working group 30 on impacts of Anthropogenically mobilized sediments in coastal areas (1992-present).

Member UNEP Task Team on Global Climate Change and impacts on the West and Central African Region (1990-present).

Intergovernmental Oceanographic Commission Committee of the East Central Atlantic (IOCEA) Regional Coordinator for Global Level of the Sea Surface (GLOSS) 1993-present.

Consultant to FAO on Integrated Coastal Area Management (ICAM) project for the Gambia — Project WACAF 11 for FAO/UNEP (1995-present).

Member of Scientific Steering Committee for Land Ocean Interaction in the Coastal Zone (LOICZ) of the International Geosphere Biosphere Programme (IGBP) 1996-2001.

Member IOC ad hoc committee on DOSS II (1995-present)

Member — Lead author: African region special report on the Regional Impacts of Climate Change for the Intergovernmental Panel on Climate Change (IPCC) 1997.

IOCEA (Western African region) regional coordinator for IODE (International Oceanographic data exchange) of IOC (1997-present).

Member of the Inter-Governmental Panel on Climate Change (IPCC) working group on the second assessment.

Member of advisory board on Marine Natural Resources Management of ACOPS (Advisory Committee on Protection of the Sea) 1997-present.

Elected member and Vice Chairman of the UNCLOS (United Nations Convention on the Law of the Sea) Commission on the Limits of the Continental Shelf (CLCS) 1997-2002.

Member of the UNEP group of experts on the development of a GEF project for a Global International Waters Assessment (GIWA) 1997.

Member Intergovernmental Oceanographic Commission (IOC) group of experts on GOOS (Global Ocean Observing System) Coastal Module.

United Nations designated expert to the Group of Experts on the Scientific Aspect of the Marine Environment Protection (GESAMP). Also member of the Working Group on Marine Environment Assessment of GESAMP.

Member of Joint IOC/SCOR/SCOPE assessment of the State of Marine Science and its Contribution to Sustainable Development.

Member United Nations Environment Programme (UNEP) group of experts on the revitalization of Abidjan and Nairobi Conventions.

Participating Scientist — Synthesis and Upscaling of Sea level Rise Vulnerability Assessment Studies (SURVAS) Project funded by European Union. International Project Office — Middlesex University, Enfield, United Kingdom.

Member of Working Group on the Development of Methodology for the implementation of the Global International Waters Assessment (GIWA).

Nigerian National Coordinator: Global Environmental Facility Medium Sized Sub Sahara African Project on Development and Protection of the Coastal and Marine Environment in Sub Sahara Africa.

National Coordinator: Oceanographic Data and Information in Africa (ODINAFRICA).

Head Intergovernmental Oceanographic Commission of the Central Eastern Atlantic (IOCEA-UNESCO) Project Office Lagos.

International oceanographic research cruises

Participated in a multidisciplinary research cruise on board R/V CORNIDE SAVEDRA in the Balearic continental shelf western Mediterranean code named GEOCARBAL 85 (12 May to 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.

Participated in the cruise Gravity survey of the Gulf of Guinea shelf on board R/V STARELLA 24 September to 6 October 1987. A United States of America/Nigeria Collaborative project funded by the U.S. Government.

Cruise Leader: First Intergovernmental Oceanographic Commission (IOC) of UNESCO cruise in the Gulf of Guinea, on board NIOMR R/V SARKIM BAKA, 10-25 Oct. 1989. Objectives of cruise was 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.

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 onboard NOAA's R/V MT. MITCHEL. Participated as IOC consultant on leg six, 20 to 30 May 1992.

Cruise leader on a total of eight sea cruises since 1984 in the Nigerian continental shelf on board NIOMR's R/V OKION and SARKIM BAKA.

Publications

Paste-up begins here.

Consultancies

Languages

English: very proficient.

French: slight knowledge.

Spanish: slight knowledge.

Samuel Sona Betah (Cameroon)

Date and place of birth: 1 October 1945, Bai Sombe, South-West Province, Cameroon

Education

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| 1966-1971 | M.Sc. in Geology, Moscow State Geological Exploration Institute, Moscow. |
| 1974-1975 | Postgraduate Certificate in Hydrogeology, Amsterdam Free University, Netherlands. |

Professional training

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|------|--|
| 1994 | Regional leadership course on marine and ocean affairs in Africa, Economic Commission for Africa (ECA), Addis Ababa. |
| 1986 | Course in Public Management, Higher Institute of Public Management, Yaoundé. |
| 1985 | Economy and mineral strategy seminar, Ecole des Mines de Paris. |
| 1984 | UNITAR regional training and refresher course on international law in Africa and the law of the sea; International Relations Institute of Cameroon, Yaoundé. |
| 1980 | Law of the Sea and Management of Marine Resources; International Ocean Institute, Malta. |
| 1978 | Advanced course on Schlumberger log interpretation, Elf Petroleum Training Centre, Port Gentil, Gabon. |

Language skills

Write and speak English and French fluently. Also write and speak Russian.

Computer skills

MS DOS, MS Word, Windows 98, etc.

Employment record

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| 28 March 1972-present | Employed by the Ministry of Mines and Power as Engineer of Mines and Geology. Currently Senior Engineer of Mines and Geology. |
|-----------------------|---|

Previous positions

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| 1987-2000 | Director of Geology. |
| 1979-1987 | Sub-Director of Geology. |
| 1977-1979 | Chief of Service for Exploration of Hydrocarbons. |
| 1975-1977 | Assistant Chief of Hydrogeological Service; cumulatively Hydrogeologist of UNDP Groundwater Exploration Project in North Cameroon. |

Work experience

Seabed manganese nodules prospecting and exploration (United Nations Division for Ocean Affairs and the Law of the Sea, New York).

Solid mineral prospecting and exploration in Cameroon: lateritic nickel and cobalt, gold, diamonds (placer), uranium, rutile, bauxite, iron.

Hydrocarbon exploration: sedimentary geology and seismic interpretation, oil-well logging in Rio del Rey and Douala basin.

Environmental studies relating particularly to natural hazards: lethal gas explosions in Lakes Nyos and Monoun, landslides, etc.

Hydrogeology: groundwater exploration and exploitation in North Cameroon.

Board memberships

2000-present	Chairman of Special Public Tenders Board of the Geological and Mining Research Institute, Yaoundé.
1994-1999	Member of the Board of Société d'Exploitation de Rutile d'Akonolinga (SERAK).
1984-1989	Member of Société Anonyme de Broyage de Minerais du Cameroun (SABM).
	Membership of UNCLOS technical bodies.
12 November 1999	Member of the Advisory Board on Hydrographic, Geodetic and Marine Geo-scientific Aspects of the Law of the Sea (ABLOS), representing the interests of the Intergovernmental Oceanographic Commission (IOC/UNESCO).
1997-2002	Member of the Commission on the Limits of the Continental Shelf (United Nations Headquarters, New York).
August 1996-present	Member of the Legal and Technical Commission of the International Seabed Authority, Kingston, Jamaica.
1987-1994	Member of the Group of Technical Experts of the Preparatory Commission for the International Seabed Authority and for the International Tribunal on the Law of the Sea, member of the Training Panel of the Commission.

UNCLOS meetings attended

October 2001	ABLOS International Conference on Accuracies and Uncertainties in Maritime Boundaries and Outer Limits, Monaco.
September 1999	ABLOS International Conference on Technical Aspects of Maritime Boundary Delineation and Delimitation, Monaco.

