

# Curriculum Vitae

**Michael Brown**

Notarization. I have read the following and certify that this *curriculum vitae* is a current and accurate statement of my professional record.

A handwritten signature in black ink that reads "Michael Brown". The signature is written in a cursive style. Below the signature, there is a horizontal line with an arrow pointing to the right, indicating the end of the signature.

Signature:

Date: 1 June, 2017

# Curriculum Vitae

## Michael Brown

### 1. PERSONAL INFORMATION

Name: Michael Brown

Address: Laboratory for Crustal Petrology, Department of Geology, University of Maryland, College Park, MD 20742-4211, USA; (+1) 3014054080; mbrown <at> umd.edu; www.geol.umd.edu

Born: March 19, 1947, Hayes, Middlesex, UK

Family: Wife (Jennifer Frances); children (Matthew James, 1980; Thomas Michael, 1985; and, Sarah Jane, 1986)

Nationality: U.S. Citizen/British Citizen

### University Education

BA Hons Geography and Geology (with subsidiary Chemistry and Political Institutions), University of Keele, UK, 1969

PhD University of Keele, UK (1975 graduation), for a thesis entitled “The Petrogenesis of the St. Malo Migmatite Belt, North-Eastern Brittany, France”, successfully defended Fall 1974

### Professional Positions

**1990 to present** UNIVERSITY OF MARYLAND, USA

*Department of Geology*

3/1/90 to present Professor of Geology

3/1/90 to 6/30/11 Chair of Department (appointed 1990, reappointed 1995, 2000, 2005 and 2010)

*Earth System Science Interdisciplinary Center*

7/1/02 to present Affiliate Professor

9/1/98 to 9/25/00 Interim Director – concurrent appointment with Chair of Department

**1984 to 1990** KINGSTON UNIVERSITY, UK

*School of Geological Sciences*

12/9/88 to 2/28/90 Professor of Geology

4/30/84 to 2/28/90 Head of School

*Faculty of Science*

9/1/86 to 2/28/90 Associate Dean (Academic Affairs) – concurrent appointment with Head of Department

**1972 to 1984** OXFORD BROOKES UNIVERSITY, UK

*Department of Geology & Physical Sciences*

9/1/82 to 4/29/84 Acting Head of Department

9/1/79 to 8/31/82 Principal Lecturer in Geology

1/1/75 to 8/31/79 Senior Lecturer in Geology

9/1/72 to 12/31/74 Lecturer in Structural Geology

**1969 to 1972** UNIVERSITY OF KEELE, UK

*Department of Geology*

1970 to 1971 Part-time demonstrator (teaching assistant) in Geology laboratory classes

### Visiting Appointments

**2014** Visiting Research Fellow, Curtin University, Western Australia.

**2013** Visiting Researcher, Johannes Gutenberg-Universität Mainz, Germany.

**1999** Visiting Professor, Universidade do Estado do Rio de Janeiro, Brazil.  
**1993** Visiting Lecturer, Kyoto University, Japan  
**1990 to 1992** Visiting Professor, Kingston University, UK

## Other Appointments

**2015 to 2020** Director of the Consulting Committee, School of Earth and Space Sciences, Peking University  
**2014 to present** Associate Director, Center for Global Tectonics, China University of Geosciences (Wuhan), P.R. China  
**2014 to present** Honorary Professor, China University of Geosciences (Wuhan), P.R. China  
**2011 to present** Partner Investigator, ARC Centre of Excellence for Core to Crust Fluid Systems (CCFS), Macquarie University, Australia  
**2010 to present** Member, International Precambrian Research Centre of China, Beijing, P.R. China

## Awards

**2018** 51<sup>st</sup> Hallimond Lecturer, Mineralogical Society of Great Britain and Ireland  
**2014** Collins Medal, Mineralogical Society of Great Britain and Ireland  
**2012** Antarctic Service Medal  
**2005** John Sacheverell A'Deane Coke Medal, The Geological Society (London, UK)

## Professional and Learned Societies

The Geological Society, Fellow (1972, FGS); Chartered Geologist (1990, CGeol)  
Mineralogical Society of Great Britain and Ireland, Member (1980)  
American Geophysical Union, Member (1986)  
Geological Society of America, elected Fellow (1993; Member since 1987)  
Mineralogical Society of America, elected Fellow (1999; Member since 1990)  
Geological Society of Washington, Member (1990)  
European Geophysical Union, Member (2003; EGS Member since 1998)  
Geochemical Society, Member (2000)

## Career Summary

### Accomplishments in research and related activities

I am a leader in the study of high-grade metamorphism and crustal melting. My research combines petrology with structural geology, geochemistry and geochronology to understand orogenic processes and global geodynamics. My research has been made available through several books, >150 peer-reviewed chapters and articles in books and journals, >65 other articles, conference proceedings, editorials, reviews and field excursion guides, and by >400 presentations at scientific meetings.

My research has:

- clarified the petrogenesis of migmatites by anatexis and determined petrogenetic relationships between migmatites and leucogranites;
- furthered our understanding of heat and mass transfer through the crust;
- developed a comprehensive understanding of Neoproterozoic (Cadomian) magmatism in the northern Armorican Massif;
- produced the first  $P$ - $T$ - $t$  paths from migmatite terranes;
- recognized the southern Brittany migmatite belt as a core complex;
- established the inter-relationship between tectonics and magmatism in the Mesozoic Andes of northern Chile;
- demonstrated the role of deformation in the segregation and ascent of melt through orogenic crust and in the emplacement of orogenic leucogranites;
- imaged, using HR X-ray CT, the 3-d form of melt flow channels in migmatites with  $S>L$  and  $L>S$  tectonite fabrics for the first time, and shown how these relate to the evolving strain field during melt flow;
- demonstrated the polyphase nature of granite plutons;
- quantified ultrahigh temperature metamorphism in the Southern Granulite Terrain of India, the Southern Brasilia Belt in Brazil and the Eastern Ghats Province in India;

- confirmed that paired metamorphic belts *sensu stricto* commonly were not collocated during formation, but were juxtaposed subsequently by tectonic processes;
- characterized three distinct geodynamic regimes during Earth evolution based on secular change in thermal gradients of metamorphism, and linked these to secular cooling of the Earth's mantle;
- quantified the polyphase nature and source characteristics of crustal melting in the Fosdick migmatite–granite complex in Marie Byrd Land, west Antarctica;
- contributed to a better understanding of fluid evolution during ultrahigh pressure metamorphism of continental crust.

### ***Citation record and significant journal articles***

In the ISI Web of Science (ISI WoS) my total citation count is >7200 and my h-index is 49 (includes 4 highly cited papers), whereas in Google Scholar (GS) my total citation count is >8800, my h-index is 57 and my i10-index is 116 (data collected end May, 2017); citations accrued per article below are reported as ISI WoS/GS in parentheses (N.A. = no longer available via ISI WoS).

1. Brown, M., 1994. The generation, segregation, ascent and emplacement of granite magma: The migmatite-to- crustally-derived granite connection in thickened orogens. *Earth-Science Reviews*, **36**, 83–130. (374/508)
2. Brown, M., 2007. Metamorphic conditions in orogenic belts: A record of secular change. *International Geology Review*, **49**, 193–234. (234/298)
3. Brown, M. and Solar, G.S., 1998a. Shear zone systems and melts: Feedback relations and self-organization in orogenic belts. *Journal of Structural Geology*, **20**, 211–227. (230/283)
4. D'Lemos, R.S., Brown, M. and Strachan, R.A., 1992. Granite magma generation, ascent and emplacement within a transpressional orogen. *Journal of the Geological Society, London*, **149**, 487–490. (208/291)
5. Brown, M., 2006. Duality of thermal regimes is the distinctive characteristic of plate tectonics since the Neoproterozoic. *Geology*, **34**, 961–964. (187/245)
6. Brown, M. and Solar, G.S., 1998b. Granite ascent and emplacement during contractional deformation in convergent orogens. *Journal of Structural Geology*, **20**, 1,365–1,393. (180/240)
7. Brown, M., Averkin, Y.A., McLellan, E.L. and Sawyer, E.W., 1995. Melt segregation in migmatites. *Journal of Geophysical Research*, **100**, 15,655–15,679. (169/218)
8. Raith, M., Karmakar, S. and Brown, M., 1997. Ultrahigh-temperature metamorphism and multi-stage decompressional evolution of sapphirine granulites from the Palni Hill Ranges, Southern India. *Journal of Metamorphic Geology*, **15**, 379–399. (147/185)
9. Brown, M. and Solar, G.S., 1999. The mechanism of ascent and emplacement of granite magma during transpression: a syntectonic granite paradigm. *Tectonophysics*, **312**, 1–33. (144/182)
10. Brown, M., 1993. *P-T-t* evolution of orogenic belts and the causes of regional metamorphism. *Journal of the Geological Society, London*, **150**, 227–241. (130/175)
11. Brown, M., 2007. Crustal melting and melt extraction, ascent and emplacement in orogens: Mechanisms and consequences. *Journal of the Geological Society, London*, **164**, 709–730. (121/176)
12. Brown, M., 2002. Retrograde processes in migmatites and granulites revisited. *Journal of Metamorphic Geology*, **20**, 25–40. (115/147)
13. Solar, G.S. and Brown, M., 2001. Petrogenesis of migmatites in Maine, USA: Possible source of peraluminous leucogranite in plutons? *Journal of Petrology*, **42**, 789–823. (114/151)
14. Brown, M., 1973. The Definition of Metatexis, Diatexis and Migmatite. *Proceedings of the Geologists' Association*, **84**, 371–382. (N.A./151)
15. Grocott, J., Brown, M., Dallmeyer, R.D., Taylor, G.K. and Treloar, P.J., 1994. Mechanisms of continental growth in extensional arcs: An example from the Andean Plate Boundary Zone. *Geology*, **22**, 391–394. (113/139)
16. Sizova, E., Gerya, T., Brown, M. and Perchuk, L., 2010. Subduction styles in the Precambrian: Insight from numerical experiments. *Lithos*, **116**, 209–229. (105/142)

### ***Research leadership in the community***

I proposed and established the Metamorphic Studies Group in the UK (1981; a Specialist Group of the Geological Society and the Mineralogical Society of Great Britain and Ireland), the *Journal of Metamorphic Geology* (1983; Blackwell Publishing; now Wiley, Chichester, UK) and the IAVCEI Commission on Granites (1992–1993; International Association of Volcanology and Chemistry of the Earth's Interior). I was Co-leader of the International Geological Correlation Program Project 235 on “Metamorphism and Geodynamics” (1985–1990), General Chair of the Organizing Committee for the Hutton III Symposium on the “Origin of Granites and Related Rocks” at the University of Maryland, USA, in 1995, and Chair of the Organizing Committee for the Granulites & Granulites 2006 Conference held at the University of Brasília, Brazil. I was

also a member of the co-ordinating group for the Integrated Solid Earth Sciences forums concerning setting priorities for research and education in the solid Earth sciences (2002–2006; sponsored by the US NSF).

## Teaching profile

My approach to education is innovative even though it is based on traditional lecture/laboratory/seminar/tutorial teaching methods. I foster a questioning attitude with respect to published work, and stress the importance of personal observation and interpretation in the classroom and in the field.

At *Oxford Brookes University*, my main teaching responsibilities included courses in metamorphic petrology, structural geology and tectonics, the year 2 mapping training and structural geology field course and the year 3 hard-rock option field course. At various times I also taught physical geology, petrogenesis, map work, first year fieldwork and introductory geology for Civil Engineers. I supervised undergraduate independent mapping projects (cf. senior thesis), and supervised four Research Assistants to successful completion of PhDs. At *Kingston University*, my teaching responsibilities included courses in metamorphic geology to all 3 years of the BSc Honors Geology program; in addition, I took a tutorial group in each year of the Course, and taught the first year field course. I supervised four Research Assistants to successful completion of PhDs. At the *University of Maryland*, my main teaching responsibilities included courses in undergraduate and graduate level petrology, in Earth evolution and tectonics, and in Precambrian Geology. Since 1997 I have taught the undergraduate capstone Honors seminar. I advise both undergraduate and graduate students in research, and I have mentored six post-doctoral Research Associates and a number of visiting scientists.

## Achievements in management/administration

I have demonstrated administrative effectiveness as Head or Chair of Department at Oxford Brookes University, Kingston University and the University of Maryland for a total of 29 years, and through service to the Institution of Geologists, the Geological Society, the Mineralogical Society of Great Britain and Ireland, the American Geophysical Union, the Geological Society of Washington and the Mineralogical Society of America.

At both *Oxford Brookes University*, as Acting Head of the Department, and *Kingston University*, as Head of School, I was responsible for the provision of academic leadership, and the management of the teaching, research, technical and secretarial staff, the laboratories and the financial resources. At the *University of Maryland*, as Chair, I was responsible for the development of strong undergraduate and graduate programs in Geology and raising the national and international reputation of the Department, which was not ranked among the best 170 graduate programs in Geology in 1990. Under my leadership the Department increased the size of its faculty by 50%, raised the level of research grant and contract support per year approximately eightfold, enlarged the Graduate Program in spite of more rigorous standards for entry, and stabilized the number of undergraduate majors. When I stepped down as Chair in 2011, the Department's graduate programs ranked 14<sup>th</sup> nationally in Geology (NRC) and seventh nationally in Geochemistry (US News and World Report).

