CURRICULUM VITAE: Andy Ridgwell

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Education

Dates		University	Qualifications gained, awards; (grade) & [date awarded]
From	To		
10/1987	06/1990	Clare College, University of Cambridge	BA in Natural Sciences (2:2) [June 1990] 1989 Clare College Scholarship 1989 Mineralogical Society Student Award
10/1996	09/1997	University of Nottingham	MSc in Environmental Science (Distinction) [October 1997] 1997 Campbell Scientific Prize
10/1997	09/2000	University of East Anglia, Norwich	PhD; "Glacial-interglacial perturbations in the global carbon cycle" [March 2001]

Employment history

Dates		Firm/Organisation	Status and description of work
From	To		
07/2015	Present	UC Riverside	Professor in Earth System Science
07/2015	Present	University of Bristol	Professorial Research Fellow
11/2006	06/2015	University of Bristol	Royal Society University Research Fellow and Professor of Earth System Modelling (as of 2010)
04/2004	11/2006	UBC, Vancouver	Canada Research Chair in Global Process Modelling (Assist. Professor level)
10/2002	03/2004	UC Riverside	Researcher; numerical modeling of Precambrian carbon cycling and dynamics
05/2001	09/2002	University of East Anglia (UEA)	Senior Research Associate; construction of an ocean carbon cycle model (for The Tyndall Centre for Climate Change Research)
10/2000	04/2001	UEA	Senior Research Associate; numerical modelling of ocean iron and carbon cycles
07/1993 10/1991	09/1996 03/1992	n/a n/a	Variously: contract instrumentation physicits; self-employed (developing environmental software for schools & universities; environmental campaigning)
04/1992	06/1993	ATI-Unicam Ltd.	Physicist/instrumentation scientist – development testing of a Zeeman-effect atomic absorption spectrometer
09/1990	09/1991	University of Cambridge	Research assistant; infrared and optical spectroscopy of crystalline materials

Grants held (grants as overall project PI underlined, current in **bold**)

Granting Agency	Title	Value	Duration	PI/Co-I
NASA	**Upside-Down Biospheres and the Remote Detectability of Life on Reducing Planets**	$29,709 (UCR)	2019-22	Co-I
NSF	**Refining foraminiferal I/Ca as a paleoceanographic oxygenation proxy for the glacial Atlantic Ocean**	$63,938 (UCR)	2018-20	Co-I
NSF	**The role of pCO2 in the astronomically-paced climatic cycles of the Miocene**	$72,295 (UCR)	2018-20	Co-I
NSF	**Taking Cenozoic boron isotope pH and pCO2 reconstructions to the next level – cross-calibrating extinct planktic foraminifer species and improved alkalinity estimates**	$178,960 (UCR)	2018-20	Co-I
NERC (UK)	INvestigating The Role of the North Pacific In Glacial and Deglacial CO2 and Climate	$31,363 (Bristol)	2016-19	Co-I
NERC (UK)	Ocean carbon cycling since the middle Miocene: testing the metabolic hypothesis	$11,761 (Bristol)	2016-18	Co-I
Heising-Simons Foundation	**Paleoclimate Data Assimilation for Deep Time**	$34,395 (UCR)	2016-21	Co-I
Heising-Simons Foundation	**Instigating a Mechanistic Understanding of the Dynamics of the Sedimentary record ('iMUDS')**	$677,816 (UCR)	2016-21	PI
EU (ERC)	PAst Links in the Evolution of Ocean'sGlobal ENvironment and Ecology	1,930,472 EUR	2014-19	PI
Leverhulme Trust	Controls on ocean redox structure and atmospheric oxygen during the Proterozoic	~75,000 £ (*Bristol*)	2013-16	Co-I
NERC	Assessing the role of millennial-scale variability in glacial-interglacial climate change	~50,000 £ (*Bristol*)	2012-15	Co-I
Bristol Alumni (donation)	Sensitivity of tropical coral reef ecosystems to global change	200,000 £ (*Bristol*)	2012-14	Co-I
NERC	Molybdenum in the Oceans ('MOO')	~350,000 £ (*Bristol*)	2013-15	PI
NERC	'TRAcing the fate of Glacial-Interglacial Carbon' ('TRAGIC')	58,889 £ (*Bristol*)	2011-12	PI
Royal Society (URF extension)	'Mechanistic Understanding of the Dynamics of Sedimentary proxies' ('MUDS')	350,722 £ (*Bristol*)	2011-14	PI
EPSERC	'Integrated Assessment of Geoengineering Proposals.	~200,000 £ (*Bristol*)	2010-14	Co-I
NERC	'CO_2-CarbonCycle-Climate-Interactions'			
NERC	'evolution of Carbon Cycle Dynamics (*e*CCD)'	220,528 £ (*Bristol*)	2010-13	PI
NERC-UKIODP	'Orbital Modulation of Eocene Carbon Cycle and Climate'	274,226 £ (*Bristol*)	2010-13	PI
		49,109 £ (*Bristol*)	2010-11	PI
DEFRA	Crop albedo biogeoengineering pilot study	100,000 (*Bristol*)	2010	Co-I
Bristol Ports	Crop albedo biogeoengineering	50,000 £ (*Bristol*)	2009-10	Co-I
Bristol Alumni	'Historical impacts of ocean acidification on polar organisms'	50,000 £ (*Bristol*)	2010-13	Co-I
EU – FP7	'Past4Future'	~400,000 £ (*Bristol*)	2010-14	Co-I
NERC	'GENIE-LAMP'	57,111 £ (*Bristol*)	2009-11	Co-I
Leverhulme Trust	'Modelling the importance of labile iron in iceberg sediment to CO_2 draw down in the Southern Ocean'	162,370 £ (*Bristol*)	2009-12	Co-I
EU – FP7 (Marie Curie)	'BIoGeochemistry in a high CO_2 World (BIGCOW): lessons from the Ocean Anoxic Events'	154,019 £ (*Bristol*)	2009-11	(PI)
NERC (small grant)	'Assessment of Cadmium Isotopes as a Paleoclimate Proxy'	0 £ (*Bristol*)	2009-11	Co-I
NERC	'Past records of ocean acidification - the Palaeogene hyperthermals'	169,966 £ (*Bristol*)	2009-12	Co-I