June 1998	Workshop to develop guidelines for the protection of the marine environmental impacts arising from the exploration of polymetallic nodules from the deep seabed area, Sanya, China.
1994-present	Member of the delegation of Cameroon to the Assembly of the International Seabed Authority.
1983-1994	Member of the delegation of Cameroon to the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea; participated in the work of Subcommission III (draft mining code).
November 1985	Intergovernmental Meeting of Experts on aspects of exploration and exploitation of seabed resources in the context of UNCLOS, ECA, Addis Ababa.

Other international meetings attended

June 1992	United Nations Conference on Environment and Development, Rio de Janeiro, Brazil.
April 1983	International Conference on the Proterozoic, Lusaka.
Attended International geological congresses in France, Canada and the United States of America, etc.	

Affiliations

International Marine Minerals Society.
 Cameroon Society of Earth Scientists.
 Cameroon Society of Engineers.
 Geological Society of Cameroon.

Publications

The new international economic order and the law of the sea: management of marine resources in the exclusive economic zone”, IOI Occasional Papers, No. 8, Halifax, Nova Scotia, 3 March 1981.

Geological Structure of the Upper Udinsk Mineral Region and Preliminary Exploration of the Avril Mercury Prospect (MGI, Moscow, 1971).

“Groundwater Exploration in North Cameroon”, September 1977, UNDP project, Garoua.

“The importance of the geological sciences within the Cameroonian framework” *Cameroon geoscience news*, Geological Society of Cameroon, December 1998.

Volunteer activities

1994-2001	President of the Solidarity Fund of the staff of the Ministry of Mines, Water and Energy.
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Harald Brekke (Norway)

Date and place of birth: 22 May 1953, Vik in Sogn, Norway.

Education

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|-----------|--|
| 1978-1983 | University of Bergen, Norway — Cand. Real degree (Masters/Ph.D. equivalent) in geology of hard rocks. |
| 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

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|-----------|---|
| 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- | <p>Senior geologist in the Exploration Department in the Norwegian Petroleum Directorate (NPD), Stavanger, Norway, with the following areas of responsibility:</p> <ul style="list-style-type: none">Geological/geophysical mapping of the Norwegian continental shelfPetroleum resource assessment on regional and national scalePlanning and development of resource assessment methods and toolsEvaluation of company applications for new exploration licencesProviding technical advice to Ministry of Industry and EnergyRepresented NPD in various geoscientific programmes involving universities and industryProject coordinationExternal lectures on the geology and prospectivity of the Norwegian continental shelfAdviser to the Namibian State Oil Company (NAMCOR) under the Norwegian foreign aid programme |

- 1996 Technical advisor to the Norwegian Government on the delineation of the Norwegian continental shelf.
- 2000 Member of the national committee on the delineation of the continental shelf of Norway.
- 2001 Scientist in charge on seismic ice-breaker cruise in the Arctic Ocean.

Miscellaneous qualifications

- 1983 Qualified as university lecturer in geology upon appointment by university commission set up by the Rogaland College, 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, Norwegian Institute of Technology, University of Trondheim, Norway.
- 2001 President of the Geological Society of Norway.

Law of the Sea record

- 1995 Member of the Group of Experts convened in September 1995 by the United Nations Secretariat 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.
- 1997-2002 Member of the sitting Commission on the Limits of the Continental Shelf, elected by the Sixth Meeting of States Parties to the 1982 United Nations Convention on the Law of the Sea (UNCLOS) in New York, 13 March 1997.
- 1997-2002 As member of the Commission assumed the following responsibilities:
- Chaired one of six working groups set up to formulate the Scientific and Technical Guidelines of the Commission.
 - Chaired the working group that drew up the final chapter on the delineation of the outer limits of the continental shelf based on sediment thickness.
 - Chaired the working group that drew up the final plan for a five-day training course to assist States in preparing their submissions to the Commission.
 - Prepared and presented the introductory lecture on UNCLOS and article 76 at the Open Meeting of the Commission in New York in May 2000.
 - Contributed actively in other working groups within the Commission.
 - Provide technical assistance to the Republic of Seychelles.

1997-2002

Presented various lectures on continental shelf issues, including:

A lecture on statistical uncertainty as regards the exact position of the outer limits of the continental shelf, held at the International Conference on Technical Aspects of Maritime Boundary Delineation and Delimitation arranged by the International Hydrographic Organization in Monaco in 1999. Mr. Brekke was one of five members of the Commission who presented lectures at the conference.

A lecture on the role of the Commission at the open Conference on the Continental Shelf and its Resources, arranged by the new Law of the Sea Institute in Reykjavik in October 2000.

A lecture on questions related to the provisions on the delineation of the outer limits of the continental shelf based on sediment thickness at the international Continental Shelf Seminar 2000 arranged in Buenos Aires in November 2000 by the Argentine national committee for the delineation of the continental shelf.

Invited as guest lecturer to a course on the continental shelf at the Southampton Oceanography Centre, March 2001. The first course of its kind to be arranged in accordance with CLCS/24/Corr.1.

Invited as guest lecturer to the Regional Training Workshop on the Delineation of the Outer Limits of the Continental Shelf, to be held in Malaysia in 2002.

John R. V. Brooks (United Kingdom of Great Britain and Northern Ireland)

Galo Carrera Hurtado (Mexico)

Birthdate: 19 August 1953

Languages: Equally bilingual in English and Spanish, and some experience in French.

Peter F. Croker (Ireland)

Date and place of birth: 8 December 1951, Dublin

Education

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

**Presentations made on behalf of the Commission on the Limits of the
Continental Shelf**

Indurlall Fagoonee (Mauritius)

Date of birth: 21 February 1950.

Areas of expertise

Marine science/environment.

Environment impact assessment, sustainable development, marine environment protection, coastal management, coral reef ecosystems, global issues, sea level rise, environmental planning and institutional development. Law of the sea.

Education: Curriculum development, science and technology planning and management, environmental sciences.

Environmental health.

Environment and policy.

Strategic planning; long-term strategist.

Relevant professional affiliations

Fellow, Institute of Biology, United Kingdom of Great Britain and Northern Ireland

National Association of Underwater Instructors (NAOI) USA: scuba diving: Dive Leader, Assistant Instructor, Dive Master.

Language proficiency

English and French (spoken and written) — both mother tongue.

Field experience

Mauritius, Rodrigues, Togo, Gabon.

WORK PROFILE

CURRENT POSITION

Sept. 1998 - to date

Pro Vice Chancellor
University of Mauritius
(Curriculum Development, Distance & Virtual Learning, Quality Assurance, Innovative Teaching Technologies, International Relations)

Noel Newton St. Claver Francis (Jamaica)

Date of birth: 27 August 1950.

Education

- 1987 M.B.A. (Master of Business Administration), Nova University, United States of America.
- 1987 Certificate in Maritime Boundary Delimitation, University of Toronto, Canada.
- 1983 Canadian Hydrographic Service (Survey II Course).
- 1978 Postgraduate Diploma (Surveying), University College, London.
- 1975 BSc (Natural Sciences), University of the West Indies.

Professional qualification

- 1987 Commissioned Land Surveyor.
- 1983 Associate of Royal Institute of Chartered Surveyors.

