

## 1 LINDSAY PARSON

**Name** Lindsay Murray Parson, PhD, FGS, Eur Geol, CGeol,  
**Present position** Leader of the UNCLOS Group, National Oceanography Centre, Southampton, UK  
**Address** National Oceanography Centre, European Way, Southampton, SO14 3ZH, UK.

### **Qualifications**

1976 Graduated, Liverpool University, Geology Department (Honours degree with Final Year Dissertation Prize; Upper Second).

1982 Doctorate awarded, Liverpool University

### **Employment**

From 1980 to present - an active marine geophysics researcher originally at the Institute of Oceanographic Sciences and (following its merger with Southampton University,) at the Southampton Oceanography Centre (SOC) UK, which as of May 1<sup>st</sup>, 2005, was renamed the National Oceanography Centre, UK.

### **Experience**

#### **Research/Technical experience**

Between 1980 and 1984, carried out geophysical research in structure and stratigraphy of passive continental margins, using mainly sidescan sonar, single and multichannel seismic reflection profiler data. Since 1984, studied mid-ocean ridge structure and evolution as well as fracture zone tectonics using integrated geophysical datasets including swath bathymetry, sonar, gravity and magnetic data.

Widely experienced in swath multibeam acquisition, processing and interpretation of Holming, Hydrosweep, Seabeam, Simrad data types.

Ongoing areas of marine research include the geophysical and geological evolution of slow spreading mid-ocean ridges. In particular these focus on structural controls on axial geometry, interaction between volcanism and tectonism, evolution of ridge segmentation patterns and the location of hydrothermal venting.

Since 1990, Principal Supervisor of six PhD students (2 current - jointly with Oxford, Reading, Birmingham, Durham and Southampton Universities and also Keil, Germany).

Invited external PhD examiner for seven doctoral students, including three overseas. Supervisor for MSc student dissertations (Southampton University) almost every year since 1996.

### **Offshore marine research experience**

Considerable marine surveying and sampling expertise, participation in thirty-six scientific cruises since 1980, including twelve as principal scientist, and nine as invited UK expert in international programmes.

Invited UK scientist in 1985 (Leg 104), and Co-chief Scientist on Ocean Drilling Program Leg 135 to the Lau Basin, Western Pacific, 1990/1991.

Commissioned as client representative (technical survey monitoring) for a UK submarine telecommunication major on two occasions.

### **Awards and Committee Memberships**

1977 – present: Fellow of the Geological Society of London

1990: Geological Society of London Lyell Award

1992 – present: Chartered Geologist of the Geological Society of London European

1994 – 1997: Chairman of the Geological Society of London Marine Studies Group

1996 – present: Chartered Geologist.

1996 – present: Member of the Editorial Board of Marine Geology

### **Specific UNCLOS related positions**

2001 – present: UK member of the United Nations Legal and Technical Commission at the International Seabed Authority, Kingston, Jamaica. [2005: Vice-Chairman, 2006: Chairman]

2002 – present: UK member of the Intergovernmental Oceanographic Commission (IOC) Advisory Board of Experts on the Law of the Sea (ABE-LOS)

2005 – present: UK representative on the MOMAR (EU mid-ocean ridge) Steering Group – responsibility for marine protection areas on mid ocean ridge settings in N Atlantic

### **UNCLOS technical experience**

1980 - present: Technical advice for key UK government departments (Department of Trade and Industry, Foreign and Commonwealth Office) on issues related to the UN Convention on the Law of the Sea. Principal focus has been on continental shelf areas beyond 200 nautical miles west of the UK, Antarctica, Falklands and the Oceanic Island territories.

1996 – present: Project Manager for UK maritime delimitation survey and interpretation programme.

2001 – present: Member of UK delegations to quadrilateral and bilateral discussion meetings with neighbouring coastal states on continental shelf and maritime territorial delimitation issues..

Technical lead of UK Article 76 submissions to CLCS.

