

Curriculum Vitae : Mike Sandiford

1. Personal details

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Date and place of Birth : 3 April 1956, Melbourne
Nationality : Australian
Marital Status : Married with 3 children

2. Qualifications and academic appointments

1978	University of Melbourne	B.Sc. (Hons)
1984	University of Melbourne	Ph.D.
1984-1985	University of Melbourne	Postdoctoral Fellow
1986-1987	Cambridge University	CSIRO Postdoctoral F.
1988-1991	University of Adelaide	Lecturer
1991-1995	University of Adelaide	Senior Lecturer
1996-2000	University of Adelaide	Reader
2000-2005	University of Melbourne	Professorial Fellow

3. Research

Professor Sandiford's research has focused on the geodynamic evolution of the continents with his main contributions in the fields of (1) the thermal evolution of metamorphic terranes, (2) the mechanics of orogenic systems and (3) the nature of stress fields and deformation in continental interiors. His research on the long-term evolution of the continents has provided new insights into the way in which tectonic processes modify the geochemical structure of the lithosphere and, in particular, the distribution of heat producing elements, leading to the notion of "tectonic feedback". Professor Sandiford's research has been published in 99 international research journals and books. His most recent work on earthquake occurrences within Australia was the subject of a review in *New Scientist* in June, 2003, while his recent contributions to the young tectonic evolution of the Australian continent have been recognised by an invitation to present the Geological Society of Australia Public Lecture Series for 2003.

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4. Major Research funding

ARC	Excavation history of the Eastern Arunta Inlier	88-89	\$63,000
ARC	Heat and mass transfer in the metamorphic environment	90-91	\$70,000
ARC	The role of the mantle lithosphere in the thermal evolution of the Eastern Alps	91-93	\$137,000
ARC	Mineral textures and PT time paths during metamorphism	91-93	\$130,000
APCRC	The tectonic stress field of the Indo-Australian plate	92-94	\$220,000
ARC	Petrological constraints on the shear strength of rocks	96-98	\$190,000
ARC	Causes of high geothermal gradient metamorphism: insights into the long-term behaviour of the continents,	99-01	\$255,000
ARC	Heat production, tectonic feedback and the shaping of the Australian continent	00-05	~\$550,000
ARC	Tectonic feedback and the long term evolution of the continents	02-05	~\$250,000
ACcESS MNRF	Surface process modelling	02-07	~ \$377,000

5. Public lectures, keynote addresses, invited lectures, awards & professional appointments

Public lecture	<i>The nature of Change</i> , Science Week, 2002.
Public lecture (tour)	<i>Making Australia</i> , Geological Society of Australia, 2003.
Keynote address	<i>Metamorphism and structure of the deep crust</i> , Finland, Oulu, 1992.
Keynote address	<i>What controls metamorphism and metamorphic reactions</i> , Geological Society of London, Kingston, U.K., 1996.
Keynote address	<i>Differentiation of the continental Crust</i> , Penrose Conference, Verbania, Italy, 1998
Keynote address	<i>Orogenesis in the Outback</i> , Alice Springs, Geol. Soc.Aust., 1999.
Keynote address	<i>Exploration Geodynamics</i> , Chapman Conference, Perth, 2001.
Keynote Address	<i>Flow processes in shear zones</i> , Geol. Soc. London, London, U.K., 2002.
Keynote Address	<i>SGTSG Kalbarri</i> , Geological Society Australia, 2003
Keynote Address	<i>Annual conference</i> , Australian Earthquake Engineers, 2003.
Award	<i>Australian Research Council</i> , Professorial Fellowship, 2000-2005.
Award	<i>Stillwell Medal</i> , Geological Society of Australia, 2001.

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Invited lecture	<i>ANU Geophysics Summer school, Kioloa, NSW, 1997.</i>
Invited lecture	<i>Vernon Symposium, Geological Society of Australia, Sydney, 2000.</i>
Invited lecture	<i>Selwyn Symposium, Geological Society of Australia, Melb., 2000.</i>
Invited lecture	<i>Powell Symposium, Geological Society of Australia, 2002.</i>
Invited lecture	<i>Sprigg Symposium, Geological Society of Australia, 2002.</i>
Invited lecture	<i>Magma to mineralisation, Ishihara Symposium, Sydney, 2003.</i>
Appointment	Editorial Board, <i>Geology</i> , 1997-1999.
Appointment	Australian Research Council Physics and Earth Sciences reader panel, 2001-2004.
Appointment	pmd*CRC science review panel, 2002.