## External Service

*While based in the UK* I served on the Council of the Geological Society (1980-1983) and the Mineralogical Society (1985-1988), and on many of their committees, and committees of the Institution of Geologists. I was Secretary (1980-1984) and Chairman (1985-1988) of the Metamorphic Studies Group, Subject Editor (Metamorphic Petrology – 1981-1986) and Advisory Editor (1998-2004) for the *Journal of the Geological Society*, and founder and Editor of the *Journal of Metamorphic Geology* (1982-present). I served on the Council for National Academic Awards (CNAA) Combined Studies (Science) Board and Committee for Physical Sciences. I represented the National Advisory Body (NAB) on the University Grants Committee (UGC) Earth Sciences Review National Committee, and represented the Committee of Heads on the National Advisory Body (NAB) Earth Sciences Review Committee. (In the UK, the NAB disbursed Government funding in the Polytechnic sector until 31 March 1989, and the UGC disbursed Government funding in the University sector until 31 March 1989.) In April 1989, the Polytechnics and Colleges Funding Council (PCFC) replaced the NAB, and in August 1989, I became a member of the Science Programme Advisory Group.

*While based in the USA* I have served on the Council of the Geological Society of Washington (1991–1992 and 2011), as a member of the American Geophysical Union (AGU) 75th Anniversary Planning Committee (1990–1992 and 1992–1994), as Spring Program Chair for the Volcanology, Geochemistry and Petrology Section of the AGU (2002–2004), and as a member of the AGU Meetings Committee (2004–2007) and Chair of the Program Committee for the AGU Joint Assemblies in

Spring 2006 and 2007. I have been a member of the Committee on Management of the Mineralogical Society of America (1995–1998), the Nominating Committee for Officers (1998–2001), the Nominating Committee for Fellows (2004–2007, Chair 2005–2007), and the Financial Advisory and Audit Committee (2013–2016). I was a member of the Executive Committee of the AGU Board of Heads and Chairs of Earth and Space Science Departments (2000–2003). I continue as an editor of the *Journal of Metamorphic Geology* (1982–present). I am a former member of the *Geology* Editorial Board, a former Advisory Editor of the *Journal of the Geological Society, London* (1998–2004), a former member of the Geological Society, London, Books Editorial Committee (2005–2011), and a former member of the *Journal of the Virtual Explorer* Editorial Board. I am a member of the Advisory Board of the International Association for Gondwana Research (2009–present), and the AGU Hess Medal Committee (01-01-2013–12-31-2017). I am Vice President of the Mineralogical Society of America for 2017; in this role I am a member of Council, a member of the Executive, Management, Long-term Planning, and Financial Advisory and Audit Committees, Chair of the Committee on Committees, and Publications Director.

## 2. RESEARCH, SCHOLARLY, AND CREATIVE ACTIVITIES

### 2.1. Books

\*Denotes a graduate student author; † denotes a Post-doctoral Research Associate author.

#### Books Authored

1. Roach, R.A, Topley, C.G., Brown, M., \*Bland, A.M. and \*D'Lemos, R.S., 1991. *Outline and Guide to the Geology of Guernsey*. Guernsey Museum Monograph No. 3, Guernsey Museum & Art Gallery, 102 pp.

#### Books Edited

1. Ashworth, J.R. and Brown, M., 1990. *High-temperature Metamorphism and Crustal Anatexis*. Unwin Hyman, 407 pp.
2. Brown, M. and Piccoli, P.M., 1995. *The Origin of Granites and Related Rocks*. U.S. Geological Survey Circular 1129. U.S. Geological Survey, 170 pp.
3. Brown, M., Candela, P.A., Peck, D., Stephens, W.E., Walker, R.J. and Zen, E., 1996. *Origin of Granites and Related Rocks*. Geological Society of America Special Paper, **315**, 361 pp. (also published as *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **87**, 1&2, 1-361).
4. Brown, M. and Rushmer, T., 2006. *Evolution and Differentiation of the Continental Crust*. Cambridge University Press, 553 pp.
5. Sawyer, E.W. and Brown, M., 2008. *Working with Migmatites*. Mineralogical Association of Canada, Short Course Series, Vol. 38, 158 pp.

#### Chapters in Books

1. Brown, M. and Phadke, A.V., 1983. High temperature reactions in pelitic gneiss from Precambrian Sausar metasediments of the Ramakona area, Chindwara District, Madhya Pradesh (India): Definition of the exhumation P-T path and the tectonic implications. In: Phadke, A.V. and Pansalkar, V.G. (eds), *Prof. Kelkar Memorial Volume*, Indian Society of Earth Scientists, Poona, pp. 61-96.
2. Brown, M., 1983. The petrogenesis of some migmatites from the Presqu'île de Rhuys, southern Brittany, France. In: Atherton, M.P. and Gribble, C.D. (eds), *Migmatites, Melting and Metamorphism*, Shiva Publishing Limited, Nantwich, pp. 174-200.
3. \*Jones, K.A. and Brown, M., 1989. The metamorphic evolution of the Southern Brittany migmatite belt, France. In: Daly, J.S., Cliff, R.A. and Yardley, B.W.D. (eds), *Evolution of Metamorphic Belts*, Geological Society, London, Special Publications, **43**, 501-505.
4. Brown, M., Power, G.M., Topley, C.G. and \*D'Lemos, R.S., 1990. Cadomian magmatism in the North Armorican Massif. In: D'Lemos, R.S., Strachan, R.A. and Topley, C.G. (eds), *The Cadomian Orogeny*. Geological Society, London, Special Publications, **51**, 181-213.
5. Power, G.M., Brewer, T.S., Brown, M. and Gibbons, W., 1990. Late Precambrian foliated plutonic complexes of the Channel Islands and La Hague - Early Cadomian plutonism. In: D'Lemos, R.S., Strachan, R.A. and Topley, C.G. (eds), *The Cadomian Orogeny*. Geological Society, London, Special Publications, **51**, 215-229.
6. Topley, C.G., Brown, M., \*D'Lemos, R.S., Power, G.M. and Roach, R.A., 1990. The northern igneous complex of Guernsey. In: D'Lemos, R.S., Strachan, R.A. and Topley, C.G. (eds), *The Cadomian Orogeny*. Geological Society, London, Special Publications, **51**, 245-259.
7. Ashworth, J.R. and Brown, M., 1990. An overview of diverse responses to diverse processes at high crustal temperatures. In: Ashworth, J.R. and Brown, M. (eds), *High-temperature Metamorphism and Crustal Anatexis*. The Mineralogical Society Series: 2. Unwin Hyman, pp. 1-18.
8. Brown, M., 1991. Comparative geochemical interpretation of Permian-Triassic plutonic complexes of the Coastal Range and Altiplano (25°30'-26°30'S), northern Chile. In: Harmon, R.S. and Rapela, C.W. (eds), *Andean Magmatism and its Tectonic Setting*. Geological Society of America Special Paper, **265**, 157-177.

9. Brown, M., 1995. *P-T-t* evolution of orogenic belts and the causes of regional metamorphism. In: Le Bas, M.J. (ed), *Milestones in Geology*, Geological Society, London, Memoir No. 16, 67-81.
10. Brown, M. and Rushmer, T., 1997. The role of deformation in the movement of granite melt: views from the laboratory and the field. In: Holness, M.B. (ed), *Deformation-enhanced Fluid Transport in the Earth's Crust and Mantle*. The Mineralogical Society Series: 8. Chapman and Hall, London, 111-144.
11. Brown, M., 1997. Migmatites and Melt Migration. In: Xianglin, Q., Zhendong, Y. and Hall, H.C. (eds) *Precambrian Geology and Metamorphic Petrology*, Proceedings of the 30th International Geological Congress, VSP, Zeist, The Netherlands, **V. 17**, 187-202. [Also translated into Chinese]
12. Brown, M. and O'Brien, P.J., 1997. Evolution of Metamorphic Belts: A Changing View. In: Xianglin, Q., Zhendong, Y. and Hall, H.C. (eds), *Precambrian Geology and Metamorphic Petrology*, Proceedings of the 30th International Geological Congress, VSP, Zeist, The Netherlands, **V. 17**, 217-231. [Also translated into Chinese]
13. Brown, M., 1998. Ridge-trench interactions and high-*T*—low-*P* metamorphism, with particular reference to the Cretaceous evolution of the Japanese Islands. In: Treloar, P.J. and O'Brien, P.J. (eds) *What drives metamorphism and metamorphic reactions*. Geological Society, London, Special Publications, **138**, 131-163.
14. Brown, M., 2001. Metamorphism (geology). In: *McGraw-Hill Yearbook of Science and Technology 2002*. McGraw-Hill, New York, pp. 215-219.
15. Brown, M., 2003. Metamorphic petrology at the Millennium: Retrospection and prospects for the future. In: Mohan, A. (ed) *Milestones in Petrology at the end of the Millennium and Future Perspectives*. Memoir, Geological Society of India, Bangalore, **52**, 21-48.
16. †Johnson, T.E. and Brown, M., 2005. The granulite facies, crustal melting, and prograde and retrograde phase equilibria in metapelites at the amphibolite to granulite facies transition. In: Thomas, H. (ed) *Metamorphism and Crustal Evolution*. Atlantic Publishers and Distributors, New Delhi, 3-27.
17. Brown, M., 2005. Synergistic effects of melting and deformation: an example from the Variscan Belt, western France. In: Gapais, D., Brun, J.P. and Cobbold, P.R. (eds) *Deformation Mechanism, Rheology and Tectonics: from Minerals to the Lithosphere*. Geological Society, London, Special Publications, **243**, 205-226.
18. Brown, M., 2005. The mechanism of melt extraction from lower continental crust of orogens. In: Ishihara, S., Stephens, W.E., Harley, S.L., Arima, M. and Nakajima, T. (eds). Fifth Hutton Symposium: The Origin of Granites and Related Rocks, Geological Society of America, Special Paper 389, 35-48.
19. Tomascak, P.B., Brown, M., \*Solar, G.S., Becker, H.J., \*Centorbi, T.L. and \*Tian, Jinmei, 2005. Source contributions to Devonian granite magmatism near the Laurentian Border, New Hampshire and Western Maine, USA. In: *Granitic Systems*. Ramo, O. Tapani (ed). Elsevier Science, 75-99.
20. Brown, M., 2006. Melt extraction from lower continental crust of orogens: the field evidence In: *Evolution and Differentiation of the Continental Crust*. Brown, M. and Rushmer, T. (eds). Cambridge University Press, pp. 331-383.
21. Brown, M. and Rushmer, T., 2006. Introduction. In: *Evolution and Differentiation of the Continental Crust*. Brown, M. and Rushmer, T. (eds). Cambridge University Press, pp. 1-20.
22. Brown, M., 2008. Metamorphic conditions in orogenic belts: a record of secular change. In: *Metamorphic Conditions Along Convergent Plate Junctions: Mineralogy, Petrology, Geochemistry and Tectonics—The J.G. Liou Volume*. Ernst, W.G. and Rumble, III, D. (eds). Bellweather Publishing, Ltd. for the Geological Society of America, International Book Series, Volume 10, 24-65.
23. Brown, M., 2008. Eight figures with extended captions. In: *Atlas of Migmatites*. Sawyer, E.W. The Canadian Mineralogist, Special Publication 9, NRC Research Press, Figures B10, B45, D25, D30, D46, D52, D54 and D60.
24. Brown, M., 2008. Granites, migmatites and residual granulites: Relationships and processes. In: *Working with Migmatites*, Sawyer, E.W. and Brown, M., (eds). Mineralogical Association of Canada, Short Course Series, Vol. 38, 97-144.
25. Brown, M., 2008. Characteristic thermal regimes of plate tectonics and their metamorphic imprint throughout Earth history: When did Earth first adopt a plate tectonics mode of behavior? In: *When Did Plate Tectonics Begin?* Condie, K. and Pease, V. (eds). Geological Society of America Special Paper 440, 97-128.
26. Brown, M. and †Korhonen, F.J., 2009. Some remarks on melting and extreme metamorphism of crustal rocks. In: *Physics and Chemistry of the Earth's Interior*. Gupta, A.K. and Dasgupta, S. (eds). Published for the Indian National Science Academy by Springer, pp. 67-88.
27. Brown, M., 2009. Metamorphic patterns in orogenic systems and the geological record. In: *Accretionary Orogens in Space and Time*. Cawood, P.A. and Kröner, A. (eds). Geological Society, London, Special Publications, 318, 37-74.
28. \*Yakymchuk, C., Siddoway, C.S., Fanning, C.M., McFadden, R., Korhonen, F.J. & Brown, M., 2013. Crustal differentiation along the active margin of Gondwana: A zircon Hf-O perspective from granites in the Fosdick migmatite-granite complex, West Antarctica. In: *Antarctica and Supercontinent Evolution*. Harley, S.L., Fitzsimons, I. C. W. and Zhao, Y. (eds). Geological Society, London, Special Publications, 383, 169-210.

## 2.2. Articles in Refereed Journals

\*Denotes a graduate student author; † denotes a Post-doctoral Research Associate author.

1. Brown, M., Barber, A.J. and Roach, R.A., 1971. The age of the St. Malo Migmatite Belt, Northern Brittany. *Nature Physical Science*, **234**, 77-79.

