

## ROSS N. MITCHELL

Earth Dynamics Research Group, School of Earth and Planetary Sciences, Curtin University  
Perth, Western Australia 6845 Australia  
+61 408 562 003, [ross.mitchell@curtin.edu.au](mailto:ross.mitchell@curtin.edu.au)

Website: [www.supercontinents.org](http://www.supercontinents.org)

Video blog: <http://geodynamics.curtin.edu.au/igcp-648/news-reports/six-forty-eight-vlog/>

### RESEARCH INTERESTS

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- **Earth Dynamics** • Linking observed patterns of the supercontinent cycle (Pangea, Rodinia, Nuna, etc.) and geodynamic models of mantle convection • Interpretation of paleomagnetic apparent polar wander into its constituent tectonic drift and true polar wander (i.e., planetary reorientation) components • Holistic relationship between plate tectonic continental drift and true polar wander • True polar wander on ice age time scales (i.e., Milankovitch wobble), relevant to future impacts of global warming on sea and ice levels
- **Earth History** • Geodynamic and tectonic transition from Hadean?-Archean supercratons to Proterozoic-Phanerozoic supercontinents • Linking the rise of atmospheric oxygen to secular mantle cooling • When and why Earth's solid inner core nucleated • Tectonic and geodynamic context of major events in Earth history (e.g., Paleoproterozoic tectono-magmatic lull, the Cambrian Explosion, Proterozoic birth of supercontinents, etc.)
- **Methods** • **Paleomagnetism** and rock magnetism • Cyclostratigraphy • Paleontology • Structural geology • Stable/radiogenic isotope geochemistry • Petrology • Geochronology

### EDUCATION

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**Yale University** (New Haven, CT) 2007-2013

- Ph.D. with distinction, Geology and Geophysics, Advisor: David A.D. Evans
- Thesis: Supercontinents, True Polar Wander, and Paleogeography of the Slave Craton
- National Science Foundation (NSF) Graduate Research Fellowship
- Multiple departmental honors; co-author on multiple successful NSF research grants

**Carleton College** (Northfield, MN) 2003-2007

- B.A., Geology, Advisor: Cameron Davidson
- Thesis: Late Cretaceous paleomagnetic pole for North America from the Pierre Shale
- Multiple research fellowships from various sources; honorable departmental fellowship

### PROFESSIONAL EXPERIENCE

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**Research Fellow, Curtin University** (Perth, Australia) 2016-

**Secretary, UNESCO IGCP 648 Supercontinent Cycles & Global Geodynamics** 2016-

**Postdoctoral Fellow, California Institute of Technology** (Pasadena, CA) 2013-2016

- Paleomagnetism Laboratory (supervisor: Prof. J. Kirschvink)

**Visiting Fellow, Yale University**, New Haven, CT 2013

## HONORS AND AWARDS

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National Science Foundation Antarctica Service Medal	2016
Philip M. Orville Prize in Geology and Geophysics, Yale University	2013
Estwing Hammer Prize for Field Geology, Yale University	2011
Young Scientist Award, 6 <sup>th</sup> International Dyke Conference, Varanasi, India	2010
National Science Foundation Graduate Research Fellowship	2008
Carleton College Dean's Office Research Fellowship	2007
Carleton College Dean's Office Research Fellowship	2006
Howard Hughes Medical Institute Student Research Fellowship	2006
Class of 1963 Fellowship	2006

## PUBLICATIONS

*h-index* = 10 [Google Scholar](#)

Journal data from ISI Web of Science; citations from Google Scholar (**Citations** = 698, 536 since 2014); field-weighted citation impact (FWCI) from Scopus.

