Curriculum Vitae: R. C. Stewart

Personal Details

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Sex:	Male
Age:	65
Date of Birth:	6 November 1956
Place of Birth:	Haddington, E. Lothian, UK
Nationality:	British
Marital status:	Single, no children.



Roderick Craig Stewart - Pen Portrait

Roderick Stewart (Rod) was born and raised in Scotland and has a degree in Geophysics from Edinburgh University. Since graduating, he has worked as a seismologist in very diverse areas including global seismology, the monitoring of underground nuclear explosions, micro-earthquakes associated with geothermal energy extraction and in the oil industry. His passion is volcano-seismology and he has worked at both Rabaul Volcano Observatory, Papua New Guinea and Montserrat Volcano Observatory. Rod has also worked for the Comprehensive Nuclear Test Ban Treaty Organisation in Vienna, Austria where he helped oversee the construction of seismic stations around the world. He used CTBTO data to monitor an underwater volcanic eruption near Tristan da Cunha in the South Atlantic. Most recently, Rod was a Research Fellow at the University of the West Indies' Seismic Research Centre in Trinidad working throughout the Eastern Caribbean including a period as Director of Montserrat Volcano Observatory from 2012 to 2019 and active involvement in monitoring of La Soufriere, St Vincent during the 2020-2021 eruption. Following retirement in 2021, Rod formed his own consultancy company, Dormant Services Limited, to provide expertise to Montserrat Volcano Observatory.

Education

Primary School School: Achievements:	1960 to 1969 Haddington Primary School, Haddington, E. Lothian, UK. Dux of School (1969)
Secondary School	1969 to 1974
School:	Knox Academy, Haddington, E. Lothian, U.K
SCE O Levels (1973):	English (A), Mathematics (A), Latin (A), Arithmetic (A), Physics (A), Chemistry(A), Geography (A), French (B).
SCE Highers (1974):	Physics (A), Mathematics (A), Chemistry (A), English (B), Geography (B), Latin (B).
Achievements:	Intermediate Dux of School (1972), Prefect (1973), Deputy Head Boy (1974), Dux of School (1974).
Graduate Studies	October 1975 to June 1979
University:	Department of Geophysics, University of Edinburgh, UK.
Degree:	B.Sc. (Hons.), class 2.1, in Geophysics.
Year 1 subjects:	Geology 1 (pass), Physics 1A (pass), Mathematics 1A (pass).
Year 2 subjects:	Geophysics 2 (merit pass), Geology 2 (pass), Mathematics 2X (pass).
Year 3 subjects:	Geology 3 (merit pass).
Year 4 subjects:	Geophysics 4. Undergraduate projects on predictive filtering and on the palaeomagnetism of lake sediments.
Postgraduate Studies	October 1979 to September 1986
University:	Department of Geology, University of Reading, U.K. and MOD, Blacknest, UK.
Degree:	PhD dissertation not submitted.
Thesis title:	Attenuation of the mantle and the properties of earthquake sources.
Thesis synopsis:	Development and application of methods for interpreting P-wave seismograms recorded at teleseismic distances. The aim was to estimate parameters which affect the frequency content of the seismograms: anelastic attenuation in the upper mantle and the dimensions and rupture dynamics of the earthquake source.
Supervisors:	Prof. A. Douglas, MOD, Blacknest and Dr. C. McCann, Department of Geology, University of Reading.

Part-Time Education and Training

Inversion Techniques in Geophysics, University of Oxford, U.K., 17-19 September 1986. A short non-examinable course on computational methods for inverting geophysical measurements.

Applied Digital Signal Processing, Institute of Sound and Vibration Research, University of Southampton, U.K., June 1989. A one-week non-examinable course on theoretical and practical aspects of digital signal processing.

Occam programming, CSM in-house course, 1989. A one-week non-examinable course on the use of the Meiko Parallel Processor and the Occam programming language.

Instrumentation, Open University Associate Course, 1991. A nine-month part-time course on all aspects of instrumentation. Grade 2 pass.