2. Brown, M. and Roach, R.A., 1972. Precambrian Rocks South of Erquy and Around St. Cast, Côtes-du-Nord. *Nature Physical Science*, **236**, 77-79; and, Brown, M. and Roach, R.A., 1972. Reply. *Nature Physical Science*, **239**, 74-75.
3. Brown, M., 1973. The Definition of Metatexis, Diatexis and Migmatite. *Proceedings of the Geologists' Association*, **84**, 371-382; and, Brown, M., 1974. Reply by the author. *Proceedings of the Geologists' Association*, **85**, 114.
4. Brown, M., 1978. The tectonic evolution of the Precambrian rocks of the St. Malo region, Armorican Massif, France. *Precambrian Research*, **6**, 1-21; and, Brown, M., 1979. The St. Malo migmatite belt: a reply. *Precambrian Research*, **8**, 142-143.
5. Brown, M., 1979. The petrogenesis of the St. Malo migmatite belt, Armorican Massif, France, with particular reference to the diatexites. *Neues Jahrbuch für Mineralogie Abhandlungen*, **135**, 48-74.
6. Brown, M., Topley, C.G. and Power, G.M., 1980. The origin of the diorites and associated rocks of Chouet, north-western Guernsey, Channel Islands. *Mineralogical Magazine*, **43**, 919-929.
7. Brown, M. and Friend, C.R.L., 1980. Field evidence concerning the origin of the early leucocratic granites within the Qôrqt granite complex in the area of Qôrqt. *Rapport Grønlands Geologiske Undersøgelse*, **100**, 76-79.
8. Brown, M. and Friend, C.R.L., 1980. The polyphase nature and internal structure of the Qôrqt granite complex east of Umânap suvdlua, Godthåbsfjord, southern West Greenland. *Rapport Grønlands Geologiske Undersøgelse*, **100**, 79-83.
9. Brown, M., Friend, C.R.L., McGregor, V.R. and \*Perkins, W.T., 1981. The late-Archaean Qôrqt granite complex of southern West Greenland. *Journal of Geophysical Research*, **86**, 10,617-10,632.
10. Topley, C.G., Brown, M. and Power, G.M., 1982. Interpretation of field relations of diorites and associated rocks with particular reference to north-west Guernsey, Channel Islands. *Geological Journal*, **17**, 323-343.
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## 2.4. Book Reviews, Other Articles, and Notes

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## 2.5. Talks, Abstracts and Other Professional Papers Presented

### Invited Lectures/Seminars at Institutions and other Organizations

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|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1972-1990</b> | While employed in the U.K., in an average year I was invited to give several lectures to regional and local geological societies and several research seminars at other Departments of Geology, Research Institutes and Geological Surveys, both in the U.K. and abroad.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>1990</b>      | High-temperature 'clockwise' P-T paths and melting. 'Precambrian High'. Geological Survey of Canada, Ottawa, March 23, 1990.<br>The late Archean Qôrqt granite complex of southern West Greenland: A colorful story of black and white rocks. Geological Society of Washington, October 10, 1990.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>1991</b>      | Microscopes to mountain belts: P-T-t paths of metamorphism and their tectonic interpretation. Inaugural lecture as Visiting Professor, Kingston University, UK, June 6, 1991.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>1992</b>      | Transpression and the generation, segregation, ascent and emplacement of granite magma. Department of Geological Sciences, McGill University, Canada, March 12, 1992.<br>The Atacama Fault System of North Chile: Displacement history and tectonic significance. Department of Geological Sciences, McGill University, Canada, March 12, 1992.<br>Transpression and the generation, segregation, ascent and emplacement of granite magma. Centre Géoscientifique de Québec, Sainte-Foy, Québec, Canada, March 13, 1992.<br>Microscopes to mountain belts: P-T-t paths of metamorphism and their tectonic interpretation. Centre Géoscientifique de Québec, Sainte-Foy, Québec, Canada, March 13, 1992<br>Transpression and the generation, segregation, ascent and emplacement of granite magma. Department of Geological Sciences, Virginia Polytechnic Institute and State University, April 9, 1992.<br>The Atacama Fault System of North Chile: Displacement history and tectonic significance. Department of Geological Sciences, Virginia Polytechnic Institute and State University, April 10, 1992. |

- 1993** Granites: Current and Future Research Directions. Contribution to the IAVCEI Scientific Horizons Forum as Leader of the IAVCEI Task Group on Granites. Australian National University, Canberra, Australia, September 26, 1993.  
The generation, segregation, ascent and emplacement of granitic magma: The migmatite to crustally-derived granite connection in thickened orogens. Geological Survey of Japan, Tsukuba, Japan, November 2, 1993.  
Continental arc evolution: Mesozoic magmatism and tectonics of the Andean Plate Boundary Zone, Northern Chile. Geological Survey of Japan, Tsukuba, Japan, November 8, 1993.  
Crustal processes - two examples: Earth's hottest rocks and fastest exhumation. Crustal Processes Shuzan Symposium, Kyoto Seminar House at Shuzan, Japan, November 12, 1993.  
*P-T-t* evolution of orogenic belts and the causes of regional metamorphism. Department of Geology and Mineralogy, Kyoto University, Japan, November 15, 1993.  
The generation, segregation, ascent and emplacement of granite magma: The migmatite to crustally-derived granite connection in thickened orogens. Department of Geology and Mineralogy, Kyoto University, Japan, November 16, 1993.  
Continental arc evolution: Mesozoic magmatism and tectonics of the Andean Plate Boundary Zone, North Chile. Department of Geology and Mineralogy, Kyoto University, Japan, November 17, 1993.
- 1994** Microscopes to mountain belts: Variscan *P-T-t* path from Brittany, West France - Rapid uplift, decompression melting, and the role of granite in exhumation of high-grade metamorphic rocks. Department of Geology, Temple University (Philadelphia), April 1, 1994.  
High-*T*-low-*P* metamorphism in the Ryoke Belt: Present knowledge and future perspectives. Ryoke Belt Symposium, Conference Center, Kyushu University, Japan, November 22, 1994.
- 1996** Metamorphism: Paradigms and perspectives of a dynamical system. 50th Anniversary, School of Geological Sciences, Kingston University, January 19, 1996.
- 1997** Positive-feedback loops, self-organization and migration of granitic melt through the crust. Department of Geology, Université du Québec à Chicoutimi, January 23, 1997.  
High-*T*-Low-*P* metamorphism, ridge subduction and the unpairing of metamorphic belts. Department of Geological Sciences, Brown University (Providence, RI), March 6, 1997.  
Positive-feedback loops, self-organization and migration of granitic melt through the crust. Department of Geological Sciences, Brown University (Providence, RI), March 6, 1997.
- 1998** From source to sink: implications of new models of granite extraction, ascent and emplacement in convergent orogens. Department of Terrestrial Magnetism, Carnegie Institution of Washington (D.C.), June 24, 1998.  
New views of granite ascent and emplacement in obliquely convergent (transpressive) orogens. Geological Society of Washington, October 14, 1998.
- 1999** A Matter of Scale of Observation: Syntectonic Granite Ascent and Emplacement During the Acadian Orogeny. Department of Geology, Federal University of Pernambuco (Recife, Brazil), July 15, 1999.  
Migmatite terrains: Good analogs for granite sources and transport processes through the crust or petrological cul-de-sacs? Department of Earth and Space Sciences, University of Washington (Seattle), October 7, 1999.
- 2000** Migmatite and Granite – Parent and Child, Casual Acquaintances or No Relation Whatsoever? “Lundis du GEOTOP” University of Quebec at Montreal (Montreal, Canada), December 4, 2000.
- 2001** Migmatite and Granite – Parent and Child, Casual Acquaintances or No Relation Whatsoever? Boston University (Boston, Massachusetts), April 19, 2001.  
Migmatite and Granite – Parent and Offspring, Casual Acquaintances or No Relation Whatsoever? University of Tromsø (Tromsø, Norway), June 7, 2001.
- 2002** Migmatites and Leucogranites in Orogens: Relationships and Consequences. University of Texas, Austin, March 19, 2002.  
Deducing Peak *P-T* conditions and the *P-T* evolution of UHT Metamorphic Rocks. University of Texas, Austin, March 20, 2002.
- 2003** Metamorphic evolution and melt loss from migmatites: an example from the Variscides, western France. Federal University of Rio de Janeiro, Brazil, June 6, 2003.  
Metamorphic evolution and melt loss from migmatites: an example from the Variscides, western France. University of Brasilia, Brazil, June 10, 2003.  
Melting and melt extraction from continental crust: An example from the Variscan of western France. Charles University, Prague, Czech Republic, November 24, 2003.
- 2004** Melting and melt extraction from continental crust: The feedbacks and consequences. University of Southern California, Los Angeles, March 22, 2004.  
Melt expulsion/extraction from suprasolidus rocks: Breaking news and speculations. University of Southern California, Los Angeles, March 23, 2004.  
Melt extraction from lower continental crust: observations, mechanisms, feedbacks and consequences. Johns Hopkins University, Baltimore, September 27, 2004.

- 2005** Secular variation in metamorphic regimes and punctuated tectonic evolution of Earth. Institute of Geosciences, University of Sao Paulo, Brazil. June 17, 2005.  
Secular variation in metamorphic regimes and punctuated tectonic evolution of Earth. Institute of Geosciences, University of Brasilia, Brazil. June 27, 2005.
- 2006** Metamorphic patterns in orogenic belts: A duality of thermal regimes is the distinctive characteristic of plate tectonics since the Neoproterozoic. Kyoto University, Japan. August 7, 2006.  
Duality of thermal regimes is the distinctive characteristic of plate tectonics since the Neoproterozoic. Virginia Tech, Blacksburg, Virginia, October 6, 2006.
- 2007** Metamorphism, plate tectonics and the supercontinent cycle. Institute for Study of the Earth's Interior, Okayama University at Misasa, Japan, January 16, 2007.  
Crustal melting and melt extraction, ascent and emplacement in orogens: Mechanisms and consequences. Institute for Study of the Earth's Interior, Okayama University at Misasa, Japan, January 17, 2007.
- 2009** Geodynamic implications of the Geological Record of Crustal Metamorphism. Department of Earth and Planetary Sciences, Macquarie University, Sydney, Australia. November 6, 2009.
- 2010** The Geological Record of Crustal Metamorphism and the Geodynamic Implications. Geological Society of Washington, February 10, 2010.
- 2012** The crustal archive of metamorphic pressure (*P*)–temperature (*T*) conditions: a record of secular change in the thermal environments of crustal reworking and orogenesis. The National Geophysical Research Institute, Hyderabad, India, March 16, 2012.  
The crustal archive of metamorphic pressure (*P*)–temperature (*T*) conditions: a record of secular change in ambient upper mantle temperature and hot vs cold orogenesis. Geological Survey of Western Australia, Perth, Australia, August 1, 2012.  
Secular change and the crust–mantle lithosphere system: The view from the top down. China University of Geosciences, Wuhan, P.R. China, October 8, 2012. (contribution to the 60<sup>th</sup> anniversary celebrations of the China University of Geosciences)
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Secular change in ambient upper-mantle temperature and the transition from Archean to Proterozoic tectonics: Insights from the rock record and phase equilibria modeling. Institut für Geowissenschaften, Goethe-Universität Frankfurt am Main, Germany, June 12, 2013.  
Secular change and the crust–mantle lithosphere system: The view from the top down. Steinmann-Institut für Geologie, Mineralogie und Paläontologie, Universität Bonn, Germany, June 14, 2013.  
Tectonics in the Precambrian. Wuhan Institute of Geology and Minerals Resources, Wuhan Geological Survey Center of China Geological Survey, Wuhan, P.R. China, September 26, 2013.
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- 2015** The unification of Gondwana: From sapphires to diamonds at the dawn of the Phanerozoic—For the times they are a-changin'. Department of Geology, University of Maryland. March 27, 2015.  
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- 2016** When did plate tectonics begin? Department of Earth, Atmospheric and Planetary Sciences, MIT, February 26, 2016.  
Precambrian geodynamics: Geological evidence for changes in subduction style and the development of global plate tectonics. China University of Geosciences, Wuhan, P.R. China, October 25, 2016.