Experience

- Present Deputy Director of Surveys (non-cadastral).
- 2000 Technical adviser in the Guyana/Suriname boundary dispute resolution.
- 1997 Member of the United Nations Commission on the Limits of the Continental Shelf.
- 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 the United Kingdom in respect of the Cayman Islands.
- 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.
- 1988 Member of the National Disaster Committee (served as Officer in Charge of logistics during emergency phase caused by hurricane Gilbert).
- 1985 Assistant Director of Surveys with responsibility for Hydrography
- 1985-1987 Various cadastral surveys.
- 1982-1985 Surveyor in charge of extension of the geodetic survey network around Jamaica.

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| 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

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|--------------|--|
| 2000 | Coordinator of the Regional International Hydrographic Organization Conference. |
| 1997-present | All meetings of the United Nations Commission on the Limits of the Continental Shelf, including the preparation of technical guidelines for countries submitting claims for the extension of their continental shelf beyond 200 miles. |
| 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 and for the International Tribunal for the Law of the Sea, Kingston, Jamaica. |
| 1987 | The Canadian Hydrographic Conference, Canada. |
| 1986 | Meeting on the Status of Regional Hydrography, Port of Spain. |
| 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 Conference. |
| 1983 | “The Densification of Basic Control for Cadastral Mapping”, Thesis, Royal Institute of Chartered Surveyors. |

Mihai Silviu German (Romania)

Date and place of birth: 3 June 1950, Piatra Neamt, Romania.

Professional expertise

Geological and geophysical management, promotion and negotiation, regulation.

Work history

August 1995 to present Director of Promotion and Negotiation Department —
National Agency for Mineral Resources (NAMR)

NAMR is one of the agencies created by the Romanian Government (as part of its reform programme) in 1994 as an independent autonomous institution responsible to monitor and regulate the activity of entities involved in the mineral resources domain (local and foreign) in Romania.

Responsibilities

- Expertise: seismic and drilling, including projects related to the Romanian offshore;
 - Promotion: AAPG, SEG, EAPG, World Petroleum Congress, etc. (presentation of bidding rounds and petroleum opportunities in international conferences and organizing the national stands in these events);
 - Negotiation: Exploration and Production Petroleum Concession Agreements, including the offshore blocks, offered by the National Agency for Mineral Resources in the last eight years (Istria, Neptun, Constanta, Midid and Pelican);
 - Negotiation: member of Romanian team in the negotiations of the Romanian-Ukrainian Agreement for the Delimitation of the Continental Shelf and Economic Exclusive Zones in the Black Sea;
 - Supervision and management: President of the Management Committee established for the Exploration and Sharing Production Agreement in the Blocks XIII Pelican and XV Midia, signed with Enterprise Oil and assigned to Paladin Expro Ltd. and Sterling Resources);
 - Regulatory issues: participation in drafting of the Petroleum law, its methodological norms, coordinator for implementing of technical regulations;
 - Bidding activities: participation in drafting of the model agreements, bidding procedures, and data packages;
 - Public relations: responsible for NAMR interface with petroleum companies involved in Romania or interested in the current bids.
- 1985-1994—Expert, Ministry of Geology

Responsibilities:

- Expertise: geological, geophysical and drilling projects, including the projects relating to the Romanian offshore;

- Supervision: petroleum activities (exploration in Eastern Carpathian and the Black Sea).
 - 1974-1985—Geologist, IPGG Bucharest
- Responsibilities:
- Geological mapping: Eastern Carpathian, Maramureş Depression, Libya;
 - Geological interpretation.

Other skills

- Academic qualification: Geological and Geophysical Faculty — University of Bucharest, 1974 — M Sc. in Geology and Geophysics.
- Training courses:
 - 1996 Petroleum Economics and Contract Negotiations — Bucharest — Gaffney, Cline & Associates.
 - 1996 “Economics of Petroleum Exploration and Production & Oil and Gas Negotiations” — Geneva — Petroconsultants.
 - 1996 “Petroleum Economics and Risk Analysis” organized by Enterprise.
 - 1986 Well logging interpretation — Ploieşti — organized by the Ministry of Petroleum
 - 1980 Geological interpretation of seismic data — Bucharest — IPGG
- Author of various papers presented in national and international conferences.
- Good communication skills.
- Foreign languages:
 - English: good.
 - French: good.

Membership

Member of RAPG and Romanian AAPG Team Leader.

Asif Inam (Pakistan)

Date of birth: 20 April 1959

Abu Bakar Jaafar (Malaysia)

Date of birth: 20 October 1949.

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 Certificate (HSC) (1968), Sekolah (M) Alam Shah, Kuala Lumpur.

CURRENT POSITIONS

Group Director of Technology, Peremba Group & Companies.

Director, IT Partners Sdn. Bhd.

Chairman of a number of Peremba Group of Companies.

Elected Member to the United Nations Commission on the Limits of the Continental Shelf (1997-2002).

POSITIONS PREVIOUSLY HELD

Director-General, Department of Environment, Malaysia (16 April 1990-September 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 (Feb. 1984-Nov. 1984)

East-West Grantee, Environment and Policy Institute, East West Center, Honolulu, Hawaii (August 1980-November 1984)

PROFESSIONAL ASSOCIATIONS

PUBLICATIONS

THESES

GOVERNMENT DOCUMENTS

Resource & Environmental Studies, Dalhousie University, NS, 1988, pp. 184-190.

“Environmental Monitoring and Assessment: The Malaysian Experience”, in Environmental Monitoring and Assessment: Tropical Urban Application, Eds. Sham Sani & M. Ahmad Badri. Bangi: Penerbit Universiti Kebangsaan Malaysia, 1988, pp. 184-190.

Kerajaan dan Pengurusan Alam Sekitar (Government and Environmental Management) in Pembangunan dan Alam Sekitar (Development and the Environment in Malaysia). Eds. Sham Sani & Abdul Samad Hadi, Kuala Lumpur: Dewan Bahasa dan Pustaka, 1990, pp. 392-405.

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.

Malaysia Country Report. In: Environmental and Urban Management in Southeast Asia. Eds. Azan Awang et al. Johor Bahru: Institute Sultan Iskandar, 1993, pp. 87-109.

Malaysia: Policy, Laws & Resources to Environmental Issues, in Malaysian Development Experience: Changes and Challenges, Kuala Lumpur: National Institute of Public Administration, 1994, pp. 386-401.

JOURNAL ARTICLES

PROCEEDINGS/MONOGRAPHS

WORKING PAPER STUDY SERIES

SEMINAR PAPERS

**EXPERIENCE IN THE ORGANIZATION OF SEMINARS/
WORKSHOPS/MEETINGS**

Mladen Juračić (Croatia)

Date and place of birth: 22 June 1953, Rijeka, Croatia

Current position

Professor of Marine Geology, Laboratory for Geology and Palaeontology, Department of Geology, Faculty of Science (Assistant dean for international cooperation, 2000-), University of Zagreb.

Languages

English, Italian (fluent).

French, German (fair).

Education

1976 B.Sc. Geology, Faculty of Science, University of Zagreb.

1979 M.Sc., Oceanography, University of Zagreb.

1987 Ph.D., Geology, University of Zagreb.

Profession positions

1999- Professor of Marine Geology, Environmental Geology and Karst Geology, Department of Geology, Faculty of Science, University of Zagreb.

1995-1999 Associate Professor.

1990-1995 Assistant Professor, Department of Geology, Faculty of Science, University of Zagreb.

1976-1990 Research Assistant, Centre for Marine Research, Ruder Bošković Institute, Zagreb.

Other teaching positions

1987- Lecturer in marine geology, Graduate faculty of Oceanology, University of Zagreb.