IAVCEI Remote Sensing Workshop, A.N.U., Canberra, Australia, 24 September 1993. A one-day workshop on all aspects of the acquisition, processing and use of satellite imagery to monitor volcanic activity.

Employment History

Various - January 1975 to September 1975

Variety of temporary employment, mainly in agriculture, in the Haddington area.

Vacation Student, IGS - June 1979 to October 1979

Employer:	Institute of Geological Sciences, Edinburgh, U.K
Duties:	Analysis of seismic records from a network established to monitor a reservoir.

Junior Research Fellow, AWE Blacknest - May 1985 to April 1988

Employer:	Atomic Weapons Establishment, Aldermaston, U.K
Duties:	Research into teleseismic methods of identifying underground nuclear explosions.
	Some supervision of analysts and summer students.
Milestones:	Development of "phaseless seismograms".
	Joint development (with R.G. Pearce) of method to use seismic pulse durations to
	determine fault parameters.
	Successful study of a number of unusual earthquakes.

Geophysicist, CSM Geothermal Project - April 1988 to December 1991

Employer:	Camborne School of Mines Geothermal Project, Cornwall, U.K
Duties:	Maintenance and operation of microseismic monitoring networks for Hot Dry Rock
	geothermal energy project.
	Monitoring of microseismic activity associated with fluid injection into granite.
	Development and application of cross-hole seismic methods for use in an HDR
	environment.
	Geophysical support for development of down-hole seismic tools: sparker,
	hydrophones and a 3-axis accelerometer.
	Installation and operation of microseismic monitoring network and cross-hole
	surveying at HDR project in France.
	Transfer of HDR seismic technologies to a commercial environment, principally
	the hydrocarbons industry.
Milestones:	Use of real-time monitoring to track fluid injections.
	Successful use of cross-hole surveys to delineate cooled zone of an HDR reservoir.
	Investigation of P-wave anisotropy.
	Use of microseismic monitoring to monitor fluid injection into oil reservoir.

Senior Consultant, CSM Associates - January 1992 to February 1992

Employer:	CSM Associates Ltd., Cornwall, UK.
Duties:	As above.
Milestones:	None.

Senior Seismologist - March 1992 to August 1995

Employer:	Rabaul Volcano Observatory, Dept. of Mining and Petroleum, Papua New Guinea.
Duties:	Supervise and train seismic section (6 staff) and manage day-to-day operations of
	seismic recording in Rabaul and other volcanoes in Papua New Guinea
	Research into seismicity of the Rabaul Caldera.

	Carry out field studies and research into seismic activity associated with other
	volcanoes.
	Maintain and develop computer programs for volcano-seismology.
	Contribute to multi-disciplinary monitoring of volcanoes.
	Short periods as Acting Deputy Principal Government Volcanologist (two periods
	of three months each) and Principal Government Volcanologist (three periods of
	two weeks each).
Milestones:	Rationalise magnitude estimates at RVO.
	Application of imaging technique to Rabaul earthquake epicenters.
	Implement RSAM monitoring system.
	Monitoring 1994 Rabaul eruption.
	Install digital data-acquisition systems at RVO, maintain system and train staff in
	its use.

Visiting Professor, Tohoku University - November 1995 to March 1996

Employer:	Department of Resources Engineering, Tohoku University, Sendai, Japan
Duties:	Analysis of seismic location data from Hijiori geothermal field.
	Installation of software developed at CSM Associates on Tohoku University
	computers.

Senior Consultant, BGS - April 1996 to February 1997

Employer:	British Geological Survey, International Division, Keyworth, UK.
Duties:	Deputy Head, Montserrat Volcano Observatory, Montserrat, West Indies (April-
	August 1996).
	Management of UK monitoring team (6 staff) and coordination of all other
	nationals (20+ staff).
	Overall responsibility for safety and the integrity of science at MVO.
	Communication of scientific results with government officials and the press.
	Senior Scientific Advisor (October 1996 – February 1997). Overseeing installation
	and commissioning of digital broad-band seismic network.

