

Non peer-reviewed publications by SA Gibson

- [1] **Gibson, S.A.**, Thompson, R.N., Leat, P.T., Morrison, M.A., Hendry, G.L., Dickin, A.P., 1991. Ultrapotassic magmas along the flanks of the Oligo-Miocene Rio Grande rift, USA: Monitors of the zone of lithospheric extension and thinning beneath a continental rift. 5th Intern. Kimb. Conf. Araxá, *CPRM Spec. Publ.*, 2,91, 133-135.
- [2] **Gibson, S.A.**, Thompson, R.N., Mitchell, J.G., Dickin, A.P., Morrison, M.A., Hendry, G.L., 1991. Geochemical and petrographic evidence for high-Mg ultrapotassic magmas in SE Colorado. 5th Intern. Kimb. Conf. Araxá, *CPRM Spec. Publ.* 2,91, 136-138.
- [3] Thompson, R.N., **Gibson, S.A.**, Leat, P.T., 1991. Overt and cryptic strongly potassic mafic liquids in the Neogene magmatism of the northernmost part of the Rio Grande Rift, USA: A lithospheric drip-feed into asthenospheric-source magmas? 5th Intern. Kimb. Conf. Araxá, *CPRM Spec. Publ.* 2,91, 420-422.
- [4] **Gibson, S.A.**, Leonardos, O.H., Thompson, R.N., Turner, S.E., Mitchell, J.G. & Dickin, A.P., 1993. O diatrema alkalino-ultramáfico da Serra do Bueno, Alto Paranaíba, Minas Gerais. *Proc. 1 Simp. Brasil. Geol. Diamante, Cuiabá.* 57-78.
- [5] Leonardos, O.H., Carvalho, J.B., Tallarico, F.H.B., **Gibson, S.A.**, Thompson, R.N., Meyer, H.O.A. & Dickin, A.P., 1993. O xenólito de granada Iherzolito de Três Ranchos 4: uma rocha matriz do diamante na província magmática cretassica do Alto Paranaíba, Goiás. *Proc. 1 Simp. Brasil. Geol. Diamante, Cuiabá.* 3-16.
- [6] Leonardos, O.H., **Gibson, S.A.**, Thompson, R.N., Moreira Filho, R.D. & Magalhães, A.C., 1993. Geoquímica da intrusão ultramáfica ultrapotássica da Bocaina, Minas Gerais, Goiás: mais um exemplo de rocha sem classificação na província magmática do Alto Paranaíba. *Proc. 1 Simp. Brasil. Geol. Diamante, Cuiabá.* 129-140.
- [7] Tallarico, F.H.B., Leonardos, O.H., **Gibson, S.A.**, Meyer, H.O.A. & Mitchell, J.G., 1993. Química mineral da intrusão Mata do Lenço, Abadia dos Dourados, M.G. *Proc. 1 Simp. Brasil. Geol. Diamante, Cuiabá.* 114-128.
- [8] **Gibson, S.A.**, Thompson, R.N., Leonardos, O.H., Dickin, A.P. & Mitchell, J.G., 1994. The Late Cretaceous impact of the Trindade plume: evidence from large-volume, mafic, potassic magmatism in S.E. Brazil. *International Symposium on the Physics and Chemistry of the Upper Mantle, São Paulo,* 56-58
- [9] Thompson, R.N. & **Gibson, S.A.**, 1994. Interplay between lithospheric and convecting-mantle sources during continental rift-related magmatism. *International Symposium on the Physics and Chemistry of the Upper Mantle, São Paulo,* 115-117.
- [10] **Gibson, S.A.**, Thompson, R.N., Dickin, A.P., Mitchell, J.G. & Leonardos, O.H., 1994. Ultrapotassic magmatic key to interaction of Cretaceous mantle plumes with laterally heterogeneous South American lithosphere. *EOS,* 72.
- [11] Heikoop, C., Dickin, A.P., Thompson, R.N., Leat, P.T. & **Gibson, S.A.**, 1995. Pb-isotopes in continental basic magmas associated with the Rio Grande rift, Northwest Colorado. *EOS,* 76, 295.