### **Specific UNCLOS/research experience**

1980 – 1989: Principal researchers in Legal Regimes – Passive Margin Group at Institute of Oceanographic Sciences (IOS), UK

1989 – 1996: Head of UK Natural Environment Research Council BRIDGE (British Mid-Ocean Ridge) project, IOS, UK

1996 - present: Head of UNCLOS Group, National Oceanography Centre, UK

1996: Commissioned by UK Government (Department of Trade and Industry) to carry out Article 76 desktop study (mainland)

1999: Commissioned by UK Government (Foreign and Commonwealth Office) to carry out Article 76 desktop study (overseas territories).

1999: Commissioned by UK Government (Department of Trade and Industry) to carry out data acquisition for extended continental shelf programme (mainland).

1999: Commissioned by an Indian Ocean Government to carry out Article 76 desktop study

2000: Commissioned by Atlantic Ocean Government to carry out Article 76 desktop study

2001: Developed the Annual National Oceanography Centre/United Kingdom Hydrographic Office Article 76/UNCLOS training course. Representatives of 38 states have attended, totalling more than 80 delegates over the five years.

2001: Commissioned by Atlantic Ocean State Oil Company to carry out Article 76 desktop study

2001: Commissioned by Atlantic Ocean Government to carry out UNCLOS boundaries assessment and technical feasibility for Joint Development Area development

2001 - present: Lead technical advisor to UK Foreign and Commonwealth Office in South Atlantic UK Shelf delimitation bilateral negotiations

2001 - present: Technical consultant to Atlantic Ocean Government with responsibility for overview of entire Continental shelf claim project

2002: Commissioned by Atlantic Ocean Government to carry out Article 76 desktop study

2002: Commissioned by Mediterranean Government to carry out UNCLOS assessment of maritime boundary issues

2002 - present: Lead technical advisor to UK Foreign and Commonwealth officer in North Atlantic UK Shelf delimitation quadrilateral negotiations

2003 - present: Lead technical advisor to UK Foreign and Commonwealth Office in Eastern Atlantic UK Shelf delimitation tri- and quadrilateral negotiations

2003 - present: Technical advisor to Southern hemisphere government on Article 76 shelf claim project.

2005 – present: Technical advisor to W Atlantic island state on Article 76 shelf issues

2006 - present: Commissioned as Head of Technical consultancy programme for an Indian Ocean coastal state

2006: Commissioned by Commonwealth Secretariat to provide technical support to South Pacific coastal state on Article 76 potential.

2006 – present: Initiator of, and principal lecturer on Masters course at University of Southampton: MSc in Marine Science, Policy and Law. LMP contribution UNCLOS, maritime territorial sovereignty, resources, Article 76.

### **Presentations at key UNCLOS conferences**

1999 – ‘Data acquisition requirements for developing an Article 76 claim to continental shelf beyond 200 nautical miles’

March 22-23 1999 - Presentation at International Boundaries Research Unit (IBRU) Conference/workshop, Durham, UK: “Defining the outer limit of the Continental Shelf”

2000 – ‘Deep-water resources of the Continental Shelf; Exploration, Evaluation and Exploitation’ Nov 13-17<sup>th</sup> 2000. Seminario Plataforma Continental: Buenos Aires, Argentina.

2000 – ‘Evaluation of the non-living resources of the Continental Shelf beyond 200 nautical miles of the world’s margins’. In: “Minerals other than polymetallic nodules of the International Seabed Area. ISA Conference, Kingston Jamaica, 26-30 June. [ISA Technical Volume, Volumes 1 and 2. pp 667-761.]

2001 – ‘Non-living marine resources within coastal states maritime jurisdiction – A practical analysis of their potential in the extended continental shelf area’ : ABLOS conference, Monaco, 18-19 October 2001 “Accuracies and Uncertainties in Maritime Boundaries and Outer Limits”.

2003 – ‘Integration of geophysical/geological data for deepwater areas such as the Clarion-Clipperton region – new perspectives from current compilation techniques’: ISA conference/workshop on the establishment of a Geological Model of the polymetallic nodules in the Clarion-Clipperton Zone (CCZ), Nadi, Fiji, 13-20 May 2003. [ISA Report in Press.]

