Dr Roger Close

Contact Details

Address 42 Boundary Brook Rd, Oxford, OX4 4AW
Email closeRA@bham.ac.uk
Phone +44 (0) 7752 927 887

Research Interests

I am a quantitative palaeobiologist. I study macroevolutionary and macroecological patterns and processes in deep time to understand the assembly of modern vertebrate biodiversity. I am interested in:

- Macroecological patterns in Phanerozoic tetrapods and marine metazoans
- Vertebrate macroevolution, ecomorphology, biomechanics (fishes, mammals, birds)
- Use of computed tomography and 3D morphometrics on fossil and extant taxa
- Evolution of discrete morphological characters and Bayesian phylogenetics

Postdoctoral Appointments

Period **4 January 2016 to present**
Job Title **ERC Research Fellow**
Institution **School of Geography, Earth and Environmental Sciences, University of Birmingham**
PI **Prof. Richard Butler**

Reassessing patterns of Phanerozoic terrestrial diversity. Responsibilities: leading the analysis of large datasets of fossil occurrences, developing novel analytical procedures, disseminating results, lecturing on palaeobiology, supervising graduate and undergraduate student research.

Period **15 January 2013 to 31 December 2015**
Job Title **Leverhulme Postdoctoral Research Associate**
Institution **Department of Earth Sciences, University of Oxford**
PI **Prof. Matt Friedman**

Quantifying patterns of functional and morphological disparity in the early radiation of acanthomorph fishes. Responsibilities: specimen-based museum work, collecting and processing tomographic data, collecting trait data, quantitative analysis using comparative methods, dissemination of results. Some lecturing and tutorial duties.

Higher Education

Period **October 2008 to January 2013**
Degree **Doctor of Philosophy**
Institution **Science Faculty, Monash University** Melbourne, Australia
Supervisors **Prof. Patricia Vickers-Rich & Prof. Emily Rayfield**
Title **Transformation of a Functional Complex: Early Evolution of the Flight Apparatus of Birds**

Funded from October 2008 to April 2012 by full-time scholarship (Faculty of Science Dean's Postgraduate Research Scholarship). January 2009 – October 2010 at University of Bristol visiting external co-supervisor, Prof. Emily Rayfield.

Period	**2005-2007**
Degree	**Graduate Diploma of Science (Zoology)**
Institution	**Monash University** Melbourne, Australia
	Focus on anatomy, ecology and evolution, with semester on exchange at the University of California, Santa Barbara.
Period	**1999-2005**
Degree	**Bachelor of Arts/Science (Hons)**
Institution	**Monash University** Melbourne, Australia
	Double-major in Geosciences; major in Archaeology and Ancient History; minor in Geography and Environmental Sciences. Honours in Archaeology and Ancient History.

Publications

Close, R.A., Benson, R.B.J.B, Alroy, J., Behrensmeyer, A.K., Benito, J., Carrano, M.T., Cleary, T.J., Dunne, E.M., Mannion, P.D., Uhen, M.D. & Butler, R.J. (submitted). Diversity dynamics of Phanerozoic terrestrial tetrapods at the local-community scale. *Science*.

Close, R.A., Evers, S.W., Alroy, J. & Butler, R.J. (in review). How should we estimate diversity in the fossil record? Testing richness estimators using sampling-standardised discovery curves. *Methods in Ecology and Evolution*.

Benson, R.B.J., Starmer-Jones, E., **Close, R.A.** & Walsh, S.A. (2017). Comparative analysis of vestibular ecomorphology in birds. *Journal of Anatomy*, **231**: 990–1018.

Close, R.A., Benson, R.B.J.B, Upchurch, P. & Butler, R.J. (2017). Controlling for the species-area effect supports constrained long-term Mesozoic terrestrial vertebrate diversification. *Nature Communications*, **8**: 15381.