Senior Seismologist, AWE Blacknest - March 1997 to July 1998

AWE plc, Blacknest, Brimpton, nr Reading, Berks, RG7 4RS, UK.
Monitor progress of UN Preparatory Commission and the establishment of the
International Data Centre and the International Monitoring System.
Manager of group responsible for data processing and participation on behalf of the
UK in international test verification.
Provide seismic support for routine monitoring.

Seismic Officer, CTBTO - July 1998 to May 2007

Employer:	Preparatory Commission for the Comprehensive Nuclear Test Ban Treaty
	Organisation, Vienna International Centre, Vienna, Austria.
Duties:	Upgrading and installing seismic stations worldwide in compliance with the
	technical requirements of the International Monitoring System (IMS). Tasks
	include negotiations, contracting, installation, testing and certification.
	Plan and carry out IMS training activities for station operators. Contribute to other
	CTBTO training courses.

	Monitor status and performance of certified IMS stations, support operations and maintenance (O&M) staff.
	Contribute to the development of tools and procedures for O&M in the IMS. Assist the Working Group B Task Leader in the development of Operational
	Manuals for the IMS. Coordinate work on the manuals within the IMS Division of CTBTO.
	Support to the Chief of the IMS Seismic Section in strategic planning of the
	IMS/SM work programme, including recruitment and budgeting.
2.61	Support to the Director, TMS Division, In O&M matters and Operational Manuals.
Milestones	Senior member of a team (up to 15 staff) who have completed close to 80% of the
	IMS seismic network in eight years.
	Construction of three seismic stations in Iran.
	Completion of revision 10 of the IMS Operational Manuals.
	Design, development and implementation of the IMS Reporting System, now used widely in CTBTO.
	Cooperation with the British Geological Survey in monitoring seismic activity near
	Tristan da Cunha using data from an IMS station.
	Cooperation with the International Civil Aviation Organization and the World Meteorological Organization on the potential use of IMS data for monitoring volcanic eruptions.
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Research Fellow, SRC - May 2007 to December 2012

Employer:	Seismic Research Centre, University of the West Indies, St. Augustine, Trinidad	
Duties:	SRC team member for earthquake monitoring in the Eastern Caribbean.	
	SRC leader for seismic monitoring of Eastern Caribbean volcanoes. Installation of modern seismic digital data processing software at SRC.	
	Part-time Acting Director of Montserrat Volcano Observatory.	
	Part-time Seismolgist for Montserrat Volcano Observatory.	
	Take part in education and outreach activities for SRC.	
	Undertake research in volcano seismology, volcanoes and seismology.	
	Act as spokesperson for SRC when and as required.	
Milestones	SRC winning contract to run Montserrat Volcano Observatory in cooperation with IPGP for 5 years.	
	Improving local perception of Montserrat Volcano Observatory.	
	Designing and implementing new Hazard Level System in Montserrat. Activities related to underwater mud volcano near Trinidad.	

Director, MVO - December 2012 to May 2019

Employer:	Seismic Research Centre, University of the West Indies, St. Augustine, Trinidad
	and Tobago.
Duties:	Provide advice on volcano to Government of Montserrat.
	Lead a team of SRC and non-SRC staff in monitoring the Soufriere Hills Volcano,
	Montserrat
	Administration of MVO.
	Take part in education and outreach activities for MVO.
	Undertake research in volcano seismology, volcanoes and seismology.
	Act as spokesperson for SRC when and as required.
Milestones:	Negotiation of new SRC contract to operate MVO.
	Implementation of Intern Programme at MVO.