6. Teaching and mentoring

Professor Sandiford has taught undergraduate geology at all levels, supervised 46 research student projects and mentored 13 postdoctoral fellows, employed as part of his research group.

7. Major publications (total of 99 publications in international journals and books)

Sandiford, M., 2003, Neotectonics of southeastern Australia: linking the Quaternary faulting record with seismicity and in situ stress, eds Hillis, R.R. Muller, D., *Evolution and dynamics of the Australian Plate*, G.S.Australia and G.S.America, Joint Special Publication 22, 101,123.

Sandiford, M. McLaren, S., 2002, Tectonic feedback and the ordering of heat producing elements within the continental lithosphere, *Earth and Planetary Science Letters*, 2002, 204, 133-150

Sandiford, M., 2002, Low thermal Peclet number intraplate orogeny in central Australia, *Earth and Planetary Science Letters*, 201, 309-320

Sandiford, M., Hand, M., McLaren, S., 2001, Tectonic feedback, intraplate orogeny and the geochemical structure of the crust: a central Australian perspective, In "Continental Reactivation and Reworking", (eds, Miller, J., Holdsworth, R., Buick, I., Hand, M.), Geological Society Special Publication No. 184, 195-218.

Neumann, N, Sandiford, M. and Foden, J., 2000, Regional geochemistry and continental heat flow: Implications for the origin of the South Australian heat flow anomaly. *Earth and Planetary Science Letters*, 183, 107-120.

Sandiford, M., 1999, Mechanics of basin inversion, *Tectonophysics*, 305,109-120.

Sandiford, M., Hand, M. and McLaren, S., 1998, High geothermal gradient metamorphism during thermal subsidence, *Earth and Planetary Science Letters*, 163, 149-165.

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- Sandiford, M. and Hand, M., 1998, Controls on the locus of Phanerozoic intraplate deformation in central Australia, *Earth and Planetary Science Letters*, 162, 97-110.
- Sandiford, M., Coblenz, D., and Richardson, R.M., 1995, Focusing ridge-torques during continental collision in the Indo-Australian plate, *Geology*, 23, 653-656.
- Coblenz, D., Sandiford, M., Richardson, R., Zhou, S., and Hillis, 1995 R., The origins of the intraplate stress field in continental Australia, *Earth and Planetary Science Letters*, 133, 299-309.
- Sandiford, M., and Coblenz, D., 1994, Plate-scale potential energy distributions and the fragmentation of ageing plates, *Earth and Planetary Science Letters*, 126, 143-159.
- Sandiford, M., Foden, J., Zhou, S., and Turner, S., 1992, Granite genesis and the mechanics of convergent orogenic belts with application to the southern Adelaide Fold Belt. *Proceedings of the Royal Society of Edinburgh (Hutton Symposium Volume) 83*, 83-93.
- Turner, S., Sandiford, M., and Foden, J., 1992, Some geodynamic and compositional constraints on "post-orogenic" magmatism, *Geology*, 20, 931-934.
- Sandiford, M., Martin, N., Zhou, S., and Fraser, G., 1991, Mechanical consequences of granite emplacement during high-T, low-P metamorphism and the origin of "anticlockwise" PT paths, *Earth and Planetary Science Letters*, 107, 164-172. 1992
- Sandiford, M., 1989, Horizontal structures in deep crustal granulite terrains : a record of mountain building or mountain collapse? *Geology*, 17, 449 - 452.
- Sandiford, M., 1989, Secular trends in the thermal evolution of metamorphic belts, *Earth and Planetary Science Letters*, 95, 85-96
- Fitzgerald, P.F., Sandiford, M., Barret, P.J. and Gleadow, A.J.W. 1987. Asymmetric extension associated with uplift and subsidence in the Transantarctic Mountains and Ross Embayment, *Earth and Planetary Science Letters*, 81, 67-78.
- Sandiford, M. and Powell, R. 1986. Deep crustal metamorphism during continental extension, ancient and modern examples. *Earth and Planetary Science Letters*, 79, 151-158.
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