- [12] Leonardos, O.H., Fleischer, R., Thompson, R.N., **Gibson, S.A.**, Svisero, D.P. & Weska, R.K., 1996. Comments on the paper of G.M. Gonzaga et al., 'The origin of diamonds in western Minas Gerais, Brazil' *Mineral Deposita.* 31, 343-344.
- [13] **Gibson, S.A.**, Thompson, R.N., Dickin, A.P. & Mitchell, J.G., 1997. Temporal variation in magma sources related to the impact of the Tristan mantle plume. Extended Abstract, *Plumes, plates and Mineralisation,* Pretoria.

- [14] Thompson, R.N., **Gibson, S.A.**, Greenwood, J.C., Weska, R.K. & Leonards, O.H., 1997. The Trindade mantle plume: ultimate source of Late Cretaceous diamondiferous kimberlites and other mineralisation (Nb, Ti, P, REE, Ni, U, Th, Zr, F) in SE Brazil. *Proc. 2nd Simp. Brasil. Geol. Diamante, Cuiabá*. 53.
- [15] **Gibson, S.A.**, Thompson, R.N., Dickin, A.P.& Mitchell, J.G., 1997. Temporal variation in magma sources related to the impact of the Tristan mantle plume. *J. Conf Abs.* 2, 32.
- [16] Thompson, R.N., **Gibson, S.A.**, Mitchell, J.G., Dickin, A.P., Leonards, O.H., Brod, J.A. & Greenwood, J.C., 1997. Migrating Cretaceous-Eocene magmatism in the Serra do Mar alkaline province, SE Brazil: The dog-legged track of devious Trindade mantle plume. *J. Conf Abs.* 2, 76.
- [17] Rao, N.V.C., **Gibson, S.A.**, Pyle, D.M. & Dickin, A.P., 1997. Geochemical evidence from kimberlites and lamproites for Proterozoic mantle heterogeneity beneath southern India. *J. Conf Abs.* 2, 21.
- [18] Greenwood, J. C., **Gibson, S. A.**, Thompson, R.N., Weska, R.K., Dickin, A. P., 1998 Petrogenesis of Cretaceous kimberlites from the Paranatinga-Batovu region, central Brazil: geochemical evidence for subcratonic lithospheric mantle heterogeneity. *Extended abstracts, 71KC*. 268-270.
- [19] **Gibson, S.A.**, 1998. Subcontinental mantle plume impact and kimberlite genesis. *Extended abstracts from the 7th International Kimberlite Conference 1998*. 250-251.
- [20] Anand, M. & **Gibson, S.A.**, 1999. Proterozoic sedimentary tectonomagmatic evolution of the intracratonic Cuddapah Basin, India. *J. Conf Abs.* 4, 285.
- [21] **Gibson, S. A.**, Thompson, R., Dickin, A. 1999. Ferropicrites: geochemical evidence for Fe-rich streaks in the connecting mantle. *J. Conf Abs.* 4, 356.
- [22] May-Smith, P., **Gibson, S. A.**, McKenzie, D.P., Thompson, R.N., White, N.J., 1999. Quantifying the relationship between Permo-Carboniferous magmatism and extension in Scotland. *J. Conf Abs.* 4, 293.
- [23] Greenwood, J.C., **Gibson, S.A.**, Thompson, R.N., 1999. Lithospheric versus plume contributions to ocean island magmatism: constraints from Ilha da Trindade, South Atlantic. *J. Conf Abs.* 4, 345.
- [24] Anand, M., **Gibson, S.A.**, White, N. J., Kelley, S. P., 2000. Mafic magmatism and subsidence history of the intra-cratonic Proterozoic Cuddapah Basin, Southern India. *EOS. American Geophysical Union conference abstract. San Francisco, Fall Meeting*. F1363.
- [25] Anand, M., **Gibson, S.A.**, and Kelley, S.P., 2001, 1.9Ga magmatism in the Cuddapah Basin, Southern India: Constraints on Proterozoic tectono-magmatic processes, *Volcanic & Magmatic Studies Group conference proceedings*, Durham, UK.