1. **Mitchell, R.N.**, Bice, D.M., Montanari, A., Cleaveland, L.C., Christianson, K.T., Coccioni, R., and Hinnov, L.A., 2008, Oceanic Anoxic Cycles? Orbital Prelude to the Bonarelli Level (OAE 2): **Earth and Planetary Science Letters**, vol. 267, 1-16.  
*Journal Impact Factor: 4.409. JCR Quartile: Q1. Total Paper Citations: 78. FWCI: 2.50.*
2. **Mitchell, R.N.**, Evans, D.A., Kilian, T.M., 2010a, Rapid Early Cambrian rotation of Gondwana: **Geology**, vol. 38, 755-758.  
*Journal Impact Factor: 4.635. JCR Quartile: Q1. Total Paper Citations: 32. FWCI: 1.68.*
3. **Mitchell, R.N.**, Hoffman, P.F., Evans, D.A., 2010b, Coronation loop resurrected: Oscillatory apparent polar wander of Orosirian (2.05-1.8 Ga) paleomagnetic poles from Slave craton: **Precambrian Research**, vol. 179, 121-134.  
*Journal Impact Factor: 3.843. JCR Quartile: Q1. Total Paper Citations: 33. FWCI: 0.*
4. Evans, D.A.D. and **Mitchell, R.N.**, 2011, Assembly and breakup of the core of Paleoproterozoic supercontinent Nuna: **Geology**, vol. 39, 443-446.  
*Journal Impact Factor: 4.635. JCR Quartile: Q1. Total Paper Citations: 244. FWCI: 12.41. ISI-WOS 'Highly Cited Paper'*
5. **Mitchell, R.N.**, Kilian, T.M., Raub, T.D., Evans, D.A.D., Bleeker, W., and Maloof, A., 2011, Sutton hotspot: Resolving Ediacaran-Cambrian tectonics and true polar wander for Laurentia: **American Journal of Science**, vol. 311, 651-663.  
*Journal Impact Factor: 4.099. JCR Quartile: Q1. Total Paper Citations: 26. FWCI: 1.04.*
6. **Mitchell, R.N.**, Kilian, T.M., and Evans, D.A.D., 2012, Supercontinent cycles and the calculation of absolute palaeolongitude in deep time: **Nature**, vol. 482, 208-211.  
*Journal Impact Factor: 40.137. JCR Quartile: Q1. Total Paper Citations: 71. FWCI: 3.33.*
7. Ward, P.D., Haggart, J.W., **Mitchell, R.N.**, Kirschvink, J.L., and Tobin, T., 2012, Integration of macrofossil biostratigraphy and magnetostratigraphy for the Pacific Coast Upper Cretaceous (Campanian-Maastrichtian) of North America and implications for correlation

with the Western Interior and Tethys: **Geological Society of America Bulletin**, vol. 124, 957-974.

*Journal Impact Factor: 4.212. JCR Quartile: Q1. Total Paper Citations: 23. FWCI: 0.*

8. Tobin, T.S., Ward, P.D., Steig, E.J., Olivero, E.B., Hilburn, I.A., **Mitchell, R.N.**, Diamond, M.R., Raub, T.D., and Kirschvink, J.L., 2012, Extinction patterns,  $\delta^{18}\text{O}$  trends, and magnetostratigraphy from a southern high-latitude Cretaceous-Paleogene section: Links with Deccan volcanism: **Palaeogeography, Palaeoclimatology, Palaeoecology**, vol. 350-352, 180-188.  
*Journal Impact Factor: 2.578. JCR Quartile: Q1/Q2. Total Paper Citations: 74. FWCI: 4.38.*
9. **Mitchell, R.N.**, Bleeker, W., van Breemen, O., LeCheminant, A.N., Peng, P., and Nilsson, M.K.M., 2014, Plate tectonics before 2 Ga: Evidence from paleomagnetism of cratons within supercontinent Nuna: **American Journal of Science**, vol. 314, 878-894.  
*Journal Impact Factor: 4.099. JCR Quartile: Q1. Total Paper Citations: 26. FWCI: 0.*
10. **Mitchell, R.N.**, 2014, True polar wander and supercontinent cycles: Implications for lithospheric elasticity and the triaxial Earth: **American Journal of Science**, vol. 314, 966-979.  
*Journal Impact Factor: 4.099. JCR Quartile: Q1. Total Paper Citations: 7. FWCI: 0.14.*
11. Ward, P.D., Haggart, J.W., **Mitchell, R.N.**, and Catlin, E., 2015, Quantitative morphological description of the Late Cretaceous ammonite *Baculites inornatus* Meek from western North America: implications for species concepts in the biostratigraphically important Baculitidae: **The Journal of Paleontology**, vol. 89, 594-610.  
*Journal Impact Factor: 1.591. JCR Quartile: Q2. Total Paper Citations: 3. FWCI: 0.*
12. **Mitchell, R.N.**, Raub, T.D., Silva, S.C., and Kirschvink, J.L., 2015, Was the Cambrian explosion both an effect and an artifact of true polar wander? **American Journal of Science**, vol. 315, 945-957.  
*Journal Impact Factor: 4.099. JCR Quartile: Q1. Total Paper Citations: 3. FWCI: 0.*
13. Buchan, K.L., **Mitchell, R.N.**, Bleeker, W., Hamilton, M.A., and LeCheminant, A.N., 2016, Paleomagnetism of ca. 2.13-2.11 Ga Indian and ca. 1.885 Ga Ghost dyke swarms of the Slave craton: Implications for the Slave craton APW path and relative drift of Slave, Superior and Siberian cratons in the Paleoproterozoic: **Precambrian Research**, vol. 275, 151-175.  
*Journal Impact Factor: 3.843. JCR Quartile: Q1. Total Paper Citations: 10. FWCI: 1.65.*
14. Gong, Z., Xu, X.X., Evans, D.A.D., Hoffman, P.F., **Mitchell, R.N.**, Bleeker, W., 2018, Paleomagnetism and rock magnetism of the ca. 1.87 Ga Pearson Formation, Northwest Territories, Canada: A test of vertical-axis rotation within the Great Slave basin: **Precambrian Research**, vol. 305, 295-309.  
*Journal Impact Factor: 3.843. JCR Quartile: Q1. Total Paper Citations: -*
15. Spencer, C.J., Murphy, J.B., Kirkland, C.L., Liu, Y., and **Mitchell, R.N.**, 2018, A Palaeoproterozoic tectono-magmatic lull as a potential trigger for the supercontinent cycle: **Nature Geoscience**, vol. 11, 79-101.  
*Journal Impact Factor: 13.941. JCR Quartile: Q1. Total Paper Citations: 5*
16. Cox, G.M., **Mitchell, R.N.**, Lyons, T., Hasterock, D., Gard, M.G., 2018, Linking the rise of atmospheric oxygen to growth in the continental phosphorus inventory: **Earth and Planetary Science Letters**, v. 489, p. 28-36.  
*Journal Impact Factor: 4.409. JCR Quartile: Q1. Total Paper Citations: 3*