Volcano Seismologist, MVO - April 2019 to July 2022

Employer:	Seismic Research Centre, University of the West Indies, St. Augustine, Trinidad and Tobago.
Duties:	Lead MVO staff in seismic monitoring of the Soufriere Hills Volcano, Montserrat. Collaborate with MVO and SRC staff in monitoring the Soufriere Hills Volcano,
	Montserrat.
	Undertake research in volcano seismology, volcanoes and seismology.
	Maintain computers used in seismic monitoring.
	Collaborate in deployment of instruments.
Milestones:	Upgrade of seismic monitoring in Montserrat.
	Setting up seismic monitoring of Ercives Dagi volcano in Turkey.
	Monitoring of La Soufriere, St Vincent in 2020-2021.

Consultant Volcano Seismologist - August 2022 to date

Employer:	Dormant Services Ltd, Gravesend, UK
Duties:	As above.

Honours and Awards

Honorary Fellow of Edinburgh University, 2019.

Publications (* non-peer-reviewed)

- Stewart, R.C. and Douglas, A., 1983. Seismograms from phaseless seismographs, *Geophys. J. R. astr. Soc.*, **72**, 517-521.
- Douglas, A., Stewart, R.C. and Richardson, L., 1984. Comments on "Analysis of broadband seismograms from the Chile-Peru area" by R. Kind and D. Seidl, *Bull. Seism. Soc. Am.*, **74**, 773-777.
- Stewart, R.C., 1984. Q and the rise and fall of a seismic pulse, *Geophys. J. R. astr. Soc.*, **76**, 793-805.
- *Stewart, R.C. and Warburton, P.J., 1986. Some seismic results of an underground explosion at the Muroroa test site (Shot Report No. 6), A.W.R.E. Report No. O 17/85, H.M.S.O., London.
- Stewart, R.C., 1987. Comment. A seismic event on August 20, 1983: double explosion or a single earthquake, *Phys. Earth Planet. Int.*, **46**, 381-383.
- Stewart, R.C. and Marshall, P.D., 1988. Seismic P-waves from Novaya Zemlya explosions: seeing double!, *Geophysical Journal*, **92**, 335-338.
- *Stewart, R.C., 1988. P-wave seismograms from underground explosions at the Shagan River test site recorded at four arrays, A.W.R.E. Report No. O 4/88, H.M.S.O., London.
- *Gillbanks, T.G.A., Marshall, P.D. and Stewart, R.C., 1989. P-wave seismograms recorded at Yellowknife, Canada from underround nuclear explosions in Nevada USA, A.W.R.E. Report No. O 26/88, H.M.S.O., London.
- *Green, A.S.P. and Stewart, R.C., 1989. CSM borehole seismic conference, Scientific Drilling, 1, 1-2.
- Marshall, P.D., Stewart, R.C. and Lilwall, R.C., 1989. The seismic disturbance on 1986 August 1 near Novaya Zemlya: a source of concern?, *Geophysical Journal*, **98**, 565-573.
- Pearce, R.G. and Stewart, R.C., 1989. Interpretation of seismic pulse duration in terms of a propagating rupture: a method and case histories, *Tectonophysics*, **166**, 115-132.
- *Stewart, R.C. and Jones, R.H., 1990. The use of VSP and cross-hole seismic surveys in the development of HDR reservoirs, in Hot Dry Rock (ed R. Baria), 509-519, Robertsons Scientific Publications, Llandudno.
- Douglas, A.D., Sheehan, A.F. and Stewart, R.C., 1992. On the onset of PP and other mini-max phases, *Geophys. J. Int.*, **108**, 394-398.
- Douglas, A.D., Sheehan, A.F. and Stewart, R.C., 1992. Northern Chile earthquake of 1980 May 26: evidence of unilateral fracture, *Geophys. J. Int.*, **110**, 201-210.
- Richards, H.G., Parker, R.H., Green, A.S.P., Jones, R.H., Nicholls, J.D.M., Nicol, D.A.C., Randall, M.M., Richards, S., Stewart, R.C. and Willis-Richards, J., 1994. The performance and characteristics of the experimental Hot Dry Rock geothermal reservoir at Rosemanowes, Cornwall (1985-1988), *Geothermics*, 23, 73-109.
- Jones, R.H. and Stewart, R.C., 1997. A method for determining significant structures in a cloud of earthquakes, *J. Geophys. Res.*, **102**, 8245-8254.
- *Young, S.; Barclay, J.; Miller, A.; Sparks, R.; Stewart, R. & Staff, M., 1997. Deformation of the Galway's Wall and related volcanic activity, November 1996 to March 1997., Technical Report 09/01, Montserrat Volcano Observatory.
- Young, S.; White, R.; Wadge, G.; Voight, B.; Toothill, J. abd Stevens, N.; Stewart, R.; Stasiuk, M.; Sparks, R.; Skerritt, G.; Shepherd, J.; Scott, W.; Robertson, R.; Power, J.; Norton, G.; Murphy, M.; Miller, A.; Lynch, L.; Luckett, R.and Lejeune, A.; Latchman, J.; James, M.; Jackson, P.; Hoblitt, R.; Herd, R.; Harford, C.; Francis, P.; Dyer, N.; Druitt, T.; Devine, J.; Davies, M.; Darroux, B.; Cole, P.; Calder, E.; Barclay, J.; Aspinall, W.; Arafin, S. & Ambeh, W., 1997. The ongoing eruption in Montserrat', *Science* 276, 371-372.