NERC (QUEST)	'Dynamics of the PETM'	222,286 £ (*Bristol*)	2008-10	Co-I
NERC	'Sensitivity of ocean carbon cycling to anthropogenic emissions'	~2,000 £ (*Bristol*)	2008-10	Co-I
Leverhulme Trust	'Using deep-sea corals to test the role of deep Southern Ocean in regulating CO_2'	161,477 £ (*Bristol*)	2008-10	Co-I
Royal Society (URF)	'Understanding the controls on atmospheric CO_2: An Earth history perspective'	423,786 £ (*Bristol*)	2006-11	PI
NSERC (Discovery)	'Understanding the controls on atmospheric carbon dioxide: An Earth history perspective'	103,000 $ (*UBC*)	2005-10	PI
CFCAS (Project Grant)	'Anthropogenic acidification of the ocean: Implications for future carbon cycling and climate change'	182,400 $ (*UBC*)	2005-8	PI
UBC	(Start-up)	62,000 $ (*UBC*)	2004-09	(PI)
CFI	'Computing laboratory for global carbon cycle modeling and analysis'	23,752 $ (*UBC*)	2004	PI
BCKDF	'Computing laboratory for global carbon cycle modeling and analysis'	23,752 $ (*UBC*)	2004	PI

Publications (some available on-line from: pubs.seao2.org)

I have received 8577 citations in total (source: Thomson Reuters 'Web of Knowledge' ('Web of Science Core Collection' databases); accessed 2019/10/30), with 1199 in the last full year (2018). My *h*-index is 48. (Google Scholar gives 8455 citations, an *h*-index of 41 and an *i*-index of 56.) Who knows what this all means?