17. Liu, Y., Li, Z.-X., Pisarevsky, S., Kirscher, U., **Mitchell, R.N.**, Stark, J.C., 2018, Palaeomagnetism of the 1.89 Ga Boonadgin dykes of the Yilgarn Craton: Possible connection with India: **Precambrian Research**, online.  
*Journal Impact Factor: 3.843. JCR Quartile: Q1. Total Paper Citations: 2*
18. Cox, G.M., Isakson, V., Hoffman, P.F., Gernon, T.M., Schmitz, M.D., Shahin, S., Collins, A.S., Preiss, W., Blades, M.L., **Mitchell, R.N.**, Nordsvan, A., 2018, South Australian U-Pb (CA-ID-TIMS) age supports globally synchronous Sturtian glaciation: **Precambrian Research**, vol. 315, p. 257-263.  
*Journal Impact Factor: 3.843. JCR Quartile: Q1. Total Paper Citations: 1*
19. Liu, Y., Li, Z.-X., Pisarevsky, S.A., Kirscher, U., **Mitchell, R.N.**, Stark, J.C., Clark, C., Hand, M., 2018, First Precambrian palaeomagnetic data from the Mawson Craton (East Antarctica) and tectonic implications: **Scientific Reports**, online.  
*Journal Impact Factor: 4.122. JCR Quartile: Q1. Total Paper Citations: -*
20. Keller, C.B., Husson, J.M., **Mitchell, R.N.**, Bottke, W.F., Gernon, T.M., Boehnke, P., Bell, E.A., Swanson-Hysell, N., Peters, S.E., 2018, Neoproterozoic glacial origin of the Great Unconformity: **Proceedings of the National Academy of Sciences**, online.  
*Journal Impact Factor: XX. JCR Quartile: Q1. Total Paper Citations: -*
21. Li, Z.-X., **Mitchell, R.N.**, Spencer, C.J., Ernst, R., Pisarevsky, S., Kirscher, U., Murphy, J.B., Decoding Earth's rhythms: Modulation of supercontinent cycles by longer superocean episodes: **Precambrian Research**, vol. 323, p. 1-5.  
*Journal Impact Factor: 3.843. JCR Quartile: Q1. Total Paper Citations: -*
22. Kirscher, U., Li, Z.-X., Mitchell, R.N., Pisarevsky, S., Deynzyn, S., and Nordsvan, A., in press, Paleomagnetism of the Hart Dolerite (Kimberly Region, North Australia craton): Two stage Nuna assembly? **Precambrian Research**.  
*Journal Impact Factor: 3.843. JCR Quartile: Q1. Total Paper Citations: -*