- Aspinall, W.P., Miller, A.D., Lynch, L.L, Latchman, J.L., Stewart, R.C., White, R.A. and Power, J.A., 1998. Soufrière Hills eruption, Montserrat, 1995-1997: volcanic earthquake locations and fault plane solutions, *Geophys. Res. Lett.*, 25, 3397-3400.
- Miller, A.D., Stewart, R.C., White, R.A., Luckett, R., Baptie, B.J., Aspinall, W.P., Latchman, J.L., Lynch, L.L. and Voight, B., 1998. Seismicity associated with dome growth and collapse at the Soufriere Hills Volcano, Montserrat, *Geophys. Res. Lett.*, 25, 3401-3404.
- Neuberg, J., Baptie, B., Luckett, R., Stewart, R., 1998. Results from the broadband seismic network on Montserrat, *Geophys. Res. Lett.*, **25**, 3661-3664.
- Stewart, R.C., 1999. CTBTO: The International Monitoring System. *Orfeus Newsletter*, Vol 1 No 2, 17 (http://orfeus.knmi.nl/newsletter/newsletter.htm).
- Voight, B., Sparks, R.S.J., Miller, A.D., Stewart, R.C., et al, 1999. Magma flow instability and cyclic activity at Soufriere Hills Volcano, Montserrat, British West Indies, *Science*, **283**, 1138-1142.
- Young, S.; Voight, B.; Barclay, J.; Herd, R.; Komorowski, J.; Miller, A.; Sparks, R. & Stewart, R., 2002. Hazard implications of small-scale edifice instability and sector collapse: a case history from Soufriere Hills Volcano, Montserrat, *Geological Society, London, Memoirs* 21, 349-361.
- Substantial input (as reviewer) to Chapter 7, Site Selection, Preparation and Installation of Seismic Stations, IASPEI New Manual of Seismological Observatory Practice, GeoForschungsZentrum, Potsdam, 2002.Anon., 2004. Tristan da Cunha, Bulletin of the Global Volcanism Network, August 2004.
- Anon., 2004. Tristan da Cunha: An example of using CTBT data. *CTBTO Spectrum*, **Issue 5**, 14 (www.ctbto.org).
- *Stewart, R., Bass, V., Christopher, T., Clouard, V., De Angelis, S., Dondin, F., Fournier, N., Joseph, E., Komorowski, J., Robertson, R. and Syers, R., 2008. Report for the Scientific Advisory Committee on Montserrat Volcanic Activity, Technical report 08/02, Montserrat Volcano Observatory.
- *Stewart, R.; Bass, V.; Chardot, L.; Christopher, T.; Dondin, F.; Finizola, A.; Fournier, N.; Joseph, E.; Komorowski, J.; Legendre, Y.; Peltier, A.; Robertson, R.; Syers, R. & Williams, P., 2009. Report for the Scientific Advisory Committee on Montserrat Volcanic Activity. Technical Report 09/01, Montserrat Volcano Observatory.
- Chardot, L.; Voight, B.; Foroozan, R.; Sacks, S.; Linde, A.; Stewart, R.; Hidayat, D.; Clarke, A.; Elsworth, D.; Fournier, N.; Komorowski, J.-C.; Mattioli, G.; Sparks, R. S. J. & Widiwijayanti, C., 2010. Explosion dynamics from strainmeter and microbarometer observations, Soufriere Hills Volcano, Montserrat: 2008-2009, *Geophys. Res. Lett.* **37**(19), L00E24.
- *Cole, P.; Bass, V. ..; Christopher, T.; Eligon, C.; Fergus, M.; Gunn, L.; Odbert, H.; Simpson, R.; Stewart, R.; Stinton, A.; Stone, J.; Syers, R.; Robertson, R.; Bernstein, M.; Watts, R. & Williams, P., 2010. Report To the Scientific Advisory Committee on Montserrat Volcanic Activity. Report on Activity between 15 August 2009 and 28 February 2010, 10/01a), Technical report 10/01, Montserrat Volcano Observatory.
- *Cole, P.; Bass, V.; Christopher, T.; Eligon, C.; Murrell, C.; Odbert, H.; Smith, P.; Stewart, R.; Stinton, A.; Syers, R.; Robertson, R. & Williams, P., 2010. Report to the Scientific Advisory Committee on Volcanic Activity at Soufriere Hills Volcano Montserrat Report on Activity between 28 February 2010 and 31 October 2010, Technical report 10/02, Montserrat Volcano Observatory.
- Komorowski, J.-C.; Legendre, Y.; Christopher, T.; Bernstein, M.; Stewart, R.; Joseph, E.; Fournier, N.; Chardot, L.; Finizola, A.; Wadge, G.; Syers, R.; Williams, C. & Bass, V., 2010. Insights into processes and deposits of hazardous vulcanian explosions at Soufriere Hills Volcano during 2008 and 2009 (Montserrat, West Indies), *Geophys. Res. Lett.* **37**(19), L00E19.
- *Cole, P.; Bass, V.; Christopher, T.; Murrell, C.; Odbert, H.; Smith, P.; Stewart, R.; Stinton, A.; Syers, R.
 & Williams, P., 2011. MVO scientific report for volcanic activity between 1 November 2010 and 30 April 2011, Technical report 11/01, Montserrat Volcano Observatory.