Journal Articles

1. Naafs, B.D.A., F.M. Monteiro, A. Pearson, M.B. Higgins, R.D. Pancost, and **A. Ridgwell**, Fundamentally different global marine nitrogen cycling in response to severe ocean deoxygenation, *PNAS* [in press].
2. Ward, B.A., S. Collins, S. Dutkiewicz, S. Gibbs, P. Bown, A. Oschlies, **A. Ridgwell**, and J.D. Wilson, Considering The Role Of Adaptive Evolution In Models Of The Ocean And Climate System, *JAMES* [in press].
3. Alvarez, S. A., S. J. Gibbs, P. R. Bown, H. Kim, R. M. Sheward, and **A. Ridgwell**, Diversity decoupled from ecosystem function and resilience during mass extinction recovery, *Nature* DOI: 10.1038/s41586-019-1590-8 (2019).
4. S.E. Greene, **A. Ridgwell**, S. Kirtland Turner, D.N. Schmidt, H. Pälike, E. Thomas, L.K. Greene, and B.A.A. Hoogakker, Early Cenozoic Decoupling of Climate and Carbonate Compensation Depth Trends, *Paleoceanography and Paleoclimatology*, 10.1029/2019PA003601 (2019).
5. Grigoratou, M., F.M. Monteiro, D.N. Schmidt, J.D. Wilson, B.A. Ward, and **A. Ridgwell**, A trait-based modelling approach to planktonic foraminifera ecology, *Biogeosciences*, DOI: 10.5194/bg-16-1469-2019 (2019).
6. Henehan, H. J., **A. Ridgwel**l, E. Thomas, S. Zhang, L. Alegret, D. N. Schmidt7, J. W. B. Rae, J. D. Witts, N. H. Landman, S. E. Greene, B. T. Huber, J. Super, N. J. Planavsky, and P. M. Hull, Rapid ocean acidification and pH rebound followed the end-Cretaceous Chicxulub impact, *PNAS* DOI: 10.1073/pnas.1905989116 (2019).
7. Hülse, D., S. Arndt, and **A. Ridgwell**, Mitigation of extreme Ocean Anoxic Event conditions by organic matter sulfurization, *Paleoceanography and Paleoclimatology*, 10.1029/2018PA003470 (2019).
8. Kanzaki, Y., Boudreau, B. P., Kirtland Turner, S., and Ridgwell, A., A lattice-automaton bioturbation simulator for the coupled physics, chemistry, and biology of marine sediments (eLABS v0.2), *Geoscientific Model Development*, DOI: 10.5194/gmd-12-4469-2019 (2019)
9. Kemppinen, K.M.S., P.B. Holden, N.R. Edwards, **A. Ridgwell**, and A.D. Friend, Coupled climate-carbon cycle simulation of the Last Glacial Maximum atmospheric decrease using a large ensemble of modern plausible parameter sets, *Clim. Past* , DOI: doi.org/10.5194/cp-15-1039-2019 (2019).
10. Wilson, J. D., Barker, S., Edwards, N. R., Holden, P. B., and **A. Ridgwell**, Sensitivity of atmospheric CO_2 to regional variability in particulate organic matter remineralization depths, *Biogeosciences* DOI: 10.5194/bg-16-2923-2019 (2019)
11. Dunkley Jones, T., Manners, H. R., Hoggett, M., Kirtland Turner, S., Westerhold, T., Leng, M. J., Pancost, R. D., **Ridgwell, A.**, Alegret, L., Duller, R., and Grimes, S. T.: Dynamics of sediment flux to a bathyal continental margin section through the Paleocene–Eocene Thermal Maximum, *Climate of the Past* DOI: 10.5194/cp-14-1035-2018 (2018).
12. Holden, P., N. Edwards, **A. Ridgwell**, R. Wilkinson , K. Fraedrich, F. Lunkeit, H. Pollitt, J-F. Mercure, P. Salas, A. Lam, F. Knobloch, U. Chewpreecha, and J. Vinuales, Climate-carbon cycle uncertainties and the Paris Agreement, *Nature Climate Change* DOI: 10.1038/s41558-018-0197-7 (2018).
13. Hülse, D., S. Arndt, S. Daines, P. Regnier, and **A. Ridgwell**: OMEN-SED 0.9: A novel, numerically efficient organic matter sediment diagenesis module for coupling to Earth system models, *Geosci. Model Dev.* DOI: 10.5194/gmd-11-2649-2018 (2018).
14. Ödalen, M., J. Nycander, K.I.C. Oliver, L. Brodeau, and **A. Ridgwell**, The influence of the ocean circulation state on ocean carbon storage and CO2 drawdown potential in an Earth system model, *Biogeosciences*, doi:10.5194/bg-15-1367-2018 (2018).
15. Olson, S.L., E.W. Schwieterman, C.T. Reinhard, **A. Ridgwell**, S.R. Kane, V.S. Meadows, and T.W. Lyons, Atmospheric Seasonality as an Exoplanet Biosignature, *The Astrophysical Journal Letters*, DOI: 10.3847/2041-8213/aac171 (2018).
16. Schmidt, D.N., E. Thomas, E. Authier, D. Saunders, and **A. Ridgwell**, Strategies in times of crisis—insights into the benthic foraminiferal record of the Palaeocene–Eocene Thermal Maximum, *Phil. Trans. R. Soc. A* DOI: 10.1098/rsta.2017.0328 (2018).
17. Wanyi, L., **A. Ridgwell**, E. Thomas, D.S. Hardisty, G. Luo, T.J. Algeo, M.R. Saltzman, B.C. Gill, Y.Shen, H-F. Ling, C.T. Edwards, M.T. Whalen, X. Zhou, K.M. Gutchess, L. Jin, R.E.M. Rickaby, H.C. Jenkyns, T.W. Lyons, T.M. Lenton, L.R. Kump, and Z. Lu1, Late inception of a resiliently oxygenated upper ocean, *Science* DOI: 10.1126/science.aar5372 (2018).
18. Ward, B.A., J.D. Wilson, R. Death, F.M. Monteiro, A. Yool, and A. Ridgwell, EcoGEnIE 1.0: plankton ecology in the cGEnIE Earth system model, Geosci. Model Dev. DOI: 10.5194/gmd-11-4241-2018 (2018).
19. Wilson, J.D., F.M. Monteiro, D.N. Schmidt, B.A. Ward, and **A. Ridgwell**, Linking marine plankton ecosystems and climate: A new modeling approach to the warm early Eocene climate, Paleoceanography and Paleoclimatology, 33, 1439–1452, DOI: 10.1029/2018PA003374 (2018).