1987-1988 Visiting Professor, University of Venice, Geo-mineralogy Faculty.

International training

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

1984-1985 University of Venice, Geo-mineralogy Faculty, research grant.

1983-1989 Short-term research and lecture visits (three weeks) to United States of America: Woods Hole Oceanographic Institution, Massachusetts; 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, RI, 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. Total of 52 scientific publications of which 18 published in journals covered in Science Citation Index (SCI); 54 presentations on scientific congresses and symposia.

Professional activities

Member of the United States Commission on the limits of the Continental Shelf (1997-2002).

Principal investigator on project entitled “Adriatic sediments: scientific basis for geological cartography” of the Ministry of Science of Croatia (1998-).

Principal investigator, United States-sponsored project entitled “Pollutant receiving capacity of a karstic estuary”, Project No. JFP EPA 717, 1986-1989.

Investigator on number of national and international scientific projects in marine geology, geochemistry and marine pollution research (USEPA, National Research Council (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).

Member of the organizing committees of national and international conferences (e.g., Eurocoast International conference “Littoral ‘96 (Partnership in Coastal Zone Management)”, Portsmouth, United Kingdom, September 1996).

Member of the Editorial Board of the scientific journal *Geologija Croatica*.

Assistant chief editor of the University journal *Sveučilišni vjesnik*.

Membership in professional societies

- | | |
|-------|---|
| 1975- | Croatian Geological Society (Secretary, 1991-1993). |
| 1978- | International Commission for the Scientific Exploration of the Mediterranean Sea (ICSEM). |
| 1980- | Croatian Natural History Society (Treasurer, 1992-1996). |
| 1983- | International Association of Sedimentologists. |
| 1993- | Council for the Scientific Investigation of the Adriatic Sea of the Croatian Academy of Science and Arts. |
| 1993- | Association of Geoscientists for International Development. |
| 1994- | Eurocoast-Croatia (Vice-President, 1994-1999). |

1995- National Committee for IUGS/UNESCO International Geological Correlation Programme (Secretary, 1995-2000).

Yuri Borisovitch Kazmin (Russian Federation)

Date of birth: 3 September 1932.

Languages:

Russian (mother tongue); English (fluent).

Education

- | | |
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| 1955 | M.Sc. Geology, Moscow Geological Prospecting Institute. |
| 1964 | Ph.D., International Economics, Moscow Academy of Foreign Trade. |
| 1978 | Ph.D., International Law, Moscow Juridical Institute, Russian Academy of Sciences. |

Professional experience and activities*Present*

Since 2001 *Consultant, Ministry of Natural Resources of the Russian Federation*

Advisory services on legal, scientific and technical matters concerning marine research, prospecting and exploration, and the law of the sea

Expert, Interoceanmetal Joint Organization (Szczecin, Poland)

International legal aspects of exploration activities in the international seabed area.

Previous

1992-2001 *Counsellor, Ministry of Natural Resources of the Russian Federation*

Advisory services on legal, scientific and technical matters concerning marine research, prospecting and exploration, and the law of the sea. Preparation of national legislation concerning the continental shelf, the exclusive economic zone and other sea areas of national jurisdiction; Ministry's representative in the Parliament and its bodies on the matters of drafting and consideration of national legislation on marine and mineral resources development. Coordination of environmental research projects in the pioneer area of the Russian Federation. International cooperation in marine research and prospecting.

Expert of Interoceanmetal Joint Organization, Szczecin, Poland

1988-1992 *Chief Expert, State Commission on Arctic and Antarctic Affairs of the Government of the USSR/Russian Federation (since 1992)*

Organization of the Government's activities in the Arctic areas, including scientific research, geological and mining activities,

- industrial development, environmental protection and international relations; supervision of Antarctic research.
- 1980-1988 *Director, Department of Ocean Mineral Resources, USSR Ministry of Geology*
- Head of the USSR marine geological survey. Supervision and organization of USSR activities in the field of marine geology, prospecting and exploration, including petroleum and hard minerals prospecting and exploration (continental shelf), research and prospecting for polymetallic nodules and other minerals (deep seabed areas), delimitation of the outer limits of the continental shelf; geological research in Antarctica; research and development of marine prospecting and exploration technology; international relations and cooperation in marine geological research and prospecting, in Arctic and Antarctic affairs.
- 1971-1980 *Deputy Director, Marine Prospecting and Exploration Department, USSR Ministry of Geology*
- Supervision and organization of USSR activities in the field of marine geology, prospecting and exploration, including petroleum and hard minerals prospecting and exploration (continental shelf), research and prospecting for polymetallic nodules and other minerals (deep seabed areas).
- 1967-1971 *Economic Affairs Officer, Secretariat of the United Nations Economic and Social Commission for Asia and the Far East, Bangkok*
- Organization and coordination of national and regional projects for offshore petroleum and hard minerals prospecting and exploration in the continental shelf areas of Thailand, Malaysia, Indonesia, the Philippines and Viet Nam. Coordination of regional projects on the compilation of geological and related maps for Asia and the Far East and technical assistance to Nepal and India on mineral resources development.
- 1953-1967 *Senior Geologist, Aerogeology Enterprise, USSR Ministry of Geology*
- Field geological survey and prospecting in the Pamirs and eastern Siberia.

Academic experience

- 1968-1971 Associate Professor of Geology, Chulalongkorn Royal University, Bangkok.
- 1972-1975 Lecturer on Marine Geology, Leningrad Mining Academy.
- 1992-1993 Lecturer on the law of the sea, training courses for trainees of the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea, Interoceanmetal Joint Organization, Szczecin, Poland.

International experience and conferences

1971-1973	Member of the USSR delegation at the United Nations Seabed Committee.
1974-1982	Member of the USSR delegation at the Third United Nations Conference on the Law of the Sea (responsible for continental shelf issues and Part XI).
1983-1988	Vice-Chairman of the USSR delegation at the sessions of the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea
1985	Chairman of the USSR delegation which negotiated with France and Japan the problem of the overlapping of the pioneer sites in the Pacific.
1986-1987	Chairman of the USSR delegation which negotiated with Canada, Italy, the Netherlands, Belgium, the United States, the United Kingdom and Germany the problem of the overlapping of deep seabed mining sites for polymetallic nodules in the Pacific.
1988-1990	Negotiations with the Arctic States on the establishment of the International Arctic Science Committee (IASC).
1990-1991	Soviet representative to the Regional Council of IASC.
1991-1992	Meetings of the Arctic countries on the Arctic Environmental Protection Agreement.
1992-1993	Expert-consultant of the Interoceanmetal Joint Organization (IOM) at the sessions of the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea.
1995-2001	Member of the Russian delegation at the Meetings of States Parties to the United Nations Convention on the Law of the Sea and sessions of the Assembly of the International Seabed Authority.
1997-2001	Consultant to the International Seabed Authority (geology and mineral resource assessment of deep seabed mineral resources; protection of marine environment)
1997-2002	Chairman, Commission on the Limits of the Continental Shelf.

Publications

More than 24 publications on the geology and mineral resources of the continental shelf and deep seabed areas, and the law of the sea.

Lu Wenzheng (China)

Date and place of birth: 25 June 1944, Chongqing City, China.

Position: Professor of Marine Geophysics, Second Institute of Oceanography (SIO), State Oceanic Administration (SOA), Hangzhou, Zhejiang Province, China. Member of the Commission on the Limits of the Continental Shelf.