***Selected manuscripts currently under revision/review:***

23. Kirscher, U. **Mitchell, R.N.**, Cox, G.M., Liu, Y., Nordsvan, A. and Li, Z.X., Long-lived and large supercontinent Nuna: **Nature Communications**.
24. **Mitchell, R.N.**, Cox, G.M., O'Rourke, J.G., Li, Z.X., Spencer, C.J., Kirscher, U., Zhang, N., Murphy, J.B., Nordsvan, A., Asimow, P., Proterozoic planetary state shift and the birth of supercontinents: **Journal of Geophysical Research: Solid Earth**.
25. **Mitchell, R.N.**, Gernon, T.M., Nordsvan, A., Cox, G.M., Li, Z.-X., and Hoffman, P.F. Hit or miss: Glacial incisions of snowball Earth: **Terra Nova**.
26. **Mitchell, R.N.**, Thissen, C.T., Evans, D.A.D, Montanari, A., Coccioni, R., Slotznick, S., Yamazaki, T., Schrag, D., Abrahams, J., Cruz-Heredia, M., Peneserini, B., Pietraz, V., and Kirschvink, J.L.K., Milankovitch wobble observed: **Nature**.

**INVITED TALKS**

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- 2017, Did Earth's first supercontinent form the inner core? *George Mason University, October 19.*
- 2017, Is True Polar Wander a Thermometer? *The Institute for Geoscience Research (TIGeR), 2017 TIGeR Conference "Timescales of Geological Processes", Curtin University, September 14.*
- 2016, Is True Polar Wander a Thermometer? *Applied Geology, Curtin University, November 2.*
- 2016, Was the Rise of Oxygen an Inside Job? *Geochemistry-Land & Surface Processes Seminar, Yale University, October 3.*

- 2016, Was the Rise of Oxygen an Inside Job? *Petrology Reading Group, California Institute of Technology, September 30.*
- 2016, An Explanation of Ultrahigh-Pressure Metamorphism: *Australian Earth Science Convention, Adelaide, Australia, June 28.*
- 2016, Did True Polar Wander Spark the Cambrian Explosion? *University of California Santa Barbara (UCSB), March 31.*
- 2015, Amasia and Supercontinent Formation by Orthoverision: *Eos Trans. American Geophysical Union Fall Meeting, Abstract T026-79474.*
- 2014, A Late Cretaceous True Polar Wander Oscillation: *Geology Seminar, California Institute of Technology, September 15.*
- 2014, True Polar Wander and Supercontinent Cycles: Implications for Earth Properties: *Tectonics Seminar, California Institute of Technology, June 24.*
- 2013, The Supercontinent Cycle: *Rutgers University, April 10.*
- 2010, Supercratons Before Supercontinents? *Eos Trans. American Geophysical Union Fall Meeting, Abstract U32A-04.*
- 2010, True Polar Wander Exploded the Cambrian (and Burst the Ediacaran?): *Harvard-MIT Geobiology Symposium, Harvard University.*
- 2010, Coronation Loop Resurrected: Oscillatory Apparent Polar Wander of Orosirian (2.05-1.8 Ga) Paleomagnetic Poles from Slave Craton: 6<sup>th</sup> *Nordic Paleomagnetic Workshop, Luleå, Sweden.*
- 2010, Archean to Early Proterozoic Apparent Polar Wander Path for the Slave Craton: Paleogeographic Prehistory of the "United Plates" of America: *Yellowknife Geoscience Seminar, Northwest Territories of Canada.*
- 2009, Archean to Early Proterozoic apparent polar wander path for the Slave craton: Paleogeographic prehistory of the "United Plates" of America: *Precambrian High Seminar, Geological Survey of Canada.*

## TEACHING

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- Lecturing, Curtin University, Perth, Australia** 2016, 2018
- *Tectonics* (lead instructor: Prof. C. Clark), lecturing on the Proterozoic Eon and laboratory exercise on paleomagnetism—both original curricula created by R.N. Mitchell
- Guest Lecturing, California Institute of Technology, Pasadena, CA** 2015
- *Paleomagnetism* (instructor: Prof. J. Kirschvink)
- Teaching Assistant, Yale University, New Haven, CT** 2007-2008
- T.A. for *Paleogeography* (instructor: Prof. D. Evans), Fall 2008
  - T.A. for *Natural Disasters* (instructors: Prof. D. Bercovici and Prof. M. Brandon), Fall 2007
- Teaching Assistant, Carleton College, Northfield, MN** 2005-2006
- T.A. for *Structural Geology* (instructor: Prof. S. Titus), Winter 2006
  - T.A. for *Introduction to Geology* (instructor: Prof. C. Cowan), Winter 2005