20. Davies-Barnard, T., **A. Ridgwell**, J. Singarayer, and P. Valdes, Quantifying the Influence of the Terrestrial Biosphere on Glacial-interglacial Climate Dynamics, *Clim. Past.*, doi: 10.5194/cp-13-1381-2017 (2017).
21. Gutjahr, M., **A. Ridgwell**, P.F Sexton, E. Anagnostou, P.N. Pearson, H. Pälike, R.D. Norris, E. Thomas, and G.L. Foster, Very large release of mostly volcanic carbon during the Paleocene-Eocene Thermal Maximum Paleocene-Eocene Thermal Maximum, *Nature* **548**, doi:10.1038/nature23646 (2017).
22. Hülse, D., S. Arndt, J.D. Wilson, G. Munhoven, and **A. Ridgwell**, Understanding the causes and consequences of past marine carbon cycling variability through models, *Earth-Science Reviews* **171**, dx.doi.org/10.1016/j.earscirev.2017.06.004 (2017).
23. Kirtland Turner, S., P.M. Hull, L. Kump, and **A. Ridgwell**, A probabilistic assessment of the rapidity of PETM onset, *Nature Communications*, DOI: 10.1038/s41467-017-00292-2 (2017).
24. Lord, N.S., M. Crucifix, D.L. Lunt, M.C. Thorne, N. Bounceur, H. Dowsett, C.L. O'Brien, and **A. Ridgwell**, Emulation of long-term changes in global climate: Application to the late Pliocene and future, *Clim. Past*, doi: 10.5194/cp-13-1539-2017 (2017).
25. Anagnostou, E., E.H. John, K.M. Edgar, G.L. Foster, **A. Ridgwell**, G.N. Inglis, R.D. Pancost, D.J. Lunt, and P.N. Pearson, Atmospheric CO_2 concentrations were the primary driver of early Cenozoic climate, *Nature*, DOI: 10.1038/nature17423 (2016).
26. Brovkin, V., T. Brücher, T. Kleinen1, S. Zaehle, F. Joos, R. Roth, R. Spahni, J. Schmitt, H. Fischer, M. Leuenberger, E.J. Stone, **A. Ridgwell**, J. Chappellaz, N. Kehrwald, C. Barbante, T. Blunier, and D. Dahl Jensen, Comparative carbon cycle dynamics of the present and last interglacial, *QSR* **137**, 15-32, DOI: 10.1016/j.quascirev.2016.01.028 (2016).
27. Kirtland Turner, S. and **A. Ridgwell**, Constraints on the rate of carbon injection across the PETM – towards a theoretical framework for hyperthermals, *EPSL* **435**, 1-13, DOI: 10.1016/j.epsl.2015.11.027 (2016).
28. Meyer, K.M., **A. Ridgwell**, and J.L. Payne, The influence of the biological pump on ocean chemistry: implications for long-term trends in marine redox chemistry, the global carbon cycle, and the evolution of marine animal ecosystems, *Geobiology*, DOI: 10.1111/gbi.12176 (2016).
29. Monteiro, F.M., L.T. Bach, C. Brownlee, P. Bown, R.E.M. Rickaby, T. Tyrrell, L. Beaufort, S. Dutkiewicz, S. Gibbs, M.A. Gutowska, R. Lee, A.J. Poulton, U. Riebesell, J. Young, and **A. Ridgwell**, Calcification in marine phytoplankton: Costs and benefits, *Science Advances*, DOI: 10.1126/sciadv.1501822 (2016).