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274. Brown, M., 2008. One-sided subduction, extreme crustal metamorphism and tectonothermal regimes on Earth. *Geophysical Research Abstracts*, **10**, EGU 2008-A-01282.
275. Siddoway, C., McFadden, R., Saito, S., Fanning, C.M., Korhonen, F., Teyssier, C. and Brown, M., 2008. Consequences of 'hot orogenesis' for Cretaceous breakup of East Gondwana's active margin: Perspectives from West Antarctica. *Geophysical Research Abstracts*, **10**, EGU 2008-A-08573.
276. Brown, M., 2008. Coupling between deformation, melting and melt extraction. Abstracts – Patterns in our planet: Defining new concepts for the application of multi-scale non-equilibrium thermodynamics to Earth System science. CSIRO Complex System Science Symposium 12-16 May 2008, 6-7.
277. Brown, M., 2008. The geodynamic implications of changes in tectonothermal regime on Earth as recorded by metamorphism of the lithosphere. Québec 2008, GAC-MAC-SEG-SGA Joint Meeting, Abstracts Volume 33, pp. 30.
278. Korhonen, F.J., Brown, M. and Siddoway, C.S., 2008. Constraints on a polymetamorphic evolution of the Fosdick Migmatite Dome, West Antarctica. Québec 2008, GAC-MAC-SEG-SGA Joint Meeting, Abstracts Volume 33, pp. 87.
279. Brown, M., 2008. Styles of orogenesis at the dawn of the Paleozoic era. In: *Symposium MPN-06 Extreme Metamorphism During the Amalgamation of Gondwana: Tectonics, Rates and Models*. The 33<sup>rd</sup> International Geological Congress, 6-14 August 2008, Oslo, Norway, Abstracts CD-ROM.
280. Reno, B.L., Brown, M., Piccoli, P. and Trouw, R.A.J., 2008. Gondwana assembly in southeastern Brazil: Timing of high-pressure granulite facies metamorphism and nappe emplacement in the southern Brasília Belt. In: *Symposium MPN-06 Extreme Metamorphism During the Amalgamation of Gondwana: Tectonics, Rates and Models*. The 33<sup>rd</sup> International Geological Congress, 6-14 August 2008, Oslo, Norway, Abstracts CD-ROM.
281. Brown, M., 2008. The metamorphic record of changes in tectonothermal regime on Earth and the geodynamic implications. In: *Symposium MPN-12 Sederholm Symposium on High-grade Metamorphism, Crustal Melting, Migmatites and Granites*. The 33<sup>rd</sup> International Geological Congress, 6-14 August 2008, Oslo, Norway, Abstracts CD-ROM.
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283. Brown, M., 2008. Metamorphic patterns in Brasiliano–Pan-African Belts versus Altaid–Tethyan Belts in relation to global geodynamics. Gondwana 13, Dali, China, 2008, Program & Abstracts, 15-16.
284. Brown, M., 2008. Is absence of evidence of UHP evidence of absence: Did conditions on Earth before the Ediacarian Period allow formation of UHP rocks but only rarely their exhumation? *Eos, Transactions of the American Geophysical Union*, **89**, (52), Fall Meeting Suppl., Abstract T41B-1971.
285. Brown, M., 2009. Precambrian metamorphic conditions and patterns record secular change in mantle temperature, subduction style and the supercontinent cycle. Evolution of the Continental Crust: The Janet Watson Meeting, 28-29 May 2009, *Geological Society, London, Abstract Book*, p. 32.
286. Brown, M., 2009. The importance of Ps and Ts in geodynamics. Rpday: On the importance of minding one's Ps and Ts—Reflections on the past, present and future of metamorphic studies on the occasion of Roger Powell's 60th birthday, 11-12th June, 2009. School of Earth Sciences, University of Melbourne, p. 6.
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4. Brown, M., 1994. Cretaceous high-*T*–low-*P* metamorphism in the Ryoke Belt of Japan: A consequence of ridge subduction. *Geological Society of America Penrose Conference — Effects of Triple Junction Interactions at Convergent Plate Margins*, Eureka, USA.
5. Brown, M., 1997. Field evidence for the interaction of deformation and partial melting. *Gordon Conference on Rock Deformation. Dynamic metamorphism: The interaction of deformation and mineral reactions*, Colby-Sawyer College, New London, New Hampshire.
6. Solar, G.S. and Brown, M., 1997. Feedback relations between partial melting and shear zone systems: A melt transfer/crustal deformation mechanism. *Gordon Conference on Rock Deformation. Dynamic metamorphism: The interaction of deformation and mineral reactions*, Colby-Sawyer College, New London, New Hampshire.
7. Milord, I., Sawyer, E.W. and Brown, M., 1998. Formation of granite magmas by melt-residuum separation in the St. Malo diatexite migmatites. *Geological Society of America Penrose Conference — Processes of Crustal Differentiation: Crust-Mantle Interactions, Melting and Granite Migration Through the Crust*, Verbania, Italy.
8. Solar, G.S. and Brown, M., 1998. Shear zone deformation and transfer of granite magma through the middle crust. *Geological Society of America Penrose Conference — Processes of Crustal Differentiation: Crust-Mantle Interactions, Melting and Granite Migration Through the Crust*, Verbania, Italy.
9. Brown, M., 1999. Do leucosome and the leucosome geometry in migmatites have any relationship to melt and the topology of melt flow networks in the crust? *European Science Foundation Exploratory Workshop on "Restite-Melt and Solid-Vapour Back Reactions: Implications for Petrology, Tectonics and Ore Forming Processes"*, Turku University, Finland.
10. Brown, M., 1999. Pervasive Melt Flow and the Thermal and Rheological Structure of Transpressive Orogenic Belts. *European Science Foundation Exploratory Workshop on "Restite-Melt and Solid-Vapour Back Reactions: Implications for Petrology, Tectonics and Ore Forming Processes"*, Turku University, Finland.
11. Brown, M., 1999. A new view of migmatites—Three-D images of leucosome topology. *Meeting on Svecofennian Migmatites*, Pori, Finland.
12. Brown, M., 2000. Structural Controls on Extraction, Ascent and Emplacement of Granite Melts. *Talkfest on granites, prior to Field Trip FA4, 15<sup>th</sup> Australian Geological Convention*, Alice Springs, Australia.
13. Brown, M., Marchildon, N. and Solar, G., 2002. Localization in melt-bearing rocks. *Gordon Conference on Rock Deformation. Deformation mechanism and failure mode transitions in rocks*. Il Ciocco, Barga, Italy. Session #9 Localized vs. distributed flow in partially-molten rocks.
14. Brown, M., 2002. *P-T* conditions and tectonics – An introduction. *Geological Society of America Penrose Conference – Precambrian high-pressure – high-temperature metamorphism: A key to understanding the lower crust and reconstruction of Precambrian plate tectonics*, Beijing, China.

15. Moraes, R., Brown, M. and Fuck, R.A. 2002. Characterization and *P-T* evolution of melt-bearing ultrahigh-temperature granulites: an example from the Anápolis-Itaçu Complex of the Brasília Fold Belt, Brazil. *Geological Society of America Penrose Conference – Precambrian high-pressure–high-temperature metamorphism: A key to understanding the lower crust and reconstruction of Precambrian plate tectonics*, Beijing, China.
16. Brown, M., 2003. Melting and the mechanism of melt extraction from continental crust: Notes from the anatectic front. *CSIRO Magmatic Processes Workshop*, Perth, Australia.
17. Brown, M., 2004. Secular variation in metamorphic regimes and punctuated tectonic evolution of Earth. *Geological Society of America Penrose Conference – Secular Variation in Tectonics and Allied Fields*, St. George, Utah.
18. Brown, M., 2006. What is the metamorphic hallmark of plate tectonics and when does this imprint first appear in the rock record? *Geological Society of America Penrose Conference – When did Plate Tectonics Begin on Earth? Theoretical and Empirical Constraints*, Lander, Wyoming.
19. Korhonen, F., Brown, M., Saito, S. and Siddoway, C., 2007. *P-T-t* paths and crustal melting associated with extensional deformation, Fosdick Mountains, West Antarctica. *Geological Society of America Penrose Conference – Extending a Continent: Architecture, Rheological Coupling, and Heat Budget*, Island of Naxos, Aegean Sea, Greece.
20. Penniston-Dorland, S., Wing, B., Nex, P.A.M., Kinnaird, J.A., Farquhar, J., Brown, M. and Sharman, E.R., 2008. Multiple sulfur isotopes reveal a primary magmatic orogen for the Platreef PGE deposit, Bushveld Complex, South Africa. *3rd Platreef Workshop, 11th July–13th July 2008, SEG–GSSA 2008 Conference*, Misty Hills, South Africa.
21. Brown, M., 2011. Metamorphism in accretionary orogens. *Geological Society of America Penrose Conference – Comparative evolution of past and present accretionary orogens: Central Asia and the Circum-Pacific*, Urumqi, China.
22. Brown, M. and Johnson, T., 2012. Insights about the development of Archean crust. *Seminar and Excursion to Early Precambrian Terrains of Shandong Peninsula, Qingdao, China, 17–21 October 2012*, International Precambrian Research Centre of China.
23. Yakymchuk, C. & Brown, M., 2013. To be or not to be: What happens to monazite and zircon during open system melting? *Workshop: applying phase equilibria modelling to rocks, 24–25 August 2013*, Goldschmidt2013, Florence, Italy.
24. Yakymchuk, C., Brown, M. & Vervoort, J., 2013. Using Lu–Hf garnet geochronology and inverse phase equilibria modeling to decode the prograde *P–T–t* path of deep crustal migmatites. *Geological Society of America Annual Meeting and Exposition, Denver, Colorado*, Geological Society of America Student Awards Ceremony, Public Poster Session.
25. Brown, M., 2015. Archean metamorphism and geodynamics. *International Symposium on New Theories and Approaches to Global Tectonics and Field Workshop on International Collaborative Research on the Northern Margin of the Yangtze Craton*. Center for Global Tectonics, China University of Geoscience, Wuhan, June 1–4 2015.
26. Brown, M., 2015. Crust–mantle interactions in hot orogens characterized by counterclockwise *P–T–t* paths and slow cooling. *2nd Lithosphere Dynamics Workshop*, University of Western Australia, Perth, November 19–20 2015.
27. Brown, M., 2016. Precambrian geodynamics. IPRCC 2016 – Global geodynamic processes, *International Precambrian Research Center of China*, Beijing SHRIMP Centre, Institute of Geology, Chinese Academy of Geological Sciences, 21–23 October 2016.

## 2.6. Short Courses and Workshops

1. *Migmatites and Granulites*. June, 1999, one-week short course for graduate students and post-doctoral scientists, Departamento de Geologia, Universidade do Estado do Rio de Janeiro, Brazil. Lecturer: Michael Brown.
2. *Migmatites and Melt Extraction/Granulites: Origin and Evolution/Secular Variation in Metamorphic Regimes and Punctuated Tectonic Evolution of Earth*. June, 2005, one-week short course for graduate students and post-doctoral scientists, Departamento de Mineralogia e Geotectônica, Instituto de Geociências, Universidade de São Paulo, Brazil. Lecturers: Michael Brown and Renato Moraes.
3. *Working with Migmatites*. Mineralogical Association of Canada Short Course, May 24–25, 2008, Quebec City, Canada. Lecturers: Brown, M., Cesare, B., Holness, M., Sawyer, E.W., Solar, G.S. and White, R.W.
4. *Workshop: Melt formation and segregation*. April 6, 2010, 13th TSK Symposium, Goethe University, Frankfurt a.M., Germany. Lecturers: M. Brown, R. White, G. Richard, N. Bagdassarov and W. Dörr.
5. *Seminar: High-T metamorphism and Crustal Melting*. EURISPET V, June 1–10, 2010, Monteortone near Abano (Padua), Italy. Brown 1 of 22 Lecturers.
6. *Migmatites, melting and intracrustal differentiation*. Short course organized by: The International Precambrian Research Centre of China and The Beijing SHRIMP Center, Beijing, China, October 12–16, 2012. Lecturers: Michael Brown, Edward Sawyer, Yusheng Wan, Richard White and Simon Wilde.
7. *High-grade metamorphism and the generation and differentiation of Earth's crust*. Short Course for the Geocycles EARTH SYSTEM RESEARCH CENTRE, University of Mainz, Germany, July 4–5, 2013, Lecturers: Michael Brown, Tim Johnson and Richard White.
8. *Workshop: Applying phase equilibria modelling to rocks*, Goldschmidt2013, Florence, Italy, 24–25 August 2013, Conveners: Michael Brown & Bernardo Cesare.
9. *Phase equilibria, Migmatites, Melting and Intracrustal Differentiation*. Short course organized by: State Key Lab of Geological Processes and Mineral Resources, China University of Geosciences (Wuhan), China, September 25–October 3, 2013. Lecturers: Michael Brown, Edward Sawyer, Richard White, Chunjing Wei and Simon Wilde.

## 2.7 Contracts and Grants

### External Funding

#### Research Awards

Prior to 1990.	List of awards available on request.
1990-1992	NATO Collaborative Research Grants Programme: "Tectonothermal Evolution of the Cadomian Orogen and Circum-Atlantic Correlations". Belgian Francs 222,000 (c. \$7,000).
1991	Committee for Research and Exploration, National Geographic Society: "Displacement History of Atacama Fault System, North Chile" (\$14,895).
1991-1993	Geological Survey of Canada: "Metamorphic Studies in the Port aux Basques Area". Canadian \$13,067 (c. \$12,000).
1993	Geological Survey of Japan (International Office): "International cooperation on the Ryoke Belt". ¥165,000 + international travel (c. \$3,000).
1997-1999	National Science Foundation: "Migration of granitic melt in the crust" (\$140,000).
1997-2002	National Aeronautics and Space Administration (NASA): "The Earth System Science Interdisciplinary Center" (became PI as Interim Director of ESSIC in 1998, and continued as PI to end of award period) (\$600,000).
1998-2000	National Science Foundation: "Acquisition of a new electron probe microanalyzer" (with P.M. Piccoli, P.A. Candela and R.J. Walker) (\$195,000). National Science Foundation: "Developing models of melt transfer in migmatites" (\$57,618).
1999-2000	National Science Foundation - Major Research Instrumentation Program: "Acquisition of a multicollector ICP-MS instrument" (with R.J. Walker, P.A. Candela, C.D. Gallup and A.J. Kaufman) (\$350,000).
1999-2002	National Aeronautics and Space Administration (NASA): "Earth System Science Interdisciplinary Center" (PI, as Interim Director of ESSIC, with Co-I. R.D. Hudson; overall administration of an aggregate award based on individual peer-reviewed proposals, therefore \$ value not reported here).
2001-2002	National Science Foundation: "Characterizing Melt Flow in the Anatectic Zone" (with Nathalie Marchildon) (\$129,647).
2001	National Science Foundation: "Characterizing Melt Flow in the Anatectic Zone" (REU Supplement, \$9,975).
2002-2003	National Science Foundation: "Support for a Workshop: Priorities in Solid Earth Sciences" (\$36,748).
2003-2004	National Science Foundation: "Planning Visit to South Africa" (\$10,400). National Science Foundation: "Support for ISES Forum I: CyberInfrastructure and Geochronology" (\$55,285).
2003-2007	National Science Foundation: "Cooperative Research: Petrogenesis of HP and UHT granulites from the Brasília Fold Belt in Minas Gerais and Goiás, Brazil" (\$360,460).
2004-2005	National Science Foundation: "Support for ISES Forum II: Rheology of the Continental Lithosphere" (\$31,732).
2005-2007	Department of the Interior – USGS: "Petrogenesis of the Platreef, Bushveld Complex, South Africa" (\$44,500).
2005-2006	National Science Foundation: "Support for ISES Forum III: Growth of a Continent in Space and Time" (\$35,444).
2006-2007	National Science Foundation: "Support for an International Conference: Granulites and Granulites 2006, Brasília, Brazil" (\$10,000).

- 2007-2008 National Science Foundation: "Characterizing Carboniferous and Cretaceous Granites and their Sources in the Fosdick Mountains Gneiss Dome – A Pilot Study" (\$22,928).
- 2010-2014 National Science Foundation: "Collaborative Research: Polyphase Orogenesis and Crustal Differentiation in West Antarctica" (\$337,608 + \$22,362 (supplement 2013) = \$359,970).
- 2011-2017 Macquarie University: "ARC Centre of Excellence for Crust to Core to Fluid Systems" (25% time commitment expressed as cost-share)
- 2013-2015 National Science Foundation - Instrumentation & Facilities Program: "Acquisition of a State-of-the-Art Thermal Ionization Mass Spectrometer" (with R.J. Walker (PI), I.S. Puchtel, S. Penniston-Dorland and R.L. Rudnick) (\$325,000).