- [26] Garner, J.S., **Gibson, S.A.**, Thompson, R.N. & Nowell, G.M., 2001. Contribution of pyroxenite-derived melts to Baikal rift-related magmatism. *EOS. American Geophysical Union conference abstract. San Francisco, Fall Meeting*.
- [27] Roberts, M. A. & **Gibson, S.A.**, 2001. Spatial and temporal variations in lithospheric mantle above the East African Mantle Plume - geochemical evidence from the Mt.Meru,Mt. Kilimanjaro region, N. Tanzania. *J. Conf Abs.* 6, 478.
- [28] Parkinson, I., Widdowson, M., **Gibson, S.A.**, 2001. New Os isotope data for the Deccan Traps; plume heads and crustal contamination. *J. Conf Abs.* 6, 419.

- [29] Roberts, M.A. & **Gibson, S.A.**, 2003. Spatial and temporal variations in lithospheric and asthenospheric melting above the East African mantle plume; evidence from the Mt. Meru/ Kilimajaro region N. Tanzania. *IAVCEI*
- [30] Tuff, J. & **Gibson, S.A.**, 2004. Experimental Constraints on the Role of Garnet Pyroxenite in the Genesis of High-Fe Mantle Plume Derived Melts. *EOS. American Geophysical Union conference abstract. San Francisco, Fall Meeting.*
- [31] Tuff, J. & **Gibson, S.A.**, 2005. Experimental Constraints on the Role of Garnet Pyroxenite in the Genesis of High-Fe Mantle Plume Derived Melts. *Volcanic & Magmatic Studies Group conference proceedings*
- [32] Tuff, J. & **Gibson, S.A.**, 2005. Experimental Constraints on the Role of Garnet Pyroxenite in the Genesis of High-Fe Mantle Plume Derived Melts. *AGU Chapman Conference, The Great Plume Debate: The Origin and Impact of LIPS and Hot Spots. Fort William, Scotland.*
- [33] Tuff, J. & **Gibson, S.A.**, 2006. 3-7 GPa trace-element partitioning in Fe-rich picrites. *Goldschmidt Conference Abstract*
- [34] Ross, A.J., **Gibson, S.A.**, Leat, P.T., Vaughan, A.P.M. 2009. Compositional Variability of the Mantle beneath West Antarctica and its Relationship to Terrane Tectonics: Evidence from Mantle Xenoliths. *EGU Abstract*
- [35] **Gibson, S. A.**, 2009. Darwin's geological formation. *GeoScientist*, 19 (2). p. 19.
- [36] **Gibson, S.A.**, 2009. Early settler - Darwin the geologist in the Galápagos. *GeoScientist*, 19 (2). pp. 18-23.
- [37] **Gibson, S.A.**, 2009. In Darwin's geological footsteps. *Galápagos News*, 28 (spring/summer). pp. 6-8.