30. Penman, D.E., S.Kirtland Turner, P. Sexton, R. Norris, A.J. Dickson, S. Boulila, **A. Ridgwell**, R.E. Zeebe, J. Zachos, A. Cameron, T. Westerhold, U. Röhl, IODP Expedition 342 Scientists, An abyssal carbonate compensation depth overshoot in the aftermath of the Palaeocene- Eocene Thermal Maximum, *Nature Geoscience* **9**, doi:10.1038/NGEO2757 (2016).
31. Tagliabue, A., O. Aumont, R. DeAth, J.P. Dunne, S. Dutkiewicz, E. Galbraith, K. Misumi, J.K. Moore, **A. Ridgwell**, E. Sherman, C. Stock, M. Vichi, C. Völker, and A. Yool, How well do global ocean biogeochemistry models simulate dissolved iron distributions?, *GBC*, DOI: 10.1002/2015GB005289 (2016).
32. Wood, S., I.B. Baums, C.B. Paris, **A. Ridgwell**, W.S. Kessler, and E.J. Hendy, El Niño, surface circulation and coral larval dispersal across the world's greatest marine barrier, *Nature Communications*, doi:10.1038/ncomms12571 2016).
33. Zeebe, R.E., **A. Ridgwell**, and J.C. Zachos, Anthropogenic carbon release rate unprecedented during past 66 million years, *Nature Geoscience*, DOI: 10.1038/NGEO2681 (2016).
34. Zhou, X., E. Thomas, A.M.E. Winguth, **A. Ridgwell**, H. Scher, B.A.A. Hoogakker, R.E.M. Rickaby, and Z. Lu, Expanded oxygen minimum zones during the late Paleocene-early Eocene: Hints from multiproxy comparison and ocean modeling, *Paleoceanography* **31**, 1532–1546, doi:10.1002/2016PA003020 (2016).
35. Colbourn, C., **A. Ridgwell**, and T.M. Lenton, The timescales and sensitivities of terrestrial weathering feedbacks on atmospheric CO_2, *GBC* **29**, 583–596, doi:10.1002/2014GB005054 (2015).
36. Gibbs, S.J., P.R. Bown, **A. Ridgwell**, J.R. Young, A.J. Poulton, and S.A. ODea, Ocean warming, not acidification, controlled coccolithophore response during past greenhouse climate change, *Geology* **44**, 59-62, DOI: 10.1130/G37273.1 (2015).
37. Goodwin, P., R G. Williams, and **A. Ridgwell**, Sensitivity of climate to cumulative carbon emissions due to compensation of ocean heat and carbon uptake, *Nature Geoscience* **8**, 29–34, DOI: 10.1038/NGEO2304 (2015).
38. Jackson, L.S., J.A. Crook, A. Jarvis, D. Leedal, **A. Ridgwell**, N. Vaughan, and P.M. Forster, Assessing the controllability of Arctic sea ice extent by sulphate aerosol geoengineering, *GRL* **42**, 1223–1231, DOI: 10.1002/2014GL062240 (2015).
39. Jennions, S M., E. Thomas, D.N. Schmidt, D. Lunt, and **A. Ridgwell**, Changes in benthic ecosystems and ocean circulation in the Southeast Atlantic across Eocene Thermal Maximum 2, *Paleoceanography* DOI: 10.1002/2015PA002821 (2015).
40. Jones, N.S., **A. Ridgwell**, and E.J. Hendy, Evaluation of coral reef carbonate production models at a global scale, *Biogeosciences* **12**, 1339-1356, DOI: 10.5194/bg-12-1339-2015 (2015).
41. Lord, N.S., **A. Ridgwell**, M.C. Thorne, and D.J. Lunt, Long-term future CO_2 and its consequences for post-closure performance assessments for disposal of radioactive wastes, *Mineralogical Magazine* **79**, 1613–1623 (2015).