- *Cole, P.; Bass, V.; Christopher, T.; Murrell, C.; Odbert, H.; Smith, P.; Stewart, R.; Stinton, A.; Syers, R. & Williams, P., 2011. MVO scientific report for volcanic activity between 1 May 2011 and 31 October 2011, Technical report 11/02, Montserrat Volcano Observatory.
- Wadge, G.; Cole, P.; Stinton, A.; Komorowski, J.-C.; Stewart, R.; Toombs, A. & Legendre, Y., 2011. Rapid topographic change measured by high-resolution satellite radar at Soufriere Hills Volcano, Montserrat, 2008 - 2010, *Journal of Volcanology and Geothermal Research*, **199**, 142--152.
- *Cole, P.; Bass, V.; Christopher, T.; Melander, S.; Pascal, K.; Smith, P.; Stewart, R.; Stinton, A. & Syers, R., 2012. MVO Scientific Report For Volcanic Activity Between 1 May 2012 and 12 October 2012, Technical report 12/02, Montserrat Volcano Observatory.
- *Cole, P.; Bass, V.; Christopher, T.; Odbert, H.; Smith, P.; Stewart, R.; Stinton, A.; Syers, R. & Williams, P., 2012. MVO scientific report for volcanic activity between 1 November 2011 and 30 April 2012, Technical report 12/01, Montserat Volcano Observatory.
- Costa, A.; Wadge, G.; Stewart, R. & Odbert, H. 2013. Coupled subdaily and multiweek cycles during the lava dome eruption of Soufriere Hills Volcano, Montserrat, *J. Geophys. Res. Solid Earth* **118**(5), 1895--1903.
- *Stewart, R.; Bass, V.; Christopher, T.; Cole, P.; Dondin, F.; Higgins, M.; Joseph, E.; Pascal, K.; Smith, P.; Stinton, A.; Syers, R. & Williams, P., 2013. MVO Scientific Report for Volcanic Activity between 13 October 2012 and 30 April 2013, Technical report 13-06, Montserrat Volcano Observatory.