- [38] **Gibson, S.A** & Malarkey, 2009. Highly Refractory Lithospheric Mantle from the Kaapvaal Craton: Evidence from Low-T Finsch peridotites. *Abstracts from the 9th International Kimberlite Conference, Mainz, Germany.*
- [39] **Gibson, S.A.**, Malarkey, J. & Day, J.A., 2009. Role of Temperature and Cr³⁺ in the sinuous REE patterns displayed by sub-calcic garnets. *Abstracts from the 9th International Kimberlite Conference, Mainz, Germany.*
- [40] L.C. Gibson, **S.A. Gibson** & Leat, P.T. 2010. Lithospheric mantle evolution above a subducting plate: Direct constraints from Antarctic Peninsula spinel peridotite xenoliths. *Geophysical Research Abstracts Vol. 12*
- [41] L.C. Gibson, **S.A. Gibson** & Leat, P.T. 2010. Antarctic lithospheric architecture and evolution: Direct constraints from Antarctic Peninsula spinel peridotite xenoliths. *EOS. American Geophysical Union conference abstract. San Francisco, Fall Meeting.*
- [42] L.C. Gibson, **S.A. Gibson** & Leat, P.T. 2011. Antarctic Lithospheric Architecture and Evolution: Direct Constraints from Mantle Xenoliths. *Volcanic & Magmatic Studies Group conference proceedings*, University of Cambridge, UK
- [43] **Gibson, S.A.**, 2011. Geodynamics: Christmas recycling. *Nature Geoscience* 4, 823–824
- [44] **Gibson, S.A.** and Geist, D., 2010. Geochemical and geophysical estimates of lithospheric thickness variation beneath Galápagos. *EOS. American Geophysical Union conference abstract. San Francisco, Fall Meeting.*
- [45] **Gibson, S.A.**, Geist, D.G., Day, J.A. and Dale, C.W., 2011. Constraints on the transition from active plume upwelling to lateral mantle flow beneath Galápagos:

Geochemical evidence from Isla Santiago basalts. *Chapman Conference abstract*, Galapagos workshop

- [46] **Gibson, S.A.** and Geist, D., 2011. Plume-ridge interactions: Geophysical and geochemical constraints from Galápagos. *Volcanic & Magmatic Studies Group conference proceedings*, University of Cambridge, UK
- [47] **Gibson, S.A.**, 2011. On the nature and causes of volcanism in the Galapagos archipelago. Keynote, *8th National Geological Colloquium Program and Abstracts*, University of Helsinki, Finland. pg 13
- [48] **Gibson, S.A.**, 2011. The volcanos of Galapagos. *Trilobite* 23, 1.
- [49] **Gibson, S.A.**, Geist, D.G., Day, J.A. and Dale, C.W., 2012. The transition from plume-driven upwelling to lateral mantle flow: Geochemical evidence from Isla Santiago, Galápagos. *Volcanic & Magmatic Studies Group conference proceedings*, University of Durham, UK
- [50] **Gibson, S.A.**, McMahon, S.C., Day, J.A. & Dawson, J.B., 2012. On the nature and origin of highly-refractory Archean lithosphere: Petrological and geophysical constraints from the Tanzanian craton. *EOS. American Geophysical Union conference abstract. San Francisco, Fall Meeting*.
- [51] Jennings, E.S., MacLennan J., **Gibson, S.A.**, Thompson, R.N., 2013. Compositional heterogeneity of the Earth's convecting mantle: constraints from olivine-hosted melt inclusions from a continental flood basalt setting *Volcanic & Magmatic Studies Group conference proceedings*, University of Bristol, UK
- [52] **Gibson, S.A.** The Role of Mantle Volatiles in the Formation of Large Igneous Provinces & Associated Mass Extinction Events. *Mass Extinction Conference*, Natural History Museum, London, UK
- [53] Jennings, E.S., **Gibson, S.A.**, MacLennan J., Thompson, R.N., 2013. Characterising the mantle source region(s) of continental flood basalts: A melt inclusion investigation of high-Mg volcanic rocks from the Etendeka Large Igneous Province, Namibia. *Mass Extinction Conference*, Natural History Museum, London, UK