2003 – ‘Non-hydrocarbon resources of the extended continental shelf’: In M.H.Nordquist, J-N. Moore and T.H.Heidar (Eds) Legal and scientific aspects of continental shelf limits. Proceedings of the 25<sup>th</sup>-27<sup>th</sup> June 2003 conference [pp423-430.]

2003 – ‘Deep water non-living resources’: ABLOS Conference, Monaco, 28<sup>th</sup>-30<sup>th</sup> October 2003 “Addressing Difficult Issues in UNCLOS”.

2004 – ‘Article 76 of UNCLOS: Prime driver for significant continental margin research, or a data black hole?’. Invited Key Lecture: “Geo-political aspects of continental margins’ Special Session on Article 76 at the 32<sup>nd</sup> International Geological Congress, 20-28<sup>th</sup> August, Florence, Italy.

2004 – ‘Continent-Ocean Transition research in the context of UNCLOS continental shelf delimitation” Joint presentation with Dr R. Edwards (NOC): “Geo-political aspects of continental margins’ Special Session on Article 76 at the 32<sup>nd</sup> International Geological Congress, 20-28<sup>th</sup> August, Florence, Italy.

2004 – ISA workshop for the establishment of environmental baselines at deep seafloor cobalt-rich crusts and deep seabed polymetallic sulphide mine sites in the Area, for the purpose of evaluating the likely effect of exploration and exploitation on the marine environment. 6-10 September, ISA, Kingston, Jamaica.

2005 – Invited speaker at “Symposium on Problems of the Outer Continental Shelf” – International Tribunal for the Law of the Sea, Hamburg, Germany (September 2005). Title: “The Commission for the Limits on the Outer limits of the Continental Shelf – How is it working?”

2005 – Invited speaker at the Jackson School of Geosciences Symposium on UNCLOS

University of Texas, Austin, USA (October 2005). Title: "Article 76 of the United Nations Convention on the Law of the Sea".

2005 – Invited speaker at the 27<sup>th</sup> International Geological Congress, Florence (August 2005). Title: "Article 76 of UNCLOS: Prime driver for significant continental margin research, or a data black hole?"

2005 - Invited tutorial presentation on "Delimitation of the juridical continental shelf" At ABLOS Conference (October 2005): Marine Scientific Research and the Law of the Sea: the Balance between Coastal State and International Rights.

2005 – Invited presentation at Africa Upstream 2005 conference (November 2005). Title: "Africa's Deepwater EEZ Hydrocarbon potential, and Claims beyond 200 miles under UNCLOS", Cape Town, South Africa.

2005 - Co-convenor of Special Session at the American Geophysical Union Conference "UNCLOS and Continental Margins: Geodynamic constraints and implications for the legal continental shelf" (December 2005). Presentation title: "Continental Margins and the Law of the Sea – an 'Arranged Marriage' with Huge Research Potential. San Francisco, USA

2006 – Invited presentations at (1) the International Symposium on Scientific and Technical Aspects of the Outer Limits of the Continental Shelf beyond 200 Nautical Miles (MFA, Japan and UN University, March 2006). Title: "Support for developing states – ideas to support countries with problems". Tokyo, Japan; (2) Meeting of technical experts on Article 76 of UNCLOS (Japanese Hydrographic Office, Tokyo, March, 2006). Title: "Developing the desk-top study for developing countries".

2006 – Invited tutor at the UNEP/GRID Arendal training workshop on "Determining outer limits of the continental shelf for West Africa states". ( Nairobi, Kenya. March 2006)

### **Publications – Recent peer-reviewed papers additional to above conference proceedings/abstracts:**

The National Oceanographic Library (UK Oceanographic Facility) records 286 publications of Dr Parson since 1985. The selection below reflects his most recent research interests:

Briais, A., Sloan, H., **Parson, L.M.** and Murton, B.J. 2000. Accretionary processes in the axial valley of the Mid-Atlantic Ridge 27°N – 30°N from TOBI side-scan images. *Marine Geophysical Researches*, 21, 87-119.