Languages: Chinese, English and German.

Educational background

1961-1967 Department of Geophysics, China University of Geology

Professional career

1997-present Member of the Commission on the Limits of the Continental Shelf
 1995 Professor, Center for Geophysics, SIO.
 1990-1995 Associate Professor, Center for Geophysics, SIO.
 1991-1992 Visiting Scholar, Centre for Marine Geosciences Research (GEOMAR), Kiel, Germany.
 1986-1990 Director of Centre for Geophysics, SIO.
 1978-1990 Centre for Geophysics, SIO.
 1970-1978 Desalination Centre, SIO.

Academic activities

2001 Member of Expert group on project “863 high technology” of China.
 1996 Chief Scientist, Exploration Project for Polymetallic Nodules in the China Ocean Mineral Resources Research and Development Association (COMRA) pioneer area.
 Chief Scientist, MultiBeam topography survey for the East and South China seas.
 1990-1996 Scientist in charge of the SeaBeam 2112.360 system and SIMRAD deep-tow system of R/V *Dayang* No. 1 for COMRA.
 1989-1990 Study of the terrain system of the South China Sea by the State Natural Science Foundation.
 1987-1988 Chief of Chinese Scientists, Sino-German Joint Survey for Geosciences in the South China Sea.
 1985-1986 Geophysics Study for the first Chinese Antarctic and South Pacific Ocean expedition.
 1983-1984 Magnetic, gravity and bathymetry study of the central South China Sea.
 1980-1981 Magnetic, gravity and bathymetry study of the East China Sea.

Main publications

Normal geomagnetic field of the South China Sea. *Donghai Marine Science*, vol. 3, No. 3 (1984).

Characteristics of magnetic lineation and tectonic evolution of the South China Sea Basin. *Ocean silica*, vol. 4, No. 3 (1986).

Characteristics of the magnetic field of the Southeast Pacific and its tectonic evolution. *Proceedings of the International Symposium on Antarctic Research* (Shanghai Science and Technology Press).

Atlas of marine geology and geophysics of the Bohai, Yellow and East China seas (Ocean Press, 1989). Co-author.

Tectonic Origin and Evolution of the South China Sea Basin. *International Symposium on Geology and Geophysics Mapping in the Western Pacific*, 1989.

The Bransfield trough — a Cenozoic rift. *Antarctic research*, vol. I, No. 4.

Spreading age of Sub-basins in the South China Sea and their relationship. Marine geology and geophysics of the South China Sea. *Proceedings of International Symposium on the Geology and Geophysics of the South China Sea* (Ocean Press).

3-D seafloor topography characteristics and its tectonic origin in the Clarion-Clipperton block of the Eastern Pacific, *30th International Geological Congress*.

Report of relinquishment portion by COMRA.

Exploration report (first phase) on polymetallic nodules in the Chinese pioneer area.

Marine geology and characteristics of the polymetallic nodules belt in the Eastern Pacific. Co-author.

Research report on ocean resources, DY95-6 and DY95-8 cruises of R/V *Dayang* No. 1. Principal author.

Exploration and research report (second phase) on polymetallic nodules in the Chinese pioneer area. Principal author.

Topographical Atlas (by SeaBeam) of the western Chinese pioneer area.

Variations in seafloor topography and its tectonic origin in the eastern and western parts of the Chinese pioneer area. *Proceedings of the Symposium on the Ocean Resources Research of COMRA* (Ocean Press, 2001).

Characteristics of polymetallic deposits in the Chinese pioneer area and the exploration strategy for the third phase. *Proceedings of the Symposium on the Ocean Resources Research of COMRA* (Ocean Press, 2001).

Topographical character and distribution of the unsuitable mining areas in the Chinese pioneer area. *Proceedings of the Symposium on the Ocean Resources Research of COMRA* (Ocean Press, 2001). Co-author.

Park Yong-Ahn (Republic of Korea)

Date of birth: 1 January 1937.

Education

- | | |
|------|--|
| 1964 | M.S. in Stratigraphy and Sedimentation, Seoul National University. |
| 1966 | M.S. in Sedimentary Geology, Brown University, United States of America. |
| 1973 | Ph.D. in Marine Geology (continental shelf), Kiel University, Germany. |

Experience

- | | |
|--------------|--|
| 1967-present | Professor, Department of Oceanography, Seoul National University. |
| 1978-1979 | Visiting professor, Duke University, United States. |
| 1978 | Member of Special Committee for continental shelf exploitation and planning, Ministry of Energy and Resources, Republic of Korea. |
| 1979-1982 | Adviser for the law of the sea, Ministry of Foreign Affairs. |
| 1975-1985 | Occasional member of Republic of Korea delegation to Intergovernmental Oceanographic Commission. |
| 1983-1985 | President, Korean Society of Oceanography. |
| 1996 | Republic of Korea delegate to the IGCP-396 (Late Quaternary Records of Continental Shelves of the World), Sydney, Australia. |
| 1996-present | Chairman of the Republic of Korea National Committee for IGCP. |
| 1997-present | Chairman of the Republic of Korea-China Joint Committee for Basic Science Research. |
| 1998-present | Member of the Ocean Drilling Project National Advisory Committee. |
| 2001-present | Adviser and Republic of Korea delegate to IGCP-464 (Late Quaternary Continental Shelf and its Implications for the Glacial Cycle). |

Membership in professional societies

- Society for Sedimentary Geology, United States.
- Korean Society of Oceanography.
- Geological Society of Korea.
- Korean Quaternary Association.
- American Geophysical Union.
- International Association of Sedimentologists.

Languages

Korean, English, 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.

Order of Service Merit (red stripes) from the President of the Republic of Korea, 2001.

Major publications

Fernando Manuel Maia Pimentel (Portugal)

Personal information

Date of birth: 24 July 1960.

Languages

Portuguese: native speaker.

English: fluent, spoken and written.

French: fair, spoken and written.

Spanish: easy understanding.

Education and professional experience

1984-1986

Degree in Naval Sciences (major field: Oceanology), Portuguese Naval Academy, Lisbon, 1984.

Executive Officer of a coastal patrol vessel of the Portuguese Navy, 1984-1986.

After leaving the Naval Academy, spent two years in sea duty, on missions of fisheries control, search-and-rescue and anti-smuggler actions.

1986-1989

Specialization course in Hydrography (FIG/IHO category A), Instituto Hidrográfico, Lisbon, 1986-1987.

Second in Command of a hydrographic team, Portuguese Navy, 1987-1989.

Participation in several hydrographic surveys (portuary, coastal and oceanic) in continental Portugal, the Azores and Madeira archipelagos and the Republic of Cape Verde. This included the planning, field execution (both as surveyor and survey director) and data processing.

1989-1992

Degree of Master of Science in Physical Oceanography (major and thesis in Underwater Acoustics), Naval Postgraduate School, Monterey, California, United States of America, 1989-1991.

Degree of Hydrographic Engineer (with final report on Multibeam Echosounder Systems), Instituto Hidrográfico/Portuguese Engineering Association, Lisbon, 1991-1992.

The main product of this educational period was the development of guidelines for the definition of decision criteria for the future acquisition of multibeam echosounder systems for the Instituto Hidrográfico and the Portuguese Navy survey ships. For this, the theoretical studies were complemented with short cruises on board some foreign ships which were already operating multibeam echosounders, and talks with several equipment manufacturers.