## ORIGINAL FIELD WORK

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- 2018** Hawaii with C.S. Spencer [1 week] – *Zircon analysis of mantle dynamics*
- 2017** Iceland with C.S. Spencer [1 week] – *Ice-rafted debris and zircon analysis of mantle dynamics*
- 2017** Kimberley region, Western Australia with U. Kirscher [3 weeks] – *Palaeoproterozoic-Mesoproterozoic palaeogeography of Australia and testing oscillatory true polar wander*
- 2016** McArthur Basin of the Northern Territory of Australia with G.M. Cox and U. Kirscher [3 weeks] – *Mesoproterozoic palaeogeography of Australia and organic-rich cyclostratigraphy*

- 2016 Flinders Ranges of South Australia with P.F. Hoffman and G.M. Cox [2 weeks] – *Neoproterozoic snowball Earth events, cyclostratigraphy and testing for glacial erosion*
- 2008-2016 West Antarctic Peninsula with J.L. Kirschvink and E. Olivero [22 weeks] – *Upper Cretaceous magneto- and biostratigraphy and geochronology in the southern hemisphere*
- 2013-2015 Great Valley of California with J.L. Kirschvink and P.D. Ward [3 weeks] – *Upper Cretaceous magneto- and biostratigraphy; tectonic reconstruction of California*
- 2009-2014 Umbria-Marche regions, Italy, with R. Coccioni, J.L. Kirschvink, and A. Montanari [8 weeks] - *Bio- and magnetostratigraphic sampling and lithostratigraphy of the Late Cretaceous Scaglia Rossa limestone; testing Late Cretaceous true polar wander hypothesis*
- 2006-2013 South Dakota and Wyoming with J.L. Kirschvink and P.D. Ward [7 weeks] – *Bio- and magnetostratigraphic and geochronologic sampling of the Pierre Shale; time scale calibration*
- 2009-2012 Montana and Wyoming with W. Bleeker and T. Kilian [11 weeks] - *Paleomagnetic, geochemical, and geochronologic sampling of mafic dike swarms of the Wyoming craton*
- 2008-2010 Northwest Territories, Canada with W. Bleeker and P.F. Hoffman [12 weeks] - *Paleomagnetic and geochronologic sampling of Precambrian mafic dyke swarms and the Great Slave Supergroup of the Slave craton*
- 2009 Ontario, Canada with W. Bleeker and A. LeCheminant [2 weeks] - *Paleomagnetic sampling and mapping of lamprophyre dikes*
- 2007-2009 Adirondack Uplift, New York [3 weeks] - *Paleomagnetic sampling of Neoproterozoic dikes as field-based component of graduate 'Paleogeography' class at Yale.*
- 2006 Central Australia with N. Swanson-Hysell [3 weeks] – *True polar wander hypothesis for global change at 800 Ma*
- 2005 Furlo Basin, Italy with A. Montanari [1 week] - *Cyclostratigraphic investigation of Cretaceous oceanic anoxic event 2*

## PROFESSIONAL SERVICE

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- I regularly chair sessions at international conferences including Goldschmidt, GSA, etc.
- I regularly review papers for high-impact international journals including *Geology*, *Earth and Planetary Science Letters*, *Precambrian Research*, *Tectonophysics*, *Minerals*, etc.
- I am a member of the American Geophysical Union and the Geological Society of America.
- I am Project Secretary of the International Geoscience Program (IGCP) project on *Supercontinent Cycles and Global Geodynamics* (IGCP 648; website). IGCP projects are made possible by UNESCO. Supercontinent research, investigating continents globally and with multidisciplinary approaches, fits naturally into UNESCO's charter and has thus far been a great success. On top of normal operational duties, I also maintain video blog in order to highlight particularly exciting research outcomes of IGCP 648 members. Most recently I conducted a survey about scientific consensus and communication, the results of which should help the community reflect on how to better communicate controversial topics in science. IGCP 648 offers a unique community with which to explore this timely and yet perennial challenge in science: [Video blog link.](#)