- [54] Jennings, E.S., **Gibson, S.A.**, MacLennan J., 2013. Olivine-hosted melt inclusions in Mg- and Fe-rich magmas: Tracing mantle source and crustal processing in the Parana-Etendeka LIP. IAVCEI, Kagoshima, Japan
- [55] Rooks, E.E., **Gibson, S.A.**, Gibson, L., Leat, P.T., Parkinson, I.J., Petrone, C.M., 2013. Lateral variations in lithospheric mantle evolution beneath the Australides, southern Gondwana Pacific margin. *Building Strong Continents. University of Portsmouth*, UK
- [56] Rooks, E.E., **Gibson, S.A.**, Petrone, C.M., Parkinson, I.J., 2013. *Evolution of the SCLM beneath southern Patagonia from Mantle Xenoliths*. *Volcanic & Magmatic Studies Group conference proceedings*, University of East Anglia, UK
- [57] Jennings, E.S., **Gibson, S.A.**, MacLennan J., Heinonen, J.S., Luttinen, A. V., Riley, T.R., 2014. Picrites and Ferropicrites: Mantle heterogeneity in a continental flood basalt setting. *Volcanic & Magmatic Studies Group conference proceedings*, University of Edinburgh, UK
- [58] Jennings, E.S., MacLennan J., **Gibson, S.A.**, Holland, T., 2014. Lithological heterogeneity in the mantle plume source of continental flood basalts. *Deep Earth Processes flagship conference*. Geological Society of London, UK
- [59] Jennings, E.S., **Gibson, S.A.**, MacLennan J., 2014. High pressure melting of mantle pyroxenite beneath continental lithosphere. *Goldschmidt Conference*, Sacramento, USA

- [60] Rooks, E.E., **Gibson, S.A.**, Petrone, C.M., Parkinson, I.J., 2014. *Evolution of the SCLM beneath southern Patagonia from Mantle Xenoliths*. *Volcanic & Magmatic Studies Group conference proceedings*, University of Edinburgh, UK
- [61] Rooks, E.E., Gibson, S.A., Gibson, L., Leat, P.T., Parkinson, I.J., Petrone, C.M., 2014. Textures and Geothermobarometry of off-craton spinel & garnet-bearing peridotites from South Patagonia. *6th Orogenic Lherzolite Conference, Morocco*
- [62] Rooks, E.E., Gibson, S.A., Gibson, L., Leat, P.T., Parkinson, I.J., Petrone, C.M., 2014. Mantle peridotites from the southern Gondwana margin. *Goldschmidt, Sacramento, USA*
- [63] Jennings, E.S., Holland, T., Shorttle, O., Maclennan J., **Gibson, S.A.**, 2015. The Composition of melts from a heterogeneous mantle: Application of a thermodynamic model. *Goldschmidt Conference, Prague*
- [64] Rooks, E.E., **Gibson, S.A.**, Gibson, L., Petrone, C.M., Leat, P.T., 2015. Compositionally controlled volatile content of nominally volatile-free minerals in the continental upper mantle of Southern Gondwana (Patagonia & W. Antarctica). *EOS. American Geophysical Union conference abstract. San Francisco, Fall Meeting*.
- [65] Richards, M.A., Alvarez, W., Self, S., Karlstrom, L., Renne, P.R., Manga, M., Sprain, C.J., Smit, J., Vanderkluysen, L., **Gibson, S.A.** 2015. Triggering of the largest Deccan eruptions by the Chicxulub impact. *EOS. American Geophysical Union conference abstract. San Francisco, Fall Meeting*.
- [66] Rooks, E.E., **Gibson, S.A.**, Gibson, L., Petrone, C.M., Leat, P.T., 2015. Controls on volatile content and distribution in the continental upper mantle of Southern Gondwana (Patagonia & W. Antarctica). *European Geophysical Union, Vienna*.
- [67] Richards, M.A., Alvarez, W., Self, S., Karlstrom, L., Renne, P.R., Manga, M., Sprain, C.J., Smit, J., Vanderkluysen, L., **Gibson, S.A.**, 2015. Triggering of the largest Deccan eruptions by the Chicxulub impact. *European Geophysical Union, Vienna*.
- [68] **Gibson, S.A.**, Dale, C., Geist, D., & Harpp, K., 2015. Os isotopic constraints on the identification of pyroxenite in the source of OIBs. *European Geophysical Union, Vienna*.