Carleton, C., Shipman, S., Monahan, D. and **Parson, L.** 2000. The practical realisation of the Continental Shelf Limit. In: Cook, P. and Carleton, C. (Eds)

Continental Shelf Limits – The Scientific and Legal Interface. Oxford Press. Pp 268-281

German, C. and **Parson, L.M.** 1998. Distributions of hydrothermal activity along the Mid-Atlantic Ridge: interplay of magmatic and tectonic controls. *Earth Planet Sci Lett.* 160, 327-341

German, C.R., Baker, E., Mevel, C., Tamaki, K., Blondel, Ph., Evans, A., Flewellyn, C, Matthew, D., **Parson, L.M.**, Wallace, R., Boulanger, D., Sauter, D., Fujimoto, H., Osada, Y., Tamura, C., Yama-ashi, T., Gomez, O., Lee, S-M., Searle, R.C., Patriat, P., Pouliquen, G., Rommevaux-Justin, C., Yamada, T. 1998. Hydrothermal activity along the southwest Indian Ridge. *Nature* v. 395, p 490-493

German, C.R., **Parson, L.M.** , Murton, B.J., and Needham, H.D. 1996 - Segmentation and hydrothermal activity at the Mid-Atlantic Ridge - The tale of two hot-spots. In (MacLeod et al) *Geol Soc Special Volume 118*. pp 169-184. .

Mendel, V., Sauter, D., Rommevaux-Jestin, C., Patriat, P., Lefebvre, F. and **Parson, L.M.** 2003. Magmato-tectonic cyclicity at the Ultra-slow spreading Southwest Indian Ridge: Evidence from Variations of axial volcanic ridge morphology and abyssal hills pattern. *Geochemistry, Geophysics, Geosystems* 4(5), 9102, doi:10.1029/2002GC000417.

Murton, B.J., **Parson, L.M.**, Hunter, P. and Miles, P.R. 2001. Global Non-Living Resources on the Extended Continental Shelf: Prospects at the year 2000. Proceedings of the meeting on “Non-living marine resources beyond 200 nautical miles” – International Seabed Authority Technical Report No. 1. 65pp, 40 Tables, 25 Figures

**Parson, L.M.**, Gracia, E., Coller, D., German, C. and Needham, D. 2000. Second order segmentation - the relationship between volcanism and tectonism at the MAR, 38°N-35°40'N. *Earth Planet Sci Lett.* 178 . 231-251

**Parson, L.M.**, Sauter, D., Mendel, V., Patriat, P and Searle, R. 1997. Evolution of the axial geometry of the Southwest Indian Ocean Ridge between the Melville Fracture Zone and the Indian Ocean Triple Junction – Implications for Segmentation on very slow-spreading ridges. *Mar. geophys. Res.* 19. 535-552

Sauter, D., **Parson, L.M.**, Mendel, V., Rommevaux-Jestin, C., Gomez, O., Briaes, A., Mevel, C. and Tamaki, K. 2002. TOBI sidescan sonar imagery of the very slow spreading Southwest Indian Ridge: evidence for along-axis magma distribution. *Earth Planet. Sci Lett.*, 199, 81-95.

Sauter, D., Mendel, V., **Parson, L.M.**, Fujimoto, H., Mevel, C. and Tamaki, K. 2005. Focused magmatism versus amagmatic spreading along the Southwest Indian Ridge. Evidence from TOBI sidescan sonar imagery. In press - *Geochemistry, Geophysics, Geosystems*. 18pp, plus figures.

Van Dover, C.L. ; German, C.R. ; Speer, K.G. ; **Parson, L.M.** ; Vrijenhoek, R.C.  
Evolution and biogeography of deep-sea vent and seep invertebrates.. Science ;  
295(5558) (2002) ; 1253-1257.