## Travel Awards

Competitive awards to support attendance at international conferences have been received as follows: Royal Society, London, UK (1981, 1986 ×2, 1987, 1988, 1989); British Council, UK (1982); Geological Society, London, U.K. (1984, 1986); National Science Foundation, USA (1986, 2001); Joint Oceanographic Institutions Incorporated, USA (1994); Computational Infrastructure for Geodynamics, USA (2006); and Mineralogical Society, UK (2011).

## 2.8 Fellowships, Awards and Honors

Visiting Professor, School of Geological Sciences, Kingston University, UK, 1990–1992.

Geological Society of America, elected Fellow 1993.

Visiting Lecturer, Department of Geology and Mineralogy, Kyoto University, Japan, 1993.

Mineralogical Society of America, elected Fellow 1999.

Visiting Professor at the State University, Rio de Janeiro, Brazil, 1999.

Medal from the City of Clermont-Ferrand, France, for "Contributions to the Understanding of Granites and Related Rocks", presented September 1999 during the IV Hutton Symposium on "The Origin of Granites and Related Rocks" by the Mayor of the City.

Listed in: *A–Z of Earth Scientists* (150 Notable Earth Scientists, 18th Century to Present), 2002, Facts On File, Inc.

John Sacheverell A'Deane Coke Medal for 2005, Geological Society of London, "for his contribution to our understanding of how heat and mass are transferred within continents, his research within high-pressure and paired metamorphic belts, and his work on international bodies and editorial boards."

Antarctic Service Medal of the United States of America 2012, "in recognition of valuable contributions to exploration and scientific achievement under the U.S. Antarctic program."

Goldschmidt, Montreal, June 2012, "Session 5b. Evolution and differentiation of the continental crust: A celebration of the contributions by Michael Brown."

Granulites & Granulites 2013 – Hyderabad, 16–20 January 2013, "Special session to recognise the 40-year contribution of Professor Mike Brown to the field of high-grade metamorphism and partial melting. The Brown Session will comprise 14 invited speakers, who will provide an exceptional overview of recent developments and progress in the study and interpretation of high-grade metamorphic rocks."

Visiting Researcher, Johannes Gutenberg-Universität Mainz, Germany, 2013.

Collins Medal for 2014, Mineralogical Society of Great Britain and Ireland.

Visiting Research Fellow, Curtin University, Western Australia, 2014.

Honorary Professor, China University of Geosciences (Wuhan), P.R. China, 2014–present.

Vice President of the Mineralogical Society of America for 2017

Hallimond Lecturer for 2018, Mineralogical Society of Great Britain and Ireland

## 2.9 Editorships, Editorial Boards and Reviewing Activities for Journals and Other Learned Publications

### Journal Editorships

#### *Journal of the Geological Society, London (1982–1986)*

Brown, G.C., **Brown, M.**, Frostick, L.E., Horder, M.F., Robertson, A.H.F., Tanner, P.W.G., Thomas, G. and Westbrook, G.K., Volume 139.

Le Bas, M.J., Brown, G.C., **Brown, M.**, Colley, H., Frostick, L.E., Horder, M.F., Moorbath, S., Robertson, A.H.F., Tanner, P.W.G. and Westbrook, G.K., Volume 140.



- Le Bas, M.J., Brown, G.C., **Brown, M.**, Colley, H., Frostick, L.E. Moorbath, S., Robertson, A.H.F., Tanner, P.W.G., Westbrook, G.K. and Williams, P.J., Volume 141.
- Le Bas, M.J., Brown, G.C., **Brown, M.**, Colley, H., Cubitt, J.M., Frostick, L.E., Lane, P.D., Moorbath, S., Robertson, A.H.F., Robinson, D., Searle, R.C., Tanner, P.W.G., Westbrook, G.K., Williams, G.D. and Williams, P.J., Volume 142.
- Le Bas, M.J., Besley, B.M., Brown, G.C., **Brown, M.**, Chadwick, B., Cubitt, J.M., Frostick, L.E., Harris, N.B.W., Lane, P.D., Pankhurst, R.J., Robinson, D., Searle, R.C., Tanner, P.W.G., Williams, G.D. and Williams, P.J., Volume 143.

### ***Journal of Metamorphic Geology (1983–present; founding editor)***

- Brown, M., Loomis, T.P. and Vernon, R.H., Volume 1, 2 and 3.
- Brown, M., Day, H.W. and Vernon, R.H., Volume 4, 5 and 6.
- Brown, M., Day, H.W., Robinson, D. and Vernon, R.H., Volume 7, 8, 9 and 10.
- Brown, M., Robinson, D., Selverstone, J.E. and Vernon, R.H., Volume 11, 12, 13 and 14.
- Brown, M., Robinson, D., Morrison, J. and Vernon, R.H., Volume 15, 16, 17 and 18.
- Brown, M., Morrison, J., Powell, R. and Robinson, D., Volume 19, 20, 21, 22 and 23.
- Brown, M., Powell, R., Robinson, D. and Whitney, D., Volume 24, 25 and 26.
- Brown, M., Powell, R., Robinson, D., White, R.W. and Whitney, D., Volume 27, 28, 29 and 30.
- Brown, M., Clarke, G.L., Robinson, D., White, R.W. and Whitney, D., Volume 31, 32 and 33.
- Brown, M., Evans, K., Robinson, D., White, R.W. and Whitney, D., Volume 34 and 35.

### **Journal Special Issues Edited**

- Brown, M., 1983. Fluids in metamorphism. *Journal of the Geological Society, London*, **Vol. 140, Part 4, July 1983**, pp. 529-663.
- Brown, M., 1984. Shear zone metamorphism. *Journal of Metamorphic Geology*, **Vol. 2, No. 2, June 1984**, pp. 75-141.
- Brown, M., 1994. Special set of papers. Crustal anatexis and ascent of felsic magmas. *Lithos*, **Vol. 32, 1/2**, pp. 109-168.
- Brown, M., Rushmer, T. and Sawyer, E.W., 1995. Special Section: Mechanisms and consequences of melt segregation from crustal protoliths. *Journal of Geophysical Research, Solid Earth*, **Vol. 100, B8**, pp. 15,549-15,805.
- Brown, M., Candela, P.A., Peck, D., Walker, R.J. and Zen, E., 1996. The Origin of Granites and Related Rocks. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **Vol. 87, 1&2**, pp. 1-361. (Also published as Geological Society of America Special Paper, **315**).
- Brown, M. and Kotkova, J., 1999. Crustal melting in nature and experiment. *Physics and Chemistry of the Earth*, **Vol. 24, Issue 3**, pp. 269-319.
- Brown, M., Petford, N. and Schilling, F., 2001. Crustal melting and granite magmatism: Causes and behaviours from pores to plutonic belts in orogens. *Physics and Chemistry of the Earth, A*, **Vol. 26, Issue 4-5**, pp. 201-367.
- Brown, M. and Clarke, G., 2002. Metamorphic Processes. *Journal of Metamorphic Geology*, **Vol. 20, Issue 1, January 2002**, pp. 1-213.
- Brown, M. and White, R.W., 2008. Processes in Granulite Metamorphism. *Journal of Metamorphic Geology*, **Vol. 26, Issue 2**, pp. 121-299.
- Brown, M., Eklund, O., Korhonen, F. and Sorjonen-Ward, P., 2010. On high-grade metamorphism, crustal melting, migmatites and granites - A special issue in honour of Jakob Johannes Sederholm, The Sederholm symposium on high-grade metamorphism, crustal melting, migmatites and granite. *Lithos*, **116**, 203-340.
- Brown, M., Sandiford, M. and White, R.W., 2010. Special Issue: On the importance of minding one's Ps and Ts. *Journal of Metamorphic Geology*, **28**, 561-718.
- Brown, M., Schulmann, K. and White, R.W., 2011. Special Issue: Granulites, partial melting and rheology of orogenic lower crust. *Journal of Metamorphic Geology*, **29**, pp. 1-166.
- Sawyer, E.W., Cesare, B. and **Brown, M.**, 2011. When the continental crust melts. *Elements*, **7**, 229-266.
- Abu-Alam, T., **Brown, M.**, Stüwe, K. and Santosh, M., 2013. Gondwana Collision. *Mineralogy and Petrology*, **107**, 631-880.

### **Editorial Boards**

- Geology* Editorial Board 1998-2000.
- Journal of the Geological Society* Advisory Editor 1998-2004.
- Journal of the Virtual Explorer* Editorial Board 2001-2012.
- Geological Society of London*, Books Editorial Committee 2005-2011.

### **Reviewing Activities for Journals and Other Learned Publications**

American Mineralogist  
Canadian Journal of Earth Sciences

Canadian Mineralogist  
Contributions to Mineralogy and Petrology

Earth and Planetary Science Letters  
Geological Magazine  
Geological Society of America Bulletin  
Geological Society of America, Special Paper Series  
Geological Society, London, Special Publication Series  
Geology  
Gondwana Research  
Journal of the Geological Society, London  
Journal of Geophysical Research  
Journal of Metamorphic Geology  
Journal of Petrology  
Journal of South American Earth Sciences

Journal of South East Asian Earth Sciences  
Journal of Structural Geology  
Lithos  
Mineralogical Magazine  
Nature  
Nature Geoscience  
Philosophical Transactions of the Royal Society A  
Precambrian Research  
Proceedings of the Geologists' Association  
Tectonics  
Tectonophysics  
Transactions of the Royal Society of Edinburgh

## 2.10. Other Scientific Meetings, Conferences, Symposia, Workshops and Field Excursions Organized

1–8. 1981–1988. List available on request.

9. *31 August 1992 (morning), Kyoto, Japan*  
Modelling of Metamorphic Processes in Orogeny  
Co-conveners: M. Obata and A. Thompson  
(Sponsor: International Geological Congress)

10. *31 August 1992 (afternoon), Kyoto, Japan*  
Crustal Anatexis and Ascent of Felsic Magmas  
Co-convener: M. Tagiri  
(Sponsor: International Geological Congress)

11. *24-25 May 1994, Baltimore, MD, USA*  
Segregation of melts from crustal protoliths: Mechanisms and consequences.  
Co-conveners: T. Rushmer and E. Sawyer  
(Sponsor: American Geophysical Union and Mineralogical Society of America)

12. *27 August - 2 September 1995, College Park, MD, USA*  
Third Hutton Symposium on The Origin of Granites and Related Rocks  
Chair, Organizing Committee: M. Brown  
(Sponsor: Department of Geology, University of Maryland)

13. *7 August, 1996, Beijing, China*  
Thermal regimes, inclusions and tectonic settings of granites.  
Co-convener: D. Hong  
(Sponsor: International Geological Congress)

14. *14 August, 1996, Beijing, China*  
Metamorphism types and tectonic setting.  
Co-convener: Z. You  
(Sponsor: International Geological Congress)

15. *4-11 July 1998, Verbania, Italy*  
Processes of crustal differentiation: Crust-mantle interactions, melting and granite migration through the crust.  
Co-conveners: G. Bergantz and T. Rushmer  
(Sponsor: Geological Society of America, Penrose Conference Series)

16. *25-29 April 2000, Nice, France*  
Crustal melting and granite magmatism: causes and behaviors from pores to plutonic belts in orogens.  
Co-conveners: N. Petford and F. Schilling  
(Sponsor: European Geophysical Society)

17. *3-7 July 2000, Sydney, Australia*  
The Ron Vernon Symposium: Metamorphic Processes  
Co-convener: G. Clarke  
(Sponsor: 15th Australian Geological Convention)

18. 12-14 March 2001, Burlington, Vermont, USA

Theme Session 4: Deformation, Metamorphism, and Melting: Interactions in the Crust

Co-conveners: G. Gleason and T. Rushmer

(Sponsor: The Geological Society of America Northeastern Section, 36<sup>th</sup> Annual Meeting)

19. 17-19 May 2001, Blacksburg, Virginia, USA

THERMOCALC Workshop

Co-convener R. Tracy

Workshop presenters: R. Powell and C. Carson

20. 20-24 May 2001, The Holmstead, Virginia, USA

Crustal Melting: From Grain Boundaries to Batholiths

Co-convener: R. Tracy

(Sponsor: Eleventh V.M. Goldschmidt Conference)

21. 4-8 November 2001, Boston, Massachusetts, USA

Pardee Keynote Symposium. Melt in the Crust and Upper Mantle: How Much, Where, for How Long, and What Significance of Geodynamics.

Co-Conveners: T. Rushmer, G. Bergantz and G. Hirth

(Sponsor: Geological Society of America; Co-sponsors Geological Society of America Structural Geology and Tectonics Division, Geochemical Society, Mineralogical Society of America)

22. 4-8 November 2001, Boston, Massachusetts, USA

Topical Session. Melt in the Crust and Upper Mantle: How Much, Where, for How Long, and What Significance of Geodynamics.

Co-conveners: T. Rushmer, G. Bergantz and G. Hirth

(Sponsor: Geological Society of America; Co-sponsors Geological Society of America Structural Geology and Tectonics Division, Geochemical Society, Mineralogical Society of America)

23. 8-11 November 2001, Boston Massachusetts, USA

Fieldtrip: Deformation, Metamorphism, and Granite Ascent in Western Maine

Co-conveners: G.S. Solar and P.B. Tomascak

(Sponsor: Geological Society of America; Co-sponsor: GSA Structural Geology and Tectonics Division)

24. 1-5 July 2002, Adelaide, Australia

Fluids, Metals and Melts: Their Extraction, Transport and Emplacement in Convergent Plate Settings

Co-convener: I. Buick

(Sponsor: 16<sup>th</sup> Australian Geological Convention)

25. 23-29 September 2002, Hengshan-Wutaishan and Beijing, China

Precambrian high-pressure – high-temperature metamorphism: a key to understanding the lower crust and reconstruction of Precambrian plate tectonics.