1992-1998

Officer-in-Charge for “Hydrographic Equipments, Systems and Methods”, Hydrography Division, Instituto Hidrográfico, Lisbon, 1992-1997.

Officer-in-Charge for “Geomatics” (Hydrographic Data Management and Nautical Charting), Hydrography Division, Instituto Hidrográfico, Lisbon, 1997-1998.

Officer-in-Charge for Special Projects, Hydrography Division, Instituto Hidrográfico, Lisbon, 1992-1998:

- Differential GPS for hydrography, 1992-1996
- Multibeam echosounder systems, 1992-1997
- Hydrographic data acquisition and processing systems, 1995-1997
- GPS for geodesy, 1995-1998
- Quality assessment of hydrographic data, 1995-1998
- Electronic Navigational Chart (ENC) production system, 1997-1998

Was in charge of the technical aspects of the re-equipment of the Instituto Hidrográfico with regard to the acquisition and processing of hydrographic data. This included the renewal of equipments for marine and land positioning, echosounders systems and the respective survey control and processing software. Attended the first Coastal Multibeam Training Course offered by the University of New Brunswick, Canada. The main achievement was the installation, extensive testing and utilization of a multibeam echosounder with a combined GPS/inertial system for positioning and attitude, constituting the survey data which were transferred to the computer-assisted cartography system CARIS. Was also in charge of the definition of the data flow and production system for the ENC. Author of many internal reports and norms concerning the application of new methods, equipment and software to hydrographic surveying, in accordance with internationally accepted standards.

1998

Head of the Hydrography Division, Instituto Hidrográfico, Lisbon, Portugal.

Was in charge of the planning and quality control of hydrographic surveys, hydrographic data management and nautical chart production (in paper and ENC), and head of the Representative Group for IHO Affairs. Was involved in several projects using CARIS, in particular its module CARIS LOTS, specially designed for UNCLOS applications. Was also involved in the definition and acquisition of hydrographic equipment for the survey ships of the Portuguese Navy, namely, as President of the Commissions for the acquisition of the deepwater multibeam echosounder, the deepwater singlebeam echosounder and the positioning and attitude system.

Special assignments and activities

Member of the IHO Working Group on the *IHO Standards for Hydrographic Surveys* (S-44), 1994-2001.

Active participant in the work of the technical experts group that defined the international standards for the planning, execution and processing of hydrographic surveys and produced the fourth edition (1997) of the IHO publication S-44.

Member of the IHO Worldwide Electronic Navigational Chart Database (WEND) Committee, 1999-2001.

Active participant in the work of the IHO WEND Committee, regarding the international development and harmonization of procedures for the production and delivery of ENC.

Representative of the Instituto Hidrográfico for the Eastern Atlantic Hydrographic Commission and the Southern Africa and Islands Hydrographic Commission, 1994-2001.

Participated as a technical expert for hydrography and cartography in the IOC/IHO project entitled “International Bathymetric Chart of the Central and Eastern Atlantic” (IBCEA), Instituto Hidrográfico, Lisbon, 1998-2001.

Technical expert for hydrography and cartography in the initial evaluation studies by the Portuguese Commission for the Continental Shelf, in accordance with UNCLOS (hydrographic coverage and use of CARIS LOTS), Instituto Hidrográfico, Lisbon, 1998-2000.

Technical cartographic expert in the studies prefatory to the delineation of the East Timor coastline and jurisdictional waters, Instituto Hidrográfico/Portuguese Ministry of Foreign Affairs, Lisbon, 2000-2001.

Technical expert for hydrography and cartography in studies related to the Portuguese coastline and jurisdictional waters, in accordance with UNCLOS, Instituto Hidrográfico/Portuguese Ministry of Foreign Affairs, Lisbon, 2000-2001.

Instructor for the specialized course in Hydrography entitled “Geodesy, geodetic surveying and hydrographic surveying”, Instituto Hidrográfico, Lisbon, 1993-2001.

Supervisor of final graduation reports of students in Geographic Engineering of the University of Lisbon, in: Differential GPS (1992), Geodetic Methods with GPS (1995) and Digital Cartography (2000, 2001).

Supervisor of final reports for the degree of Hydrographic Engineer of Portuguese Naval Officers for the degree of Master of Engineering in Geodesy and Survey Engineering (University of New Brunswick, Canada), in: Quality Assessment of Multibeam Data (1998), Real Time Kinematic GPS (2000) and ENC Production (2000).

Professor (Probability and Statistics, Geodesy and Chart Projections, Analysis and Processing of Time Series, Underwater Acoustics), Universidade Lusófona de Humanidades e Tecnologias, Lisbon, 1998-2001.

Special courses and conferences/meetings

Special courses

Coastal Multibeam Training Course, University of New Brunswick, St. Andrews, Canada, 1994.

SIMRAD EM-950 Multibeam Echosounder Operation and Maintenance Courses, SIMRAD AS, Instituto Hidrográfico, Lisbon, 1995.

SIMRAD MERLIN/NEPTUNE Software Operator Course, SIMRAD AS, Instituto Hidrográfico, Lisbon, 1995.

General Naval Warfare Course, Portuguese Naval War College, Lisbon, 1996.

International conferences/meetings

HYDRO '92, Copenhagen, Denmark, 1992.

US-HYDRO '94, Norfolk, Virginia, United States of America, 1994.

SIMRAD FEMME '95, Biloxi, Mississippi, United States of America, 1995.

SIMRAD FEMME '97, Monaco, 1997.

Workshop on Coastal and Inland Waterways (Electronic Chart Display and Information System (ECDIS)), Norfolk, Virginia, United States of America, 2001.

US-HYDRO '01, Norfolk, Virginia, United States of America, 2001.

IHO conferences/meetings

Fourth Conference of the Eastern Atlantic Hydrographic Commission, Lisbon, 1994.

Fifteenth International Hydrographic Conference, Monaco, 1997.

Second Meeting of the IHO Working Group on S-44, Monaco, 1997.

European Regional Electronic Navigational Chart (RENC) Coordination Centre, Advisory Committee, Stavanger, Norway, 1999.

Second Conference of the Southern Africa and Islands Hydrographic Commission, Cape Town, South Africa, 1999.

Fifth IHO WEND Meeting, Monaco, 2000.

IHO/Industry Interface Meeting, Monaco, 2000.

Second Extraordinary International Hydrographic Conference, Monaco, 2000.

IHO Strategic Planning Working Group Informal Meeting, Monaco, 2000.

Sixth Conference of the Eastern Atlantic Hydrographic Commission, Cadiz, Spain, 2000.

IHO Meeting for Cooperation in Hydrography and Aids to Navigation with the Western and Central Africa Countries, Lisbon, 2001.

European RENC Advisory Committee, Paris, 2001.

Sixth IHO WEND Meeting, Norfolk, Virginia, United States of America, 2001.

Third Conference of the Southern Africa and Islands Hydrographic Commission, Maputo, 2001.

Military career*Ranks*

Midshipman, 1984.

Second Lieutenant, 1985.

First Lieutenant, 1988.

Lieutenant-Commander, 1993.

Commander, 2001.

Decorations

Medal of Merit (Second Class), 1996.

Medal of Distinguished Services (Silver), 1999.

Present fields of interest

Geostatistics and Geophysical Signal Processing.

Computational Intelligence Methods (Soft Computing) in GIS data analysis.

Publications*In English*

“Analytical modelling of the deep ocean vertical stability and comparison with data collected off Point-Sur”. Internal report, Department of Oceanography, Naval Postgraduate School, Monterey, California, United States of America, 1991.