- [69] Jennings, E.S., Holland, T., Shorttle, O., Maclennan J., **Gibson, S.A.**, 2015. The Composition of melts from a heterogeneous mantle: Application of a thermodynamic model. *Goldschmidt, Prague*
- [70] Richards, M.A., Alvarez, W., Self, S., Karlstrom, L., Renne, P.R., Manga, M., Sprain, C.J., Smit, J., Vanderkluysen, L., **Gibson, S.A.** 2015. Triggering of the largest Deccan eruptions by the Chicxulub impact. *Geological Society of America, Denver, USA*
- [71] Neave, D., Black, M., Riley, T.R., **Gibson, S.A.**, Ferrier, G., Wall, f., & Broom-Fendley, S., 2015. On the feasibility of detecting Rare Earth Element (REE) deposits using remote sensing. *Mineral Deposits Group, University of Southampton*
- [72] Neave, D., Black, M., Riley, T.R., **Gibson, S.A.**, Ferrier, G., Wall, F., & Broom-Fendley, S., 2015. On the feasibility of detecting Rare Earth Element (REE) deposits using remote sensing, *American Society of Photogrammetry and Remote Sensing, Boston, USA. Awarded conference prize*
- [73] Rooks, E.E., **Gibson, S.A.**, Gibson, L., Petrone, C.M., Leat, P.T., 2016. Compositionally controlled volatile content of nominally volatile-free minerals in the continental upper mantle of Southern Gondwana (Patagonia & W. Antarctica). *Volcanic & Magmatic Studies Group conference proceedings*, Trinity College Dublin

- [74] Moreau, L., Fernandes, P., Brandl, M., Filzmoser, P., Goemaere, E., Hauzeur, A., Jadin, I., Day, J., **Gibson, S.A.**, 2016. Renewed petrographical and geochemical studies of flint from secondary deposits: Belgium as a case study. *European Archaeologists Association (EAA) Vilnius*
- [75] Jackson, C. G. & **Gibson, S.A.**, 2017. New insights into volatile-rich mantle metasomatism at the Bultfontein diamond mine, Kimberley, South Africa. *Volcanic & Magmatic Studies Group conference proceedings*, University of Liverpool
- [76] Gleeson, M. L.M. & **Gibson, S.A.**, 2017. Plume-ridge interactions and the transfer of volatiles at the Galápagos Spreading Centre. *Volcanic & Magmatic Studies Group conference proceedings*, University of Liverpool
- [77] Day, J., **Gibson, S.A.**, Price, D., Hutchinson, R., 2017. Benefits of Fast Data Acquisition with Laser Ablation and Quadrupole ICP-MS. *European Winter Conference on Plasma Spectrochemistry Sankt Anton, Austria*
- [78] Jackson, C. & **Gibson, S.A.** 2017. New insights into sulfur-rich mantle metasomatism at Bultfontein, Kimberley. *Goldschmidt, Paris*.
- [79] Gleeson, M. & **Gibson, S.A.**, 2017. Depleted pyroxenite domain in the Galápagos mantle, the result of crustal assimilation? *Goldschmidt, Paris*.
- [80] **Gibson S.A.**, 2017. On the nature and origin of garnet in highly-refractory Archean lithospheric mantle. *Goldschmidt, Paris*.
- [81] Jackson, C. & **Gibson, S.A.**, 2017. New insights into volatile-rich mantle metasomatism at the Bultfontein diamond mine, Kimberley, South Africa. *International Kimberlite Conference, Botswana*.
- [82] Jennings, E., **Gibson, S.A. & MacLennan, J.**, 2017. Olivine-hosted melt inclusions record efficient mixing of mantle melts in continental flood basalt provinces. *EOS. American Geophysical Union conference abstract. New Orleans, Fall Meeting*.
- [83] Richards, M.A., Renne, P., Alvarez, W., DePalma, R., Smit, J., Manga, M., Karlstrom, L., Vanderkluysen, L., Fainstein, R. & **Gibson, S.A.**, 2017. Triggering of the Largest Deccan Eruptions and Other Possible Geophysical Effects of the Mw~11 Chicxulub Impact. *EOS. American Geophysical Union conference abstract. New Orleans, Fall Meeting*.
- [84] Dockman, D.M. Pearson, D.G. Heaman, L.M. **Gibson, S.A.** & Sarkar C., 2017. 50 Myr of pulsed mafic magmatism in the High Arctic Large Igneous Province. *EOS. American Geophysical Union conference abstract. New Orleans, Fall Meeting*.
- [85] Rasmussen, M., Halldorsson, S.A., Whitehouse, M.J., **Gibson, S.A.** & Hilton, D.R., 2017. Assessing $\delta^{18}\text{O}$ heterogeneity in Icelandic olivine crystals. *EOS. American Geophysical Union conference abstract. New Orleans, Fall Meeting*.