Co-conveners: A. Kröner, P.J. O'Brien, C.W. Passchier, Li Jianghai and Zhai Ming-Guo

(Sponsor: Geological Society of America, Penrose Conference Series. Co-sponsors: National Science Foundation of China, Beijing, China; Chinese Academy of Sciences, Beijing, China; and, Peking University, Beijing, China)

26. 26 October 2002, Denver, Colorado, USA

Workshop: Setting Priorities in Solid Earth Sciences.

Co-conveners: C. Manduca, T. Rushmer, B. Tikoff and B. van der Pluijm

(Sponsor: National Science Foundation)

27. 9 December 2002, San Francisco, California, USA

Town Hall Meeting: Setting Priorities in Solid Earth Sciences.

Co-convener: T. Rushmer

(Sponsor: National Science Foundation)

28. 6-11 April 2003, Nice, France

High-pressure/high-temperature metamorphism and crustal melting in orogenesis: From microstructures to tectonics.

Co-conveners: P.J. O'Brien and T. Rushmer

(Sponsors: European Geophysical Society; European Union of Geoscience; and, American Geophysical Union)

29. 2-6 September 2003, Toyohashi, Japan

Session A-2. Anatexis and segregation in continental lower crust.

Co-conveners: Y. Hiroi and H. Kagami

(part of the Fifth Hutton Symposium on the Origin and Granites and Related Rocks)

30. 1 November 2003, Seattle, Washington, USA

ISES Forum I: CyberInfrastructure and Geochronology

Co-conveners: A. Goldstein, C. Manduca, T. Rushmer, B. Tikoff and B. van der Pluijm

(Sponsor: National Science Foundation)

31. 2-5 November 2003, Seattle, Washington, USA

Pardee Keynote Symposium. Modeling Metamorphism: Petrology, Geochemistry and Tectonics.

Co-convener: B. Dutrow, Louisiana State University

(Sponsor: Mineralogical Society of America, Geochemical Society, and Geological Society of America, Structural Geology and Tectonics Division)

32. 2-5 November 2003, Seattle, Washington, USA

Topical Session. Modeling Metamorphism: Petrology, Geochemistry and Tectonics.

Co-convener: B. Dutrow, Louisiana State University

(Sponsor: Mineralogical Society of America, Geochemical Society, and Geological Society of America, Structural Geology and Tectonics Division)

33. 8-12 December 2003, San Francisco, California, USA

Modeling Metamorphism.

Co-convener: B. Dutrow

(Sponsor: Volcanology, Geochemistry & Petrology and Tectonophysics Sections, American Geophysical Union)

34. 12-16 July 2004, Johannesburg, South Africa

The birth and growth of continents - geodynamics through time.

Co-conveners: R. Gibson and H. Mouri

(Sponsor: Tectonics Division of the Geological Society of South Africa)

35. 20-28 August 2004, Florence, Italy

Melting and the rheology of the crust and upper mantle: What significance for geodynamics?

Co-convener: B. Cesare

(Sponsor: 32<sup>nd</sup> International Geological Congress)

36. 12 December 2004, San Francisco, California, USA

ISES Forum II: Rheology of the continental lithosphere.

Co-conveners: A. Goldstein, D. Mogk, T. Rushmer, B. Tikoff and B. van der Pluijm

(Sponsor: National Science Foundation)

37. 16 October, 2005, Salt Lake City, Utah, USA

Geology and EarthScope.

Co-convener: David W. Mogk

(Sponsor: Structural Geology and Tectonics Division, Geological Society of America)

38. 4 December, 2005, San Francisco, California, USA

ISES Forum III: Growth of a Continent in Space and Time

Co-conveners: D. Mogk, T. Rushmer, B. Tikoff

(Sponsor: National Science Foundation)

39. 23-26 May 2006, Baltimore, Maryland, USA

2006 Joint Assembly

Chair, Program Committee: M. Brown

(Sponsor: American Geophysical Union)

40. 10-12 July 2006, Brasilia, Brazil

Granulites and Granulites 2006

Chair, Organizing Committee: M. Brown

(Sponsors: National Science Foundation; Universidade de Brasília; Fundação de Empreendimentos Científicos e Tecnológicos - Finatec; Companhia Vale do Rio Doce; Anglo American do Brasil)

41. *11-15 December 2006, San Francisco, California, USA*  
 Melt Migration: From Source to Pluton, From Experiment to Field  
 Co-convener: R. Weinberg  
 (Sponsor: Volcanology, Geochemistry and Petrology and Tectonophysics Sections, American Geophysical Union)
42. *22-25 May 2007, Acapulco, Mexico*  
 2007 Joint Assembly  
 Co-Chair, Program Committee: M. Brown  
 (Sponsor: American Geophysical Union)
43. *24-25 May 2008, Québec City, Canada*  
 Québec 2008  
 Short Course: C14 "Working with Migmatites"  
 E.W. Sawyer (Université du Québec à Chicoutimi), M. Brown (University of Maryland)  
 (Sponsor: Mineralogical Association of Canada)
44. *26-28 May 2008, Québec, Canada*  
 Québec 2008  
 Special Session SS8 "New advances in migmatites"  
 Organizer(s): Edward W. Sawyer (Université du Québec à Chicoutimi), Michael Brown (University of Maryland)  
 (Sponsor: Mineralogical Association of Canada, Joint Annual Meeting GAC-MAC-SEG-SGA)
45. *6-14 August 2008, Oslo, Norway*  
 MPN-12 Sederholm Symposium on High-grade Metamorphism, Crustal Melting, Migmatites and Granites  
 Conveners: Michael Brown (University of Maryland, USA), Olev Eklund (Turku University, Finland) and Peter Sorjonen-Ward (Geological Survey of Finland, Finland)  
 (Sponsor: 33rd International Geological Congress)
46. *15-18 September 2008, Yunnan Province, China*  
 Gondwana 13 Conference, Dali  
 Technical Session on "Comparative orogenesis: Brasiliano–Pan-African belts vs. Altaid–Tethyan belts"  
 Conveners: Michael Brown (University of Maryland), Christopher Clark (Curtin University), Brian Windley Leicester University, Wenjiao Xiao (Chinese Academy of Sciences)  
 (Sponsor: International Association for Gondwana Research)
47. *11-12 June 2009, School of Earth Sciences, University of Melbourne, Australia*  
 rpday – On the Importance of Minding Ones Ps and Qs Reflections on the past, present and future of metamorphic studies on the occasion of Roger Powell's 60th birthday.  
 Conveners: Michael Brown (University of Maryland), Michael Sandiford (University of Melbourne), Janet Hergt (University of Melbourne) and Neil Phillips (University of Melbourne)  
 (Sponsor: University of Melbourne, Australia; Wylie–Blackwell)
48. *21-26 June 2009, Davos, Switzerland*  
 Theme 5, Session 05B "Crust Coming of Age: From Accretion to Craton"  
 Conveners: Qiang Wang (Guangzhou Institute of Geochemistry, Chinese Academy of Sciences), Bill Griffin (Macquarie University) and Michael Brown (University of Maryland)  
 (Sponsor: Goldschmidt 2009 – "Challenges to Our Volatile Planet")
49. *13-15 July 2009, Hrubá Ská Chateau, Czech Republic*  
 Granulites & Granulites 2009: Granulites, Partial Melting and Rheology of Orogenic Lower Crust  
 Organizing Committee: Schulmann, K. (University of Strasburg), White, R. (University of Mainz), Brown, M. (University of Maryland), O'Brien, P. (University of Potsdam) and Lexa, O. (Charles University, Prague)
50. *26-28 October 2009, Calcutta, India*  
 International Conference on "Paleoproterozoic Supercontinents and Global Evolution"  
 Member, Advisory Committee  
 (Sponsor: International Geological Correlation Program Project 509)
51. *5-9 July 2010, Hyderabad, India*  
 Session SE01 Metamorphism and orogenesis from the Archean to the present, with particular reference to the evolution of Asia and its Gondwanan heritage.

Conveners: Michael Brown (University of Maryland), Samarendra Bhattacharya (Indian Statistical Institute), Chris Clark (Curtin University of Technology), Saibal Gupta (IIT Kharagpur), Wenjiao Xiao (Chinese Academy of Sciences) and Guochun Zhao (The University of Hong Kong)

(Sponsor: AOGS 2010)

52. 8-12 August 2010, Foz do Iguassu, Brazil

Session: U14 Thermal regimes and orogenesis from Archean to present

Conveners: Michael Brown (University of Maryland), Marcus Egydio Silva (University of Sao Paulo), Monica Heilbron (State University of Rio de Janeiro) and Alain Vauchez (University of Montpellier)

(Sponsor: The Meeting of the Americas, American Geophysical Union)

53. 31 October-3 November 2010, Denver, Colorado, USA

Topical Session 59 High-pressure and high-temperature metamorphism:  $P$ - $T$ - $t$  paths and tectonics.

Conveners: Michael Brown (University of Maryland), Fraukje Brouwer (VU University, Amsterdam) and Nigel Kelly (Colorado School of Mines)

(Sponsor: Geological Society of America, Mineralogical Society of America, Structural Geology and Tectonics Division)

54. 8-14 January 2011, Johannesburg, South Africa

Session S3.6 Metamorphism and metamorphic processes, crustal melting and the mobile belts of Africa and contiguous parts of Gondwana

Conveners: Michael Brown (University of Maryland), Christoph Hauzenberger (University of Graz) and Jürgen Reinhardt (University of KwaZulu-Natal)

(Sponsor: CAG 23 – South Africa 2011, 23rd Colloquium of African Geology)

55. 2-10 February 2011, Delhi, India

International Symposium on Precambrian accretionary orogens and field workshop in the Dharwar craton, Southern India Member, International Advisory Committee

(Sponsors: University of Delhi, multiple departments of the Government of India, multiple industries)

56. 25-30 September 2011, Buzios, Rio de Janeiro State, Brasil

Gondwana 14 'East meets West'

Member, Scientific Committee

(Sponsors: Petrobras SA, Academia Brasileira de Ciências, DRM-RJ, CPRM, Sociedade Brasileira de Geologia, multiple universities)

57. 5-10 August 2012, Brisbane, Australia

34th International Geological Congress

Session 22-5 Anatexis

Conveners: Geoffrey Clarke (University of Sydney, Australia), Michael Brown (University of Maryland, USA), Bernardo Cesare (University of Padova, Italy) and Gary Stevens (Stellenbosch University, South Africa)

58. 16-19 January, 2013, Hyderabad, India

Granulites & Granulites 2013

Organizing Committee

Conveners: Ian Fitzsimons (Curtin University, Australia) and Chris Clark (Curtin University, Australia)

Members: E.V.S.S.K.Babu (NGRI, Hyderabad, India), Y.J. BhaskarRao (NGRI, Hyderabad, India), Michael Brown (University of Maryland, USA), Saibal Gupta (IIT-Kharagpur, India), Martin Hand (University of Adelaide, Australia), and David Kelsey (University of Adelaide, Australia)

Eastern Ghats Field Trip Committee

Leader: Chris Clark (Curtin University, Australia)

Members: Michael Brown (University of Maryland, USA), Saibal Gupta (IIT-Kharagpur, India), Martin Hand (University of Adelaide, Australia), Fawna Korhonen (Geological Survey of Western Australia) and Jagatbikus Nanda (IIT-Kharagpur, India)

59. 07-12 April, 2013, Vienna, Austria

General Assembly 2013

Disciplinary Session: GMPV1 Origin, evolution of Earth's crust and the formation of a habitable planet

Convener: Stephen J. Mojzsis (University of Colorado, USA)

Co-Conveners: Pierre Bouillhol (Durham University, UK), Michael Brown (University of Maryland, USA), Bruno Dhuime (St Andrews and Bristol Universities, UK), Elizabeth Swanner (Karls Eberhad University Tuebingen, Germany)

(Sponsor: European Geosciences Union)

60. 25–30 August, 2013, Florence, Italy

Goldschmidt2013

Session 06g: Quantification of Metamorphic Processes and the Thermo-Tectonic Evolution of Orogens

Conveners: Michael Brown (University of Maryland, USA), Bernardo Cesare (University of Padova, Italy), Sumit Chakraborty (Ruhr Universität Bochum, Germany), Taras Gerya (ETH Zurich, Switzerland)

(Sponsor: European Association of Geochemistry/Geochemical Society)

61. 7–9 October, 2013, Beijing, China

International interdisciplinary meeting on Precambrian evolution of the Earth

Organizing Committee: Alfred Kröner (University of Mainz, Germany), Chair

Members of the International Precambrian Research Centre of China (includes Michael Brown, University of Maryland)

(Sponsor: the Beijing SHRIMP Centre, together with the International Precambrian Research Centre of China and SINOPROBE)

62. 27 April – 2 May, 2014, Vienna, Austria

General Assembly 2014

Disciplinary Session: GMPV20 Granites – Archaean to present

Convener: Jean-François Moyen (Université Jean-Monnet, Saint-Etienne, France)

Co-Conveners: Tracy Rushmer (Macquarie University, Australia), Michael Brown (University of Maryland, USA)

(Sponsor: European Geosciences Union)

63. 17–19 June 2014, Petrozavodsk, Karelia, Russia

International Conference – Precambrian high-grade mobile belts

Member of the Organizing Committee

(Sponsors: Russian Academy of Sciences, Earth Sciences Section RAS, Science Board on Precambrian Problems; Institute of Geology, Karelian RC, RAS; Geological Institute, RAS; Geological Institute, Kola Science Centre, RAS; Institute of Precambrian Geology and Geochronology, RAS; Geological Survey of Finland)

64. 17 July–22 July, 2016, Congressi Stefano Franscini, Monte Verità, Locarno, Switzerland