“Computation of acoustic normal modes in the ocean using asymptotic expansion methods”. Master’s thesis, Naval Postgraduate School, Monterey, California, United States of America, 1991.

“Overview of the Multibeam Hydrographic Surveying Project at the Portuguese Hydrographic Office for Nautical Chart Update”. Proceedings of SIMRAL FEMME ’99, Oslo, 1999.

“Multibeam accuracy tests at dry dock”. *Hydro International*, vol. 5, No. 7, October 2001.

In Portuguese

“Acoustical methods for the exploration of resources and bottom morphology of the exclusive economic zone”. *Proceedings of the Fifth Jornadas Técnicas de Engenharia Naval, Instituto Superior Técnico, Lisbon, 1992.*

“Multibeam echosounder systems”. *Anais do Instituto Hidrográfico, Lisbon, 1992.* *Introductory Course to Multibeam Echosounders.* Internal instruction manual, Instituto Hidrográfico, Lisbon, 1994.

“Methods for correction of hydrographic surveys with automated data acquisition systems”. Internal report, Instituto Hidrográfico, Lisbon, 1995.

“Installation of a multibeam echosounder system on the R/V *Coral*”. Internal report, Instituto Hidrográfico, Lisbon, 1995.

Correction of hydrographic surveys for real sound speed profiles”. Internal norm, Instituto Hidrográfico, Lisbon, 1996.

“Calibration of echosounders in oceanic surveys”. Internal norm, Instituto Hidrográfico, Lisbon, 1997.

“Horizontal control with GPS”. Internal norm, Instituto Hidrográfico, Lisbon, 1997.

“Planning, execution and processing of hydrographic surveys”. Internal norm (In accordance with IHO S-44, 4th ed.), Instituto Hidrográfico, Lisbon, 1999.

Philip Alexander Symonds (Australia)**Date of birth**

9 May 1949.

Languages

English — native; German — minimal reading and speaking; French — minimal reading and speaking.

Present position

Principal Research Scientist; Petroleum and Marine Division (PMD), Geoscience Australia (GA) (formerly Australian Geological Survey Organization (AGSO)).

Academic qualifications

B.Sc. Geology and Geophysics, 1969, University of Tasmania.

B.Sc. (Hons. 1st), Geophysics, 1971, University of Tasmania.

Career summary

1970-1971	Cadet Geophysicist, Australian Bureau of Mineral Resources (BMR).
1971-1984	Science 1 — Science 3 (Geophysicist) BMR.
1984-1986	Research Scientist, BMR, Marine Division.
1986-1991	Senior Research Scientist, BMR, Marine Division.
1991-present	Principal Research Scientist, Petroleum and Marine Division, GA/AGSO.

Kensaku Tamaki (Japan)

Date of birth: 1 October 1948.

Affiliation: Ocean Research Institute, University of Tokyo.

Education

1985 Doctor of Science in Geology, Kyushu University, Fukuoka, Japan.

1974 Bachelor of Science in Engineering, University of Tokyo.

Awards

2000 Fellow, Geological Society of America.

1987 Award for Hydrographic Technology Advancement.

Professional experience

2001- Special Adviser to the Government of Japan on Geology and Geophysics.

1994- Professor, Ocean Floor Geoscience Division, Ocean Research Institute, University of Tokyo.

1986-1994 Associate Professor, Ocean Floor Geoscience Division, Ocean Research Institute, University of Tokyo.

1983-1986 Senior researcher, Geological Survey of Japan, Ministry of International Trade and Industry.

1974-1983 Researcher, Geological Survey of Japan, Ministry of International Trade and Industry.

Guest positions

2000 Visiting Lecturer, China University of Geoscience, Beijing and Wuhan.

1998 Visiting Lecturer, China University of Geoscience, Beijing.

1998 Guest professor, Changchun University of Science and Technology, China.

1984-1985 Visiting researcher, University of Rhode Island Graduate School of Oceanography, United States.

International affiliations

2000- Chair, InterRidge Programme (international mid-oceanic ridge research initiative).

1998- Editorial Board, *Marine Geophysical Research*.

1998 Co-Chair, Ocean Drilling Program Technical Operation Workshop at Houston, Texas, United States.

1997-2000 Editorial Board, *Journal of the Geological Society of Japan*.

1997-1999 Ocean Drilling Programme (ODP) Operation Committee.

1997-1999	ODP Science Committee.
1996-1997	Editorial Board, <i>Journal of Physics of the Earth</i> .
1994-1997	Editorial Board, <i>Journal of Geomagnetism and Geoelectricity</i> .
1993-1996	Chair, InterRidge Back-arc Basin Working Group.
1992-1998	Editorial Board, <i>Tectonophysics</i> .
1992-1996	InterRidge Project Steering Committee.
1989	Co-Chief Scientist, ODP Leg 127.

Domestic affiliations

1998-	Chair, Integrated Ocean Drilling Programme (IODP)/OD21 Operation and Technology National Subcommittee.
1997-	Chair, Long-term Cruise Planning Committee, Japan Marine Science and Technology Centre.
1993-	InterRidge Japan Office.
1987-	IODP/OD21 National Advisory Committee.
1986-	ODP National Advisory Committee.

Major field experience

2000-2001	Co-Chief, <i>Aden New Century</i> cruise, Gulf of Aden, Indian Ocean.
2000	Co-Chief, <i>Knipovich Ridge-2000</i> cruise, Arctic Atlantic.
1998	Chief, R/V <i>Kaiko</i> expedition, Japan trench.
1997	Chief, on-land gravity survey, Viet Nam.
1997	Co-Chief, <i>InterRidge Fuji</i> cruise, South-western Indian Ridge.
1996	Mariana Trough research cruise, R/V <i>Yokosuka</i> .
1995	Central Indian Ocean research cruise, R/V <i>Meteor</i> .
1994	South-western Indian Ridge research cruise, R/V <i>Hakuho-maru</i> .
1993	Co-Chief, Rodriguez Triple Junction Expedition, R/V <i>Hakuho-maru</i> .
1989	Co-Chief, ODP Leg 127, Japan Sea.
1988	Physical Property Scientist, ODP Leg 121, Ninety-east Ridge.
1974-1985	Intensive research by seismic reflection and magnetics, R/V <i>Hakurei-maru</i> , Western to Central Pacific.

Research interests

Professor Tamaki has been working exclusively in the field of marine geology and geophysics, focusing on global tectonics and the dynamics of the ocean floor. His approach to this field is to cover a wide range of phenomena, from mid-oceanic ridges and hot spots to deep-sea trenches, in order to understand global ocean floor tectonics. His recent fieldwork has been concentrated on the Indian Ocean, the Arctic Atlantic Ocean and the Western Pacific seas.

Main publications

Naresh Kumar Thakur (India)

Date of birth: 10 July 1946.

Present position: Deputy Director, National Geophysical Research Institute, Uppal Road, Hyderabad, India 500 007

Previous positions held: Senior Scientist, National Geophysical Research Institute since 1982.

Scientist, Indian Institute of Geomagnetism, Bombay, 1973 to 1982.

Educational qualifications: Master of Science (Tech) in Geophysics, 1970, Osmania University, Hyderabad, India.

Doctorate for the thesis entitled “Geomagnetic Deep Sounding Studies in South India”, 1983, Bombay University, Bombay, India.