Conference Presentations (* not presenter)

- Stewart, R.C., 1980. Pulse-length differences in P-wave seismograms: anelastic attenuation or Doppler shift?, UKGA-4, University of Birmingham, UK, 14-17 April 1980. Abstract: *Geophys. J. R. astr. Soc.*, **61**, 200.
- Stewart, R.C., 1981. An earthquakes source mechanism from a single seismogram, UKGA-5, University of Cambridge, UL, 6-9 April 1981. Abstract: *Geophys. J. R. astr. Soc.*, **65**, 249.
- Stewart, R.C., 1982. Earthquake mechanisms and the pulse shape of P, pP and sP. IASPEI General Assembly, University of Ontario, Canada, 21-30 July 1981.
- Stewart, R.C., 1982. Seismograms from phaseless seismographs, UKGA-6, University College Cardiff, UK, 5-7 April 1982. Abstract: *Geophys. J. R. astr. Soc.*, **69**, 287.
- *Pearce, R.G. and Stewart, R.C., 1985. A method of testing pulse length contrasts against a propagating rupture model, UKGA-9. Abstract: *Geophys. J. R. astr. Soc.*, **81**, 340.
- Stewart, R.C., 1986. Reflections on the core-mantle boundary, UKGA-10, University of Glasgow, UK, 7-9 April, 1986. Abstract: *Geophys. J. R. astr. Soc.*, **85**, 265.
- Stewart, R.C., 1986. Mainshock: a teleseismic view, The Society for Earthquake and Civil Engineering Dynamics Open Meeting on the Lleyn Peninsula North Wales Earthquakes, The Institution of Civil Engineers, 17 September 1986.
- Stewart, R.C. and Bracewell, A.E., Seismic disturbances local to Eskdalemuir, Scotland, UKGA-11, University of Durham, UK, 6-8 April 1987. Abstract: *Geophys. J. R. astr. Soc.*, **89**, 458.
- Stewart, R.C., Marshall, P.D. and Lilwall, R.C., 1988. The 1 August 1986 seismic disturbance near Novaya Zemlya, UKGA-12, University of Leeds, UK, 6-8 April 1988. Abstract: *Geophysical Journal*, 92, 258.
- *Jones, R.H., Stewart, R.C., Willis-Richards, J. and Green, A.S.P., 1989. The use of vertical seismic profiling and cross-hole seismic surveys in the development of Hot Dry Rock reservoirs, AGU Fall Meeting, San Francisco, USA, December 1989. Abstract: *EOS Transactions AGU*, October 24 1989, 1216.