Workshop on the origin and evolution of plate tectonics

Programme Committee: Tackley, P.J. (ETH Zurich); Stern, Bob (University of Texas at Dallas, Richardson); Gerya, T. (ETH Zurich); Sobolev, S. (GFZ); van Hunen, Jeroen (Durham U., UK); and, Brown, Michael (U. Maryland, USA)

(Sponsor: Swiss National Science Foundation and ETH Zürich)

65. 27 August–4 September, 2016, Cape Town, South Africa

35th International Geological Congress

Session: Challenges in high-grade metamorphism and crustal melting

Conveners: Michael Brown (University of Maryland, USA), Mark Caddick (Virginia Tech, USA) and Chris Clark (Curtin University, Australia)

66. 27 August–4 September, 2016, Cape Town, South Africa

35th International Geological Congress

Session: Crust formation and recycling from the Hadean to the late Archaean: The transition to plate tectonics

Conveners: Alfred Kröner (University of Mainz, Germany), Duni Liu (Beijing SHRIMP Center, CAGS), Michael Brown (University of Maryland) and Walter Mooney (USGS)

67. 27 August–4 September, 2016, Cape Town, South Africa

35th International Geological Congress

Session: Secular change in Earth evolution

Conveners: Christopher Spencer (Curtin University, Australia), Michael Brown (University of Maryland, USA), Blair Schoene (Princeton University, USA) and Elis Hoffmann (Freie Universität Berlin, Germany)

68. 11 September – 15 September, 2016, Rimini, Italy

emc2016 – 2<sup>nd</sup> European Mineralogical Conference

Session: S6. Metamorphism, crustal melting and granite magmas from start to stop and from inclusions to intrusions

Conveners: Antonio Acosta Vigil (Universidad de Granada, Spain), Michael Brown (University of Maryland, USA), Sergio Rocchi (Università di Pisa, Italy) and Richard White (University of Mainz, Germany)

(Sponsor: Società Italiana di Mineralogia e Petrologia)

## 2.11. Media

*April 3rd, 2014*

Interviewed by Jessica Morrison of Nature about the article by Bercovici & Ricard on “Plate tectonics, damage and inheritance” and quoted in her article entitled “New origin seen for Earth's tectonic plates” published in *NATURE* | NEWS on April 6th, 2014 (<http://www.nature.com/news/new-origin-seen-for-earth-s-tectonic-plates-1.14993>).

*April 15th, 2014*

Interviewed by Andrea Jaramillo Jaramillo, the Producer of Ciencia, Salud y Tecnología Nuestra (CST), the Science, Health and Technology daily show, which airs on Tele Noticias 24 (NTN24), the Latino for Latino News Channel broadcasting across the Americas from Bogota, Colombia, about the Nature article by Bercovici & Ricard on “Plate tectonics, damage and inheritance” and its importance in relation to understanding how and why plate tectonics developed on Earth but not on other planets in the Solar System.

*November 18<sup>th</sup>, 2014*

Interviewed by Melissa Hogenboom of BBC Earth (<http://www.bbc.com/earth/world>) about the article by Korhonen et al. on “Taking the temperature of Earth’s hottest crust” (published in Earth and Planetary Science Letters) and its significance in relation to the origin of mountain belts for her article entitled “Rocks get super-heated to 1000C under new mountains” published on BBC Earth on November 20<sup>th</sup>, 2014 (<http://www.bbc.com/earth/story/20141120-the-hottest-part-of-earths-crust>).

*February 26th, 2017*

Interviewed by Richard A. Lovett of Cosmos magazine (Australia) about the article by Johnson et al. on “Earth’s first stable continents did not form by subduction” and quoted in his article entitled “Australian rocks suggest early Earth may not have had plate tectonics” published in Cosmos on February 27<sup>th</sup>, 2017 (<https://cosmosmagazine.com/geoscience/tremors-shake-tectonic-plate-theory>).

*February 27th, 2017*

Interviewed by Kendra Pierre-Louis of Popular Science about the article by Johnson et al. on “Earth’s first stable continents did not form by subduction” and quoted in her article entitled “Earth’s first continent? Probably a giant continental crust” published in Popular Science on February 27<sup>th</sup>, 2017 (<http://www.popsoci.com/earths-first-continent-probably-giant-continental-crust>).

*February 27th, 2017*

Interviewed by Madeline Rosenthal of earth.com about the article by Johnson et al. on “Earth’s first stable continents did not form by subduction”.

*February 28th, 2017*

Interviewed by Lindsay Dodgson, Science reporter, Business Insider UK, about the article by Johnson et al. on “Earth’s first stable continents did not form by subduction” and quoted in her article entitled “Earth may have once had a single shell like an egg” published in Business Insider on March 1<sup>st</sup>, 2017 (<http://www.businessinsider.com/earth-single-shell-egg-tectonic-plates-2017-2?r=UK&IR=T>)

*March 3<sup>rd</sup>, 2017*

Interviewed by Ira Flatow for “Science Friday” on National Public Radio about “Back When the Planet Had Just One Plate” <http://www.sciencefriday.com/segments/back-when-the-planet-had-just-one-plate/> (about the article by Johnson et al. on “Earth’s first stable continents did not form by subduction”)

*March 27<sup>th</sup>, 2017*

Interviewed by Seth Shostak, Host and Producer, Big Picture Science and Senior Astronomer, SETI Institute (<http://bigpicturescience.org/episodes>) -- the third segment, starting at 31 mins 20 secs. Link: [https://secure-hwcdn.libsyn.com/p/4/a/3/4a367760e1944cc4/BiPiSci17-03-27.mp3?c\\_id=14652356&expiration=1496236624&hwt=3394dc9ab47249c4e3276ecc3cc0f7](https://secure-hwcdn.libsyn.com/p/4/a/3/4a367760e1944cc4/BiPiSci17-03-27.mp3?c_id=14652356&expiration=1496236624&hwt=3394dc9ab47249c4e3276ecc3cc0f7) (about the article by Johnson et al. on “Earth’s first stable continents did not form by subduction”)

### **3. TEACHING, MENTORING AND ADVISING**

#### **3.1. Classes etc.**

##### **Oxford Brookes University**

Introductory Geology for Civil Engineers



Physical Geology (first-year course, 3 year honors degree)  
Structural Geology (second-year course, 3 year honors degree)  
Metamorphic Petrology (second-year course, 3 year honors degree)  
Petrogenesis (third-year course, 3 year honors degree)  
Tectonics (third-year course, 3 year honors degree)  
Map Work (all years)  
Field Work (all years)  
Research direction at PhD Level

### **Kingston University**

Metamorphic Petrology (first-year course, three year honors degree)  
Metamorphic Petrology (second-year course, three year honors degree)  
Crustal Petrology (third-year honors option, three year honors degree)  
Field Work (first year)  
Research direction at PhD Level

### **University of Maryland**

GEOL 443 Petrology (MB 50%, Dr. R. Walker 50%)  
1991 – 10 students; 1992 – 14 students; 1993 – 19 students; 1994 – 22 students; 1995 – 10 students; 1996 – 10 students;  
1998 – 5 students; 2016 – 12 students; 2017 – 14 students  
GEOL 472 Tectonics  
1996 – 4 students  
GEOL 489H Special Topics: Recent Advances in Geology (with other faculty)  
1997 – 2 students; 2002 – 2 students; 2004 – 3 students; 2005 – 2 students; 2008 – 4 students; 2009 – 3 students; 2010 – 4  
students.  
GEOL 497 Recent Advances: Geology (with other faculty)  
2016 – 1 student  
GEOL 497H Recent Advances: Geology (with other faculty)  
2011 – 4 students; 2012 – 2 students; 2013 – 6 students; 2014 – 1 student; 2015 – 2 students; 2016 – 5 students; 2017 – 1  
student  
GEOL 499B Special Problems in Geology: Recent Advances in Geology (with other faculty)  
2002 – 1 student  
GEOL 646 Crustal Petrology  
1991 – 4 students; 1994 – 4 students; 1996 – 5 students; 2007 – 6 students  
GEOL 789P Igneous and Metamorphic Petrology  
1993 – 4 students; 1995 – 7 students; 1997 – 4 students; 2003 – 6 students; 2006 – 11 students  
GEOL 789T The Precambrian: a geological record of secular change  
2014 – 10 students; 2015 – 4 students  
GEOL 798 Seminar in Geology  
1998 – 1 student; 2004 – 3 students  
GEOL 799 Master's Thesis Research  
GEOL 898 Pre-Candidacy Research  
GEOL 899 Doctoral Dissertation Research

### **3.2. Undergraduate Senior Thesis Advisor**

2006 Andrew Shansby  
Title: Comparison of the Petrology of Samples from Two Amphibolite Facies Localities from the Andrelândia Group,  
Brazil (Joint with Dr. P.M. Piccoli).  
2001 Colin Steely  
Title: The implications of porphyroblast fabric obliquity on the timing of deformation and metamorphism at Coos  
Canyon, Maine.  
(Recipient of UM Honors Research Grant, \$500)  
1994 Damian Hodkinson  
Title: Nd isotope evidence for origin of the Caldera-Pajonales Plutonic Complex, North Chile. (Joint with Dr. E.J.  
Krogstad)

1991 Bradley Blase  
Title: The Strafford Dome: A geophysical analysis using gravity modeling.

1972-1990 Several each year at Oxford Brooks University and Kingston University

### 3.3. Undergraduate Interns

2005 Andrew Shansby

2004 Andrew Masterson

2001 Tracey Centorbi, Brendan Puls, Colin Steely (NSF REU funding)

### 3.4. Graduate Students Supervised

#### In the United Kingdom

##### *As Principal Supervisor (Advisor)*

Gardeweg P., M.C.

Title: Geology of the Tumisa Volcanic Complex, N. Chile.

Awarded PhD in 1991 (Kingston University).

[Geologist, Servicio Nacional de Geologia y Minería de Chile, Chile]

Jones, K.A.

Title: The metamorphic petrology of the Southern Brittany Migmatite Belt, France.

Awarded PhD in 1988 (Kingston University).

[Lecturer, Oxford Brookes University, UK]

Bland, A.M.

Title: The geology of the granites of western Jersey, with particular reference to the south-west granite complex.

Awarded PhD in 1985 (Oxford Brookes University).

[unknown]

Perkins, W.T.

Title: The geochemistry and petrogenesis of the Qôrqt granite complex, with particular reference to the area north of Qôrqt, southern West Greenland.

Awarded PhD in 1984 (Oxford Brookes University).

[Lecturer, University of Wales, Aberystwyth, UK]

##### *As Second Supervisor (Advisor)*

Pembroke, J.

Title: Recognition and significance of magma-mixing in granites.

Awarded PhD in 1997 (Oxford Brookes University).

[unknown]

Pearce, T.J.

Title: Geology, sedimentology, geochemistry and provenance of Late Quaternary turbidites: Madeira Abyssal Plain.

Awarded PhD in 1991 (Kingston University).

[Sedimentologist, Kingston Geological Services, UK]

Gibson, S.A.

Title: Geochemistry and petrology of alkaline basaltic sills from the Tertiary Brito-Arctic Province in NW Scotland.

Awarded PhD in 1989 (Kingston University).

[Lecturer, University of Cambridge, UK]

D'Lemos, R.S.

Title: Relationships between the Cobo Granite and the Bordeaux Diorite Complex, Guernsey.

Awarded PhD in 1988 (Oxford Brookes University).

[Lecturer, Oxford Brookes University, UK]

## **In the USA**

### ***As Principal Advisor***

Yakymchuk, C.

Title: Anatexis and crustal differentiation: Insights from the Fosdick migmatite–granite complex, West Antarctica

Awarded Ph.D. 2014

[Assistant Professor, University of Waterloo, Canada]

Brown, C.

Title: Petrogenesis of peraluminous granites from the Fosdick Mountains, Marie Byrd Land, West Antarctica.

Awarded M.S. 2013

[PhD program, Stony Brook University, New York]

Chen, Y.

Title: The  $P$ – $T$ – $t$  history of a Barrovian sequence in Dutchess County, New York, and the adjacent part of Connecticut

Awarded M.S. 2009

[LandOcean Energy Services Co., Ltd., Beijing, China]

Reno, B.

Title: Timing of orogenesis in the Southern Brasília Belt

Awarded Ph.D. 2009

[Post-doctoral Researcher, University of Copenhagen, Denmark]

Tian, J.

Title: A geological and geochemical study of the Mooselookmeguntic composite pluton, west-central Maine and east-central New Hampshire.

Awarded M.S. 2000.

[Hughes Network Systems]

Solar, G.S.

Title: Structural and petrologic investigations in the Central Maine Belt, west-central Maine, with special reference to the migmatites.

Awarded PhD 1999.

[Professor, SUNY College, Buffalo]

Pressley, R.A.

Title: Petrogenesis of the Phillips pluton, west-central Maine

Awarded M.S. 1997.

[Geologist, Environmental Consultancy, North Carolina]

Burgess, J.L.

Title: Metamorphic studies in the Port aux Basques Area, SW Newfoundland, Canada.

Awarded M.S. 1994.

[High School Teacher]

### ***As Member M.S./PhD Committee***

Cunningham, E.E.

Title: “Constraining Lithospheric Structure across the Continental United States through Receiver Function and Apparent Incidence Angle Analysis”

Current (expected Spring 2019)

Johnston, S.

Title: “Tectonics of icy satellites driven by melting and crystallization of water bodies inside their ice shell”

Awarded Ph.D. 2015.

[University of Maryland, Baltimore County/Goddard Space Flight Center]

Mengason, M.