## PUBLIC OUTREACH

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*Will There Ever Be Another Pangea? Aylin Woodward in LiveScience*  
(<https://www.livescience.com/63753-will-there-be-another-pangea.html>)

*The Day the Earth Stood Still: Shannon Hall in Scientific American*  
(<https://www.scientificamerican.com/article/the-day-the-earth-stood-still/>)

*Wave of Massive Volcanoes Created Earth's First Supercontinent: Alice Klein in New Scientist*

(<https://www.newscientist.com/article/2159657-wave-of-massive-volcanoes-created-earths-first-supercontinent/>)

*Paleomagnetic Data Hint at Link From Earth's Core to Continents*: Press in *EOS Earth & Space Science News*. (<https://eos.org/articles/paleomagnetic-data-hint-at-link-from-earths-core-to-continents>)

*What Lies Ahead for Earth's Shifting Continents Just Might Surprise You*: Interview with *NBC News* for an unbiased opinion on new supercontinent research. (<https://www.nbcnews.com/storyline/the-big-questions/what-lies-ahead-earth-s-shifting-continents-just-might-surprise-n717276>)

*Waiting for Amasia*: Interview and YouTube video provided for *ScienceNews* about supercontinents. (<https://www.sciencenews.org/article/evidence-falls-place-once-and-future-supercontinents>)

*Unlocking One of the Great Secrets of Earth's Evolution*: Press release about a new interpretation of the Cambrian Explosion. (<https://www.st-andrews.ac.uk/news/archive/2016/title,392129,en.php>)

*Paleomagnetism 101*: Podcast interview with *Physics Central*. (<https://soundcloud.com/physics-central/paleomagnetism>)

*Land On the Run: Ross Mitchell / Amasia*: Radio interview with Molly Bentley on *SETI Big Picture Science* ([goo.gl/EoOWtd](http://goo.gl/EoOWtd))

*Amasia Supercontinent: Earth's Geologic Past Shapes Our Understanding of Future*: Skype video interview with Cara Santa Maria on *Huffington Post - Talk Nerdy To Me* ([http://www.huffingtonpost.com/2012/10/15/amasia-supercontinent-earth\\_n\\_1951291.html](http://www.huffingtonpost.com/2012/10/15/amasia-supercontinent-earth_n_1951291.html))

*Next Supercontinent Could Form At The North Pole*: Live radio interview with John Dankosky on *NPR Science Friday* (<http://www.sciencefriday.com/program/archives/201202103>)

*'Amasia': The Next Supercontinent?*: Radio interview with Richard Harris on *NPR All Things Considered* (<http://www.npr.org/2012/02/08/146572456/amasia-the-next-supercontinent>)

*Next Supercontinent Will Form in Arctic, Geologists Say*: Sindya N. Bhanoo in *The New York Times* ([www.nytimes.com/2012/02/14/science/amasia-supercontinent-will-form-in-the-arctic-geologists-predict.html](http://www.nytimes.com/2012/02/14/science/amasia-supercontinent-will-form-in-the-arctic-geologists-predict.html))

*Meet 'Amasia,' the Next Supercontinent*: Sid Perkins of *Science Now* (<http://news.sciencemag.org/2012/02/meet-amasia-next-supercontinent>)

*Supercontinent Amasia To Take North Pole Position*: Radio interview with Kerri Smith on *Nature Podcast* (<http://www.nature.com/news/supercontinent-amasia-to-take-north-pole-position-1.9996>)

*America and Eurasia 'to meet at north pole'*: Neil Bowdler in *BBC News* (<http://www.bbc.co.uk/news/science-environment-16934181>)

*Asia and Americas on Course for Arctic Collision*: Brandon Keim in *Wired* (<http://www.wired.com/2012/02/amasia-supercontinent/>)

*Look North for the Next Supercontinent Amasia*: Alyssa Danigelis in *Discovery* (<http://news.discovery.com/earth/amasia-the-next-supercontinent-120208.htm>)

*Amasia Supercontinent: Earth's Geologic Past Shapes Our Future*: Cara Santa Maria in *Huffington Post* ([http://www.huffingtonpost.com/2012/10/15/amasia-supercontinent-earth\\_n\\_1951291.html](http://www.huffingtonpost.com/2012/10/15/amasia-supercontinent-earth_n_1951291.html))