42. Lord, N.S., **A. Ridgwell**, M.C. Thorne, and D.J. Lunt, An impulse response function for the 'long tail' of excess atmospheric CO_2 in an Earth system model, *GBC* DOI: 10.1002/2014GB005074 (2015).
43. Schmidt, A., R.A. Skeffington, T. Thordarson, S. Self, P.M. Forster, A. Rap, **A. Ridgwell**, D. Fowler, M. Wilson, G.W. Mann, P.B. Wignall, and S. Kenneth, Selective environmental stress caused by magmatic sulfur emissions from continental flood basalt eruptions, *Nature Geoscience* doi:10.1038/ngeo2588 (2015).
44. Taylor, L.L., J. Quirk, R.M.S. Thorley, P.A. Kharecha, J. Hansen, **A. Ridgwell**, M.R. Lomas, S.A. Banwart, and D.J. Beerling, Enhanced weathering strategies for stabilizing climate and averting ocean acidification, *NCC* doi:10.1038/nclimate2882 (2015).
45. Wilson, J.D., **A. Ridgwell**, and S. Barker, Can organic matter flux profiles be diagnosed using remineralisation rates derived from observed tracers and modelled ocean transport rates?, *Biogeosciences* **12**, 5547-5562, DOI: 10.5194/bg-12-5547-2015 (2015).
46. Winkelmann, R., A. Levermann, **A. Ridgwell**, and K. Caldeira, Combustion of available fossil-fuel resources sufficient to eliminate the Antarctic Ice Sheet, *Science Advances*, DOI: 10.1126/sciadv.1500589 (2015).
47. Zhou, X., H.C. Jenkyns, J.D. Owens, C.K. Junium, X. Zheng, B.B. Sageman, D.S. Hardisty, T.W. Lyons, **A. Ridgwell**, and Z. Lu, Upper ocean oxygenation dynamics across the Cenomanian–Turonian OAE 2, *Paleoceanography* **30**, 510–526, doi:10.1002/2014PA002741 (2015).
48. John, E. H., J. Wilson, P. N. Pearson, and **A. Ridgwell**, Temperature-dependent remineralisation and carbon cycling in the warm Eocene oceans, *Palaeogeography, Palaeoclimatology, Palaeoecology* **413**, 158-166, DOI: 10.1016/j.palaeo.2014.05.019 (2014).
49. Death, R., J. L. Wadham, F. Monteiro, A. M. Le Brocq, M. Tranter, **A. Ridgwell**, S. Dutkiewicz, and R. Raiswell, Antarctic Ice Sheet fertilises the Southern Ocean, *Biogeosciences* **11** 2635-2643 (2014).
50. Rae, J. W.B., M. Sarnthein, G. L. Foster, **A. Ridgwell**, P. M. Grootes, T. Elliott, Deep water formation in the North Pacific and deglacial CO_2 rise, *Paleoceanography*, 29, 645–667, doi:10.1002/2013PA002570 (2014).
51. Sánchez-Baracaldo, P., **A. Ridgwell**, and J. A. Raven, A Neoproterozoic Revolution in the Marine Nitrogen Cycle, *Current Biology* **24**, 652–657, DOI: 10.1016/j.cub.2014.01.041 (2014).
52. Wood, S., C. B. Paris, **A. Ridgwell**, and E. J. Hendy, Modeling dispersal and connectivity of broadcast spawning corals at the global scale, *Global Ecology and Biogeography* **23**, 1-11, DOI: 10.1111/geb.12101 (2013).
53. Kirtland Turner, S., and **A. Ridgwell**, Recovering the true size of an Eocene hyperthermal from the marine sedimentary record, *Paleoceanography* (2013).
54. Cui, Y., L. R. Kump, and **A. Ridgwell**, Initial assessment on the carbon emission rate and climatic consequences during the end-Permian mass extinction, *Palaeogeography, Palaeoclimatology, Palaeoecology* 389, 128–136, DOI: 10.1016/j.palaeo.2013.09.001 (2013).
55. Couce, E., **A. Ridgwell,** and E. J. Hendy, Future habitat suitability for coral reef ecosystems under global warming and ocean acidification, *Global Change Biology*, DOI: 10.1111/gcb.12335 (2013).
56. Dunkley Jones, T., D. L. Lunt, D. N. Schmidt, **A. Ridgwell**, A. Sluijs, P. J. Valdes, and M. Maslin, Climate model and proxy data constraints on ocean warming across the Paleocene-Eocene Thermal Maximum, *Earth-Science Reviews* **125**, 123–145 (2013).
57. Colbourn, G., **A. Ridgwell**, and T. M. Lenton, The Rock Geochemical Model (RokGeM) v0.9, *Geosci. Model Dev.* **6**, 1543-1573, doi:10.5194/gmd-6-1543-2013 (2013).
58. Norris, R. D., S. Kirtland Turner, P. M. Hull, and **A. Ridgwell**, Marine Ecosystem Responses to Cenozoic Global Change, *Science* **341**, 492-498 (2013).
59. Zirkfeld, K., *et al.*, **A. Ridgwell**, *et al.*, Long-term Climate Change Commitment and Reversibility: An EMIC Intercomparison, *Journal of Climate* **26**, 5782–580 (2013).
60. Foster, L. C., D. N. Schmidt, E. Thomas, S. Arndt, and **A. Ridgwell**, Surviving rapid climate change in the deep-sea during the Paleogene hyperthermals, *PNAS* **110**, 9273–9276 (2013).
61. Hunter, S. J., D. S. Goldobin, A. M. Haywood, **A. Ridgwell**, and J. G. Rees, Sensitivity of the global submarine hydrate inventory to scenarios of future climate change, *EPSL* **367**, 105–115 (2013).
62. Couce, E., P. J. Irvine, L. J. Gregorie, **A. Ridgwell**, and E. J. Hendy, Tropical coral reef habitat in a geoengineered, high-CO_2 world, *GRL* **40**, doi:10.1002/grl.50340 (2013).
63. Eby, M., et al., **A. Ridgwell**, *et al.*, Historical and idealized climate model experiments: an intercomparison of Earth system models of intermediate complexity, *Clim. Past* **9**, 1111-1140 (2013).
64. Holden, P. B., N. R. Edwards, S. A. Muller, K. I. C. Oliver, R. M. De'ath, and A. Ridgwell, Controls on the spatial distribution of oceanic $\delta^{13}C_{DIC}$, *Biogeosciences* **10**, 1815-1833 (2013).
65. Wadham, J. L., R. De'Ath, F. M. Monteiro, M. Tranter, **A. Ridgwell**, R. Raiswell and S. Tulaczyk, The potential role of the Antarctic Ice Sheet in global biogeochemical cycles, *Earth and Environmental Science Transactions of the Royal Society of Edinburgh* **104**, 1-13 (2013).
66. Monteiro, F. M., R. D. Pancost, **A. Ridgwell**, and Y. Donnadieu, Nutrients as the dominant control on the extent of anoxia and euxinia across the Cenomanian-Turonian oceanic anoxic event (OAE2): Model-data comparison, *Paleoceanography*, DOI: 10.1029/2012PA002351 (2012).