Title: “Cu-Fe sulfide saturation and its effect on metal budgets of intermediate magmas”

Awarded Ph.D. 2011.  
[Unknown]

Baker, M.A.  
Title: "Sulfur isotope studies of the Deutschland Formation, South Africa"  
Awarded M.S. 2006.  
[American Geological Institute]

Dai, Tianhuan  
Kinematics and deformation history of the Cross Lake Greenstone Belts, Manitoba, Canada.  
Awarded M.S. 2005  
[Unknown]

Tsuru, Asuka  
The Os isotopic composition of an ancient upper mantle; a study of the Jormua Ophiolite Complex, northeastern Finland.  
Awarded M.S. 1997.  
[Ph.D. program, University of Alberta, Canada]

Smolier, M.  
Re-Os isotope study of magmatic iron meteorites.  
Awarded Ph.D. 1997.  
[Principal Scientist, DynCorp]

Ratajeski, K.  
Title: Estimation of initial and saturation water concentrations of four granitoids in the Central Great Basin, Nevada and relevance to associated ore mineralization.  
Awarded M.S. 1995.  
[Ph.D. program, University of North Carolina, Chapel Hill]

Tomascak, P.B.  
Title: Isotopic and geochemical constraints on the origin of Topsham Series granitic pegmatites, southwestern Maine.  
Awarded Ph.D. 1995.  
[Professor, SUNY Oswego]

Williams, T.J.  
Title: An experimental investigation of HCl and ore metals in magma-volatile systems.  
Awarded PhD 1995.  
[Laboratory Manager, University of Texas at El Paso]

Petrina, C.J.  
Title: Influence of preexisting structure on the development of accommodation zones: San Luis and upper Arkansas Valleys, Colorado.  
Awarded M.S. 1992.  
[Unknown]

### **3.5. Post-Doctoral Research Associates**

Saito, Satoshi – 2007-2008. Project: "Isotope Geochemistry of Migmatites and Granites in the Fosdick Mountains, Antarctica" (Funding Source: University of Maryland)  
[Post-doctoral Researcher, Institute for Research on Earth Evolution (IFREEE), Japan Agency for Marine-Earth Science and Technology (JAMSTEC); Assistant Professor, Department of Earth Sciences, Ehime University, Japan]

Korhonen, Fawna – 2006-2009. Project: "Petrogenesis of Migmatites in the Fosdick Mountains, Antarctica" (Funding Sources: NSF Graduate Fellow (Polar Programs), University of Maryland)  
[Postdoctoral Researcher, Curtin University of Technology, Australia; Geologist, Geological Survey of Western Australia]

Baldwin, Julia – 2003-2005. Project: "UHT Granulites in Brazil" (Funding Sources: NSF, University of Maryland)  
[Assistant/Associate Professor, University of Montana]

Johnson, Timothy – 2002-2003. Project: "Petrogenetic Studies of Migmatites and Granulites" (Funding Source: NSF, University of Maryland)

[Research Scientist, University of Mainz, Germany; Senior Lecturer, Curtin University, Australia]

Moraes, Renato – 2000-2002. Project: “To Establish *P-T* Paths for the Goiás UHT Granulites and Determine the Age of Metamorphism” (Funding Source: CNPq, Brazil, University of Maryland)  
[Professor, USP, Brazil]

Marchildon, Nathalie – 1998-2002. Project: “Developing Models of Melt Transfer in Migmatites - A Pilot Study.” and “Characterizing Melt Flow in the Anatectic Zone” (Funding Source: NSF, University of Maryland)  
[Promoted from Research Associate to Assistant Research Scientist wef July 1, 2001; since 2002, professional translator (French/English), Quebec]

### 3.6. Visiting Researchers

Huang, Guangyu – January 2016–January 2017. Project: “Ultrahigh-temperature metamorphic rocks of the Khondalite Belt, North China Craton.” [Funding source: University of the Chinese Academy of Sciences]

Wang, Songjie – January 2016–January 2017. Project: “Detailed field-based petrological, geochemical and geochronological studies to decipher the generation, migration and crystallization of melts/fluids in deeply subducted continental crust of the Sulu belt, China.” [Funding source: Government of China; National Natural Science Foundation of China]

Xia, Bin – January 2016–April 2017. Project: “Phase equilibria modeling of HP/UHP–LT and MP–HT metamorphic rocks; the *P–T–t* evolution of orogenic belts; and, the formation of paired metamorphic belts. [Funding source: Government of China; National Natural Science Foundation of China]

Guo, LongLong – December 2013–December 2014. Project: “Petrological and geochemical studies in the Ordos Block and the Khondalite Belt, North China craton, and the Tianshan, northwest China” [Funding source: Northwest University, Xi'An, China]

Korhonen, Fawna – 2009–2015. Project: "Petrogenesis of UHT granulites from the Eastern Ghats Belt, India [Funding source: Curtin University of Technology, Australia/ARC, Australia; Geological Survey of Western Australia]

Podlesskii, Konstantin – 2008. Project: "Research: Sapphirine-Bearing Assemblages as Indicators of Metamorphic Conditions" [Fulbright Scholar]

Baldwin, Julia A. – 2005–2015. Project: “Petrogenesis of HP and UHT granulites from the Brasilia Fold Belt in Minas Gerais and Goiás, Brazil” [Funding Source: University of Maryland; NSF; CNPq, Brazil]

Johnson, Timothy – 2002–present. Project: “Petrogenetic studies of migmatites and granulites” [Funding Source: University of Maryland; NSF; Deutsche Forschungsgemeinschaft (DFG); Curtin University]

Moraes, Renato – 2002–2008. Project: “Petrogenesis of HP and UHT granulites from the Brasilia Fold Belt in Minas Gerais and Goiás, Brazil” [Funding Source: University of Maryland; NSF; CNPq, Brazil]

### 3.7. Faculty Mentor

Penniston-Dorland, Sarah (University of Maryland): 2015–present.

Caddick, Mark (Virginia Tech): 2012–present.

Montesi, Laurent (University of Maryland): 2011–present.

## 4. SERVICE

### Professional

#### Offices and Committee Memberships Held in Professional Organizations

2016 - 2019	Member of the Council, Mineralogical Society of America
2016 - 2019	Member of the Executive Committee, Mineralogical Society of America
2016 - 2019	Member of the Management Committee, Mineralogical Society of America
2016 - 2019	Member of the Long-term Planning Committee, Mineralogical Society of America
2016 - 2017	Vice President of the Mineralogical Society of America for 2017
2016 - 2017	Chair of the Committee on Committees, Mineralogical Society of America
2016 - 2017	Publications Director, Mineralogical Society of America
2015 - 2016	Theme Champion “Metamorphic Processes”, 35 <sup>th</sup> International Geological Congress

2013 - 2019 Member, Financial Advisory and Audit Committee, Mineralogical Society of America  
2013 - 2017 Member, Hess Medal Committee, American Geophysical Union.  
2011 2<sup>nd</sup> Vice-President, The Geological Society of Washington  
2009 - 2016 Member, Advisory Committee of the International Association for Gondwana Research.  
2005 - 2011 Member, Books Editorial Committee, Geological Society of London, UK.  
2006 - 2007 Co-Chair, Program Committee, 2007 Joint Assembly, Acapulco, Mexico, American Geophysical Union.  
2005 - 2006 Chair, Program Committee, 2006 Joint Assembly, Baltimore, Maryland, American Geophysical Union  
2004 - 2005 Ex officio, Program Committee, 2005 Joint Assembly, New Orleans, LA, American Geophysical Union.  
2004 - 2007 Member, Meetings Committee, American Geophysical Union.  
2004 - 2006 Member/Chair (2005-2006), Nominating Committee for Fellows, Mineralogical Society of America.  
2002 - 2006 Member, Integrated Solid Earth Sciences (ISES) Coordinating Group.  
2002 - 2004 Spring Meeting Chair, Volcanology, Geochemistry and Petrology Section, American Geophysical Union.  
2001 - 2006 *Journal of the Virtual Explorer* Editorial Board  
2000 - 2002 Executive Committee, Board of Heads and Chairs of Earth and Space Science Departments (AGU)  
1998 - 2001 Member/Chair (2000-2002), Nominating Committee for Officers, Mineralogical Society of America  
1998 - 2004 Advisory Editor, *Journal of the Geological Society*, London  
1998 - 2000 Member, *Geology* Editorial Board, Geological Society of America, USA  
1995 - 1998 The Geological Society, Representative, Member Society Council of the American Geological Institute  
1995 - 1998 Member, Committee on Management, Mineralogical Society of America, USA  
1993 - 1996 Member, Steering Committee, Earth Science Journal Editors Round Table  
1992 - 1993 Leader, IAVCEI Task Group on Granites  
1990 - 1994 Member, AGU 75th Anniversary Planning Committee, USA  
1991 - 1992 Council Member, Geological Society of Washington, USA  
1989 - 1990 Member, PCFC Science Programme Advisory Group, UK  
1988 - 1989 Member, NAB Earth Sciences Review Committee, UK  
1988 - 1989 Member, UGC Earth Sciences Review National Committee, UK  
1987 - 1989 External Examiner for Course S336 Crustal and Mantle Processes, The Open University, UK  
1985 - 1988 External Examiner for Geology, BSc in Science (CNA A), Luton College of Higher Education, UK  
1985 - 1990 Co-leader, IGCP Project 235 Metamorphism and Geodynamics  
1988 - 1990 Chairman, CNA A Subject Review Committee for Geology, UK  
1987 - 1990 Member, CNA A Committee for Physical Sciences, UK  
1984 - 1987 Member, CNA A Combined Studies (Science) Board, UK  
1985 - 1988 Council Member, Mineralogical Society of Great Britain and Northern Ireland  
1982 - Founding Editor/Editor, *Journal of Metamorphic Geology*  
1981 - 1986 Subject Editor (Metamorphic Geology), *Journal of the Geological Society*, London, UK  
1985 - 1988 Chairman, Metamorphic Studies Group, UK  
1980 - 1984 Founding Secretary, Metamorphic Studies Group, UK  
1980 - 1983 Council Member, Geological Society, London, UK  
1979 - 1989 Member, committees of the Geological Society, London, UK (in particular, Publications Committee 1980-1988), Institution of Geologists (in particular, Joint Education Committee 1979-1988) and Mineralogical Society (in particular, Meetings Committee 1985-1988)

CNA A = Council for National Academic Awards  
IGCP = International Geological Correlation Programme  
UGC = University Grants Committee  
NAB = The National Advisory Body  
PCFC = The Polytechnics and Colleges Funding Council  
AGU = American Geophysical Union

### Unpaid Reviewing Activities for Agencies

Agence nationale de la recherche (France)  
Australian Research Council  
Chilean Research Council (CONICYT)  
Czech Science Foundation  
E.T.H. Zurich, Switzerland  
Irish Research Council for Science, Engineering and Technology  
K.U. Leuven, Belgium  
National Science and Engineering Research Council (Canada)  
Natural Environment Research Council (U.K.)  
South African Research Council

The Research Grants Council of Hong Kong  
U.S. Department of Energy  
U.S. National Science Foundation: Continental Dynamics, Geophysics, Instrumentation and Facilities, Ocean Sciences,  
Petrology and Geochemistry, Polar Programs, Tectonics

### **External Examiner for Ph.D. Degree/Habilitation**

Multiple universities worldwide.

### **Oxford Brookes University**

1972–1984

Senate, various committees of Senate; Faculty Board, various committees of Faculty Board; Departmental Board, various committees of Department Board; course committees.

Head of Department (Acting) 1982–1984

### **Kingston University**

1984–1990

Senate, various Senate committees; Faculty Board, various Faculty Board committees; Departmental Committees.

Associate Dean for Academic Affairs 1986–1990 (concurrent appointment with Head of Department)

Head of Department 1984–1990

### **University of Maryland**

#### **Departmental**

Chair, Search Committee, Assistant Professor in Geophysics, 2013-2014

Member, Search Committee, Professor in Geophysics, 2010-2011

Chair 1990–2011 (reappointed 1995, 2000, 2005 and 2010)

Chair, Search Committee, Professor in Geophysics, 2006-2007

Chair, Search Committee, Professor in Geophysics, 2005-2006

Chair, Search Committee, Professor in Mineralogy, 2004-2005

Chair, Search Committee, Professor in Structural Geology and Tectonics, 2004-2005

Chair, Search Committee, Professor in Biogeosciences, 2000-2001

Chair, Search Committee, Professor in Geochemistry, 1999-2000

Chair, Search Committee, Professor in Structural Geology and Tectonics, 1998-1999

Chair, Search Committee, Professor in Geochemistry, 1995-1997

#### **College**

Member, College of CMNS APT Committee 2016-2017

Interim Director, Earth System Science Interdisciplinary Center 1998-2000

Member, College of CMPS Committee on Teaching TAs to Teach 1997-1998

#### **University**

Member, Academic Planning Advisory Committee, 2015-present

Member, Provost's Working Group to Evaluate the Proposed Merger of the Colleges of Chemical and Life Sciences and of Computer, Mathematical and Physical Sciences, 2010

Member, Committee to Advise the Provost on the Desirability and Feasibility of Forming an Environment-Centered College-level Academic Unit at the University of Maryland, College Park, 2009

Member, Senate Executive Committee, 2003-2004, 2004-2005, 2005-2006 (re-elected annually)

Ex officio Member (as Chair, Faculty Affairs Committee), Graduate Council, 2004-2005

Chair, Faculty Affairs Committee, 2004-2005

Member, College Park Senate, 2003-2006  
Member, University Medal Selection Committee, 2002-2003  
Member, Middle States Periodic Review - Committee on Interdisciplinary Programs, 2001-2002  
Member, Academic Planning Advisory Committee, 2002-2005  
Chair, Campus Research Council, 2000-2003  
Chair, Senate Research Committee, 1999-2000  
Member, Senate Executive Committee, 1999-2000  
Member, Campus Assessment Working Group, 1998-1999  
Chair, Senate Academic Procedures and Standards Committee, 1998-1999  
Member, College Park Senate, 1997-2000  
Chair, Committee to Examine the Realignment, Coordination or Consolidation of Programs Concerning Environmental Science and Policy, 1991 - 1992 (Blue Ribbon Committee established by the Provost)  
Member, Senate General Committee on Educational Affairs, 1990 - 1991