- *Jones, R.H. and Stewart, R.C., 1989. Seismic surveying of a hot dry rock reservoir, UKGA-13, April 1989. Abstract: *Geophysical Journal*, **96**, 589.
- Stewart, R.C. and Jones, R.H., 1989. The use of VSP and cross-hole seismic surveys in the development of HDR reservoirs, CSM International Hot Dry Rock Conference, UK, 27-30 June 1989.
- Stewart, R.C., 1990. Seismic-wave velocity anisotropy in a jointed granite, UKGA-14, Polytechnic South West, UK, 18-20 April 1990. Abstract: *Geophys. J. Int.*, **101**, 291.
- Stewart, R.C., Hunt, S.P., Jones, R.H., Halliday, N.P.J. and Twose, C.R., 1990. Problems encountered using 3-axis seismic tools, Fourth International Workshop on Seismic Anisotropy, Heriot-Watt University, UK, 2-6 July 1990.
- Stewart, R.C., 1990. Joint-induced seismic anisotropy, Fourth International Workshop on Seismic Anisotropy, Heriot-Watt University, UK, 2-6 July 1990.
- McKee, C.O., Talai, B., Stewart, R.C., Itikarai, I., de Saint Ours, P., Lauer, N., Sipison, L., Patia, H. and Lolok, D., 1993. The 1992 eruption of Manam Volcano, Papua New Guinea, IAVCEI General Assembly, Canberra, Australia, 25 September 1 October 1993.
- Stewart, R.C. and Jones, R.H., 1993. The structure of the active ring fault at Rabaul caldera, IAVCEI General Assembly, Canberra, Australia, 25 September 1 October 1993.
- Stewart, R.C., 1993. HDR research in the UK and Europe, International HDR Geothermal Energy Workshop, Canberra, Australia, 5-6 October 1993.
- Jones, R.H. and Stewart, R.C., 1993. The structure of the active ring fault at Rabaul Caldera determined from an analysis of earthquake location errors, AGU Fall Meeting, San Francisco, USA, 6-10 December 1993. Abstract: *EOS Transactions AGU*, October 26 1993, **74**, 1216.
- *McKee, C., Talai, B., Lauer, N., Stewart, R., de Saint Ours, P., Itikarai, I., Patia, H., Lolok, D., Davies, H. and Johnson, R.W., 1995. The 1994 eruptions at Rabaul Volcano, Papua New Guinea, IUGG General Assembly, Boulder, USA, 2-14 July 1995.
- Stewart, R.C., Jones, R.H., Niitsuma, H., Sasaki, S. and Kaieda, H., 1996. A reexamination of microseismic data fom the Hijiori HDR project. International HDR Forum, Santa Fe, USA, May 1996.
- Stewart, R.C., 2004. Monitoring Volcanic Activity with the CTBT Verification System. WMO Emergency Response Activities Coordination Group, Geneva, 22-24 March 2004.
- Stewart, R.C. and Haslinger, F, 2004. Calibration of Seismic Stations as Seen from the CTBTO. O&M Workshop, Baden, Austria, 11-15 October 2004
- *Stewart, R.C. and Chernobay, I., 2004. Operational Manuals. O&M Workshop, Baden, Austria, 11-15 October 2004
- Stewart, R.C., O'Moingain, A., Ottemoeller, L., Baptie, B., Booth, D., Hards, V., 2005. Detection of an underwater eruption near Tristan da Cunha using the IMS network, EGU General Assembly 2005, Vienna, Austria, 24-29 April 2005. Abstract: *Geophysical Research Abstracts*, 7, 2392.
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Computer Experience

Hardware: IBM and VAX mainframe, MicroVAX minicomputer, Sun workstation, DEC Alpha workstation, Meiko parallel processor, IBM-compatible PC.

Operating Systems: IBM, VMS, Unix, DOS, Windows 3.1/NT/2000/XP, LANTASTIC Network, Linux.

Programming Languages: FORTRAN IV, FORTAN 77, DBASE IV, Perl. Limited experience with shell scripting (DOS and Unix/Linux), Fortran 90, BASIC, Occam, C, SQL/Plus.

Specific Applications: Maintenance and development of seismic data acquisition systems on VAX and PC computers. Development of seismic databases. Design and development of the IMS Reporting System (email-based). Automatic generation of maps for IMS presentations.

Other Information

Hobbies: Photography, computers, hill-walking, cycling, travel, literature, music, art, motorcycling.

Langages: English. Some German, French and Tok Pisin (Papua New Guinea Pigeon).

Current driving licence (car and motorcycle).