67. Wilson, J. D., S. Barker, and **A. Ridgwell**, Assessment of the spatial variability in particulate organic matter and mineral sinking fuxes in the ocean interior: implications for the ballast hypothesis, *GBC* **26**, doi:10.1029/2012GB004398 (2012).
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Book chapters

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2. **Ridgwell, A.**, and S. Arndt, Why Dissolved Organics Matter: DOC in Ancient Oceans and Past Climate Change, Biogeochemistry of Marine Dissolved Organic Matter, Eds. Hansell, D. A., and C. A. Carlson, Elsevier (2014).
3. Dunkley Jones, T., Ivanović, R. F., **Ridgwell, A.**, Lunt, D. J., Maslin, M. A., Valdes, P. J. and Flecker, R. , Methane Hydrate Instability: A View from the Palaeogene, in Climate Forcing of Geological Hazards (eds B. McGuire and M. Maslin), John Wiley & Sons, Ltd, Chichester, UK. doi: 10.1002/9781118482698 (2013).
4. Maslin, M., Owen, M., Betts, R. A., Day, S., Dunkley Jones, T. and **Ridgwell, A.**, Assessing the Past and Future Stability of Global Gas Hydrate Reservoirs, in Climate Forcing of Geological Hazards (eds B. McGuire and M. Maslin), John Wiley & Sons, Ltd, Chichester, UK. doi: 10.1002/9781118482698 (2013).
5. Zeebe, R. E. and **A. Ridgwell**. Past changes of ocean carbonate chemistry, in Ocean Acidification, ed. J.-P. Gattuso and L. Hansson, Oxford University Press, 2011.
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9. **Ridgwell, A.**, and U. Edwards, Geological Carbon Sinks, in Greenhouse Gas Sinks, Eds. Reay, D., N. Hewitt, J. Grace, and, K. Smith, 2007.
10. M. A. Maslin, and **A. J. Ridgwell**, Mid-Pleistocene Revolution and the 'eccentricity myth', in *Early-Middle Pleistocene transitions: the land-ocean evidence*, Eds. Head, M. J., and P. L. Gibbard, Geological Society, London, Special Publications, 2005.
11. **Ridgwell, A. J.**, and M. J. Kennedy, Secular changes in the importance of neritic carbonate deposition as a control on the magnitude and stability of Neoproterozoic ice ages, in: *The Extreme Proterozoic: Geology, Geochemistry, and Climate*, Eds. Jenkins, G., *et al.*, Geophysical Monograph Series Volume 146, American Geophysical Union, Washington DC, 2004.