1990-1991: Post-doctoral Fellowship of Commission on European Communities (Geosciences) for research at University of Utrecht, The Netherlands.

Professional experience: Participated in and was associated with the following programmes/investigations:

Nanayakkarawasam Pallege Wijayananda (Sri Lanka)

Date of birth: 8 September 1947.

Present position

Director, Geological Survey and Mines Bureau, Sri Lanka.

Academic qualifications

Ph.D. in Marine Geochemistry, Imperial College, University of London (1991).

Postgraduate Diploma in Mining Exploration Geology, I.T.C., Delft, The Netherlands (1979).

B.Sc. (Hons.) Geology, University of Peradeniya, Sri Lanka (1972).

Participation in international scientific cruises

R/V Condrad (United States of America) 19 June-5 July 1986, Colombo-Central Indian Ocean-Colombo.

R/V Meteor (Germany) 22 June-1 July 1987, Madagascar to Mombasa (Kenya).

D/V Joides Resolution (Ocean Drilling Programme) Leg 116, 5 July-19 August 1987, Colombo-Indian Ocean-Colombo, as an on-board sedimentologist.

R/V Sonne (Germany) 9-22 January 1994, Colombo-Central Indian Ocean-Trincomalee.

Summary of experience and positions held

Director, Geological Survey and Mines Bureau, Sri Lanka, 1993-present.

National Aquatic Resources Agency (NARA), Crow Island, Colombo, Acting Director/ Officer In Charge / Marine Geologist, Oceanography Division, 1984-1993.

State Mining and Mineral Development Corporation, Colombo 8: Mine Geologist, Graphite Mine, Dodangaslanda, Sri Lanka, 1980-1984; Project Officer and Geologist, Mica Project, 1975-1980.

George Steuarts & Co. Ltd., Colombo, Consultant Geologist, Exploration for gem-bearing gravel deposits, 1973-1974.

University of Ceylon, Peradeniya, Sri Lanka, Temporary Assistant Lecturer in Geology, 1973 and 1974 academic years.

Academic responsibilities

External Examinerships, M.Phil.:

University of Sri Jayawardanapura, Sri Lanka.

University of Peradeniya, Sri Lanka.

Visiting Lecturer:

Postgraduate Institute of Science, University of Peradeniya, Sri Lanka, 1998, 2000 and 2001 academic years.

Department of Geology, University of Peradeniya, Sri Lanka, 1976, 1997 to 2001 academic years.

Department of Chemistry, University of Kelaniya, Sri Lanka, 1997 to 2000 academic years.

Department of Zoology, University of Kelaniya, Sri Lanka, 2002 academic year.

Other affiliations and responsibilities

Chairman of the Technical Committee on Law of the Sea (Continental Shelf), Sri Lanka, 2000 to date.

Member of the Board of Management of the Geological Survey and Mines Bureau, Sri Lanka, 1993 to date.

Member of the Board of Management of the Postgraduate Institute of Science, University of Peradeniya, Sri Lanka, 1996 to date.

Member of the Board of Management of the National Aquatic Resources Agency (NARA), Ministry of Fisheries and Ocean Resources, Sri Lanka, 1997 to date.

Member of the Board of Management of the National Gems and Jewellery Authority, Sri Lanka, 1996-1999.

Member of the Board of Management of Lanka Mineral Sands Limited, Sri Lanka, 2000.

Member, Working Committee on Chemical and Earth Science, National Science Foundation, Sri Lanka, 1999 to date.

Member, Steering Committee on Natural Sciences, National Science Foundation, Sri Lanka, 1997-1998.

Member, Steering Committee on Physical, Engineering, Mathematical Science and Building Environment, National Science Foundation, 1993-1996.

Deputy Secretary General of the Second South Asia Geological Congress, 1995.

President of the Geological Society of Sri Lanka, 1994/95.

President Section D Sri Lanka Association for the Advancement of Science, 1995.

Consultant, United Nations Revolving Fund, Offshore Monazite Project, Beruwala, Sri Lanka, 1997.

Other qualifications

Participated in the Class A Training Programme, International Ocean Institute, Malta and Germany.

Participated in the course on near-shore non-fuel mineral exploration conducted by the International Centre for Ocean Development, Mombasa, Kenya.

Participated in the course on marine mineral resources held at Imperial College, London.

Participated in the course on bathymetric charting in the Western Indian Ocean held at Nosy-Be, Madagascar, organized by the Centre National de la Recherche Oceanographique.

Pass in the Preliminary Exam. of the Institute of Chartered Accountants, Sri Lanka.

PUBLICATIONS

Ph.D. THESIS

Geochemical Investigations on some sediments from the Eastern Indian Ocean. Imperial College, University of London — 1991.

FULL PAPER PUBLICATIONS AND BOOKS

Yao Ubuènalè Woledji (Togo)

Date and place of birth: 1950, Amlamé, Togo

Profession: Mines Engineer, Geophysicist

University education

1975-1981: Institute of Mines and Geology of Leningrad (USSR). Major: Geophysical methods in the exploration and mining of useful minerals. Degree of Mines Engineer-Geophysicist (Master of Science in Geophysics)

Spoken and written languages

French, English, Russian.

Current functions

1995-2002: Head of the Hydrogeology, Geophysics and Survey Division of the General Department of Mines and Geology, Lomé. Activities: Design and execution of programmes of work; personnel management (three engineers, two survey teams for hydrological and mineral drilling, one geophysical team); management of geophysical surveying equipment and materials.

Post graduate training

September-December 1983: Training in geophysical instrumentation at Scintrex, Toronto, Canada.

February-March 1987: Specialization in gravimetric prospection at INSTP, Yamoussoukro, Côte d'Ivoire.

August-October 1998: Training in petroleum policing at the General Department of Mines and Geology, Stavanger, Norway.

Professional experience

November-December 1998: National delegate to the offshore seismic refraction (3D) study mission of Togo (petroleum exploration) by Petroleum Geophysics Service (PGS), a Norwegian company.

October-November 1995: Testing to improve geophysical methods of installing water outlets in the prefectures of the Ogou and Kloto in the context of village hydraulics (UNICEF project).

April-June 1991: Prospecting for polymetallic sulphide deposits at Pagala and for gold at Aleheride, Togo, OTP/Nigeria/BRGM (France).

April-May 1990: Hydrogeological prospecting at Pagala, village for Nouvelle SOTOMA.

March 1989: Hydrogeological prospecting at Agomé-yo (Kpalimé) for Société Industrielle de Parfumerie (SIP).

November-December 1987: Gravimetric prospecting in the coastal basin (petroleum exploration) with Geoterrex of Canada.

1987: Prospecting for phosphates in Bassar. OTP/Nigeria/BRGM (France) project.

May 1986: Hydrogeological prospecting at Pagala (Sokode) for the Société d'Exploitation de Sources Togolaises d'Eau Minérale (SESTEM), a company in the course of being established.

1985: Prospecting for polymetallic sulphide deposits at Pagala, General Department of Mines and Geology.

1982-1985: Hydrogeological prospecting using geophysical methods within the framework of the project "Strategy for the development of Togolese water resources" (hydrogeological reconnaissance between latitudes 7° and 9° north), UNDP.

December 1984: Follow-up to offshore drilling along the coast off Lomé (petroleum exploration) by Geophysical Service Incorporated (GSI) of Canada.

Other activities

Member of the Association of Exploration and Research Geophysicists of Africa (AGERA)

Member of the Togolese Association for Scientific Research (ATRS).