Close, R.A., Johanson, Z., Tyler, J.C., Harrington, R.C. & Friedman, M. (2016). Mosaicism in new pufferfish family highlights accelerated character evolution near origin of crown tetraodontiforms. *Palaeontology* **59**: 499–514. **2 citations**

Close, R.A., Friedman, M., Lloyd, G.T. & Benson, R.B.J. (2015). Evidence for a mid-Jurassic adaptive radiation in mammals. *Current Biology* **25**: 2137–2142. **37 citations**

Close, R.A., Davis, Brian M., Wolniewicz, A., Walsh, S., Friedman, M. & Benson, R.B.J. (2015). A lower jaw of *Palaeoxonodon* from the Middle Jurassic of the Isle of Skye, Scotland, sheds new light on the diversity of British stem therians. *Palaeontology*. **6 citations**

Friedman, M., Beckett, H.T., **Close, R.A.** & Johanson, Z. (2015). The English Chalk and London Clay: two remarkable British bony fish Lagerstätten. *Geological Society Special Publications* **430**, 165–200. **11 citations**

Close, R.A. & Rayfield, E.J. (2012). Functional Morphometric Analysis of the Furcula in Mesozoic Birds. *PLoS ONE* **7**: e36664. **22 citations**

Close, R.A., Vickers-Rich, P., Trusler, P., Chiappe, L.M., O'Connor, J.K., Rich, T.H., Kool, L. & Komarower, P. (2009). Earliest Gondwanan bird from the Cretaceous of southeastern Australia. *Journal of Vertebrate Paleontology* **29**: 616–619. **7 citations**

Teaching Experience

Lecturing

2017. **University of Leeds** (Advances in Palaeobiology course guest-lecture, third- and fifth-year levels).
2016–present. **University of Birmingham** (Evolution of the Vertebrates course, third-year level).
2014. **University of Oxford** (palaeobiology seminar course, fourth-year level).

Tutorials

2013. **University of Oxford** (statistics, first-year level).

42 Boundary Brook Rd · Oxford · OX4 4AW · UK
✉ closeRA@bham.ac.uk ☎ +44 (0) 7752 927887

Practical Demonstration
2008–2012. **Monash University** (biology, first-year level; palaeobiology, third-year level; included report and essay marking).

Graduate Supervision
2016–present. **Emma Dunne, University of Birmingham**., PhD thesis: 'Diversity patterns during the rise of tetrapods.'
2016–present. **Dan Cashmore, University of Birmingham**., PhD thesis: 'The quality of the fossil record of tetrapods.'
2016. **Alexander Butryn, University of Cambridge**. Masters of Computational Biology Summer Project.

Undergraduate Supervision
2017. **Isabel Soane, University of Birmingham**, second-year research project.
2017. **Kai McWhirter, University of Birmingham**, second-year research project.

Invited Presentations

2018. **Society of Vertebrate Paleontology Annual Meeting**, Salt Lake City, USA. Symposium entitled "Big questions, big data: the future of community database efforts in vertebrate paleontology".
2017. **University of Leeds**, Leeds, UK.
2014. **Leicester Literature and Philosophical Society**, Leicester.
2012. **Australian Synchrotron**, Clayton, Australia.

Professional Service

Manuscript Reviews. *Current Biology*, *Methods in Ecology and Evolution*, *Evolution*, *Paleobiology*, *Systematic Biology*, *Proceedings of the Royal Society B*, *Palaeogeography, Palaeoclimatology, Palaeoecology*, *Biology Letters*, *PLoS ONE*.

Grant Reviews. NERC (Independent Research Fellowship scheme).

Council Membership. Systematics Association (2017–present).

Conference co-organisation. SVPCA 2017, Birmingham. ProgPal 2009, Bristol.

Grants and Awards

2008–2012. **Monash University Faculty of Science Dean's Postgraduate Scholarship** (3.5 years).
2009. **Monash University Travel Grant** (AU$2500).
2009. **Jackson School of Geosciences Student Member Travel Grant** (US$600).

Fieldwork

2014–(ongoing). **Middle Jurassic vertebrates from the Isle of Skye, Scotland**. University of Oxford and University of Birmingham.
1999–2012. **Early Cretaceous vetebrates from Victoria, Australia.** Dinosaur Dreaming project, Monash University and Museum Victoria.
2000. **Pleistocene tetrapods from the Naracoorte Caves, South Australia.** Flinders University.
1999. **Oligocene–Pleistocene vertebrates from Lake Palankarinna, South Australia.** Adelaide Museum.

Selected Outreach and Public Engagement

2012-2015. Press releases for papers in *Current Biology*, *PLoS ONE* and *Palaeontology*.
2013. Lecture to UNIQ Summer School students, University of Oxford.
2013. Public engagement at Leverhulme Trust headquarters, London.
2012. Featured as 'PhD Student of the Week' on ABC Radio National's Science Show.

42 Boundary Brook Rd · Oxford · OX4 4AW · UK
✉ closeRA@bham.ac.uk ☎ +44 (0) 7752 927887