Other (not all peer-reviewed), including commetry

1. Zeebe, R. E., G. R. Dickens, **A. Ridgwell**, A. Sluijs, and E. Thomas, Onset of carbon isotope excursion at the Paleocene-Eocene thermal maximum took millennia, not 13 years, PNAS 111, E1062–E1063 (2014).
2. Barker, S., and **A. Ridgwell**, Ocean Acidification, *Nature Education Knowledge* **3**, 21 (2012).
3. **Ridgwell, A.**, Freeman, C., & Lampitt, R. (2012). Geoengineering: taking control of our planet's climate? Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 370(1974), 4163–4165.
4. **Ridgwell, A.**, Evolution of the ocean's "biological pump", *PNAS* **108**, 16485–16486 (2011).
5. Turley, C., Findlay, H. S., Mangi, S., **Ridgwell, A.** and Schimdt, D. N., CO_2 and ocean acidification in Marine Climate Change Ecosystem Linkages Report Card 2009. (Eds. Baxter JM, Buckley PJ and Frost MT), Online science reviews, 25pp (2009). www.mccip.org.uk/elr/acidification
6. **Ridgwell**, and P. Valdes, Climate and Climate Change, *Current Biology* **19**, R563-R566 (2009).
7. Irvine, P., and **A. Ridgwell**, 'Geoengineering' – taking control of our planet's climate, *Science Progress* **92**, 139-162 (2009).
8. Caldeira, K., ..., **A. Ridgwell**, et al., Comment on 'Modern-age buildup of CO_2 and its effects on seawater acidity and salinity' by Hugo A. Loaiciga, *GRL* **34**, doi:10.1029/ 2006GL027288 (2007).
9. **Ridgwell, A. J.**, An end to the 'rain ratio' reign?, *Geochem. Geophys. Geosys.* **4**, doi:10.1029/2003GC000512, 2003.
10. **Ridgwell, A. J.**, Climatic effect of Southern Ocean Fe fertilization: Is the jury still out?, *Geochem. Geophys. Geosys.* **1**, doi: 10.1029/2000GC000120, 2000.
11. **Ridgwell, A. J.**, Glacial-interglacial perturbations in the global carbon cycle, PhD thesis, 134 pp., Univ. of East Anglia at Norwich, UK, 2001.

Invited keynote and speaker addresses

- **Keynote lectures**

EGS-AGU-EUG (2003, Nice); AGU-CGU (2004, Montreal); Goldschmidt (2006, Melbourne); SCOR 50th Anniversary Symposium (2008, Woods Hole); 2008 Darwin Day (2008, Netherlands); 2010 Commercial CSR Day (2010, Cheltenham Racecourse, UK); 2013 Goldschmidt (x2) (Florence, Italy); Montefeltro Medal lecture (2014, Urbino, Italy); Future perspectives in Earth System Science (Geological Society, London, 2014); Goldschmidt (2018, Boston); ICP-13 (2019, Sydney, Australia).

- **Invited public (and general audience) lectures**

St. Andrews science week public lecture (St. Andrews, 2007); Geological Society Shell-sponsored lecture series (Oxford, February 2010); Science Café (2010, Bristol); GCHQ (2010); The Times Cheltenham Science Festival (Cheltenham, 2011); Institute of Physics / Royal Society of Edinburgh evening open lecture (Edinburgh, 2011); Public Climate Change Lecture (Cardiff, 2012); student society climate change (geoengineering) lecture (Clare College, Cambridge, 2013), Bath Geological Society (Bath, 2014); Bristol Futures Forum (Bristol, 2015); AEG-Inland Empire (Colton, CA, 2016).

- **Invited lectures – workshops and symposia**

International Symposium: New Horizons in the Study of the Carbon Cycle (2000, Rome); Glacial CO2 workshop (2000, Bornoe Island, Sweden); JGOFS Symposium (2000, Brest); Zuckerman Symposium (2001, UEA, Norwich); Gordon Conference in Chemical Oceanography (2002, Oxford); IGBP-SCOR 'Global Iron Connections' (2004, UEA, Norwich); AGU Chapman Conference (2005, Woods Hole); IGBP-SCOR 'Ocean Acidification' (2006, Lamont, New York); GEOTRACES