*Gondwana Supercontinent Underwent Massive Shift During Cambrian Explosion*: Suzanne Taylor Muzzin in *YaleNews*

<http://news.yale.edu/2010/08/10/gondwana-supercontinent-underwent-massive-shift-during-cambrian-explosion>

*Massive Rotation of Gondwana*: Jonathan Greco of *Yale Scientific*

<http://www.yalescientific.org/2011/02/massive-rotation-of-gondwana/>

*True Polar Wander*: Article in *Yale Graduate School of Arts and Sciences Newsletter*

<http://www.yale.edu/graduateschool/home/polar.html>

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PUBLISHED ABSTRACTS (only select non-senior-author abstracts)

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40. **Mitchell, R.N.**, Cox, G.M., O'Rourke, J.G., Li, Z.X., Spencer, C.J., Kirscher, U., Zhang, N., Murphy, J.B., Nordsvan, A., Asimow, P., Did Earth's First Supercontinent Form the Inner Core? Eos Trans. American Geophysical Union Fall Meeting.
39. Kirscher, U. **Mitchell, R.N.**, Cox, G.M., Liu, Y., Nordsvan, A. and Li, Z.X., Long-lived and large supercontinent Nuna: Nature Geoscience. Eos Trans. American Geophysical Union Fall Meeting.
38. Nordsvan, A., **Mitchell, R.N.**, Barham, M. Cox, G.M., Does cap dolostone represent a terrigenous hiatus? Eos Trans. American Geophysical Union Fall Meeting.
37. **Mitchell, R.N.**, Collins, W.J., Cox, G.M., Martin, E., Murphy, J.B., Spencer, C.J., Raub, T.D., Li, Z.-X., A tale of two arcs: Starting and stopping Snowball Earth: Geological Society of America, Abstract with Programs.
36. **Mitchell, R.N.** and Ward, P.D., Intraformational clastic dikes of the Upper Cretaceous Nanaimo Group (British Columbia, Canada): Evidence for terrane docking: Geological Society of America, Abstract with Programs.
35. Brandon, M.T., Hyland, E., **Mitchell, R.N.**, Ward, P.D., Using paleoclimate data to estimate paleolatitude of Cordilleran terranes: Geological Society of America, Abstract with Programs.
34. Spencer, C.S., Murphy, J.B., Hoiland, C.W., Johnston, S.T., Collins, W.J., **Mitchell, R.N.**, Cordilleran arc mobility and accretionary tectonics due to degree-2 mantle convection, Geological Society of America, Abstract with Programs.
33. **Mitchell, R.N.**, Thissen, C.J., Evans, D.A.D., Slotznik, S. Montanari, A., Coccioni, R., Yamazaki, T., Penserini, B.D., Pietrasz, V., Abrahams, J.N.H., Cruz-Heredia, M., Raub, T.D., Kirschvink, J.L., 2017, A Late Cretaceous true polar wander oscillation: Penrose Conference.
32. Spencer, C.S., Murphy, J.B., Hoiland, C.W., Johnston, S.T., Collins, W.J., **Mitchell, R.N.**, 2017, Cordilleran arc mobility and accretionary tectonics due to degree-2 mantle convection, Goldschmidt.
31. **Mitchell, R.N.**, Collins, W.J., Kirscher, U., Spencer, C.J., He, X.-F., Li, Z.-X., Murphy, J.B., 2017, Harmonic hierarchy of mantle convective cycles: Time series analysis of hafnium isotopes of zircon, Goldschmidt.
30. **Mitchell, R.N.**, 2016, Superplumes and domains of ultrahigh temperature? ARC Centre of Excellence for Core to Crust Fluid Systems workshop, Sydney, Australia.
29. **Mitchell, R.N.**, Cox, G.M., Collins, W.J., 2016, An explanation of ultrahigh-pressure metamorphism: Australian Earth Science Convention, Adelaide, Australia.
28. **Mitchell, R.N.**, 2015, Amasia and supercontinent formation by orthoversion: Eos Trans. American Geophysical Union Fall Meeting, Abstract T026-79474.
27. **Mitchell, R.N.**, Kirschvink, J.L., Thissen, C.J., Cruz-Heredia, M., 2015, Milankovitch wobble?: Eos. Trans. American Geophysical Union Fall Meeting, Abstract GP84930.
26. Ward, P.D., **Mitchell, R.N.**, 2015, Diversity, oxygen, and true polar wander: Geological Society of America, Abstract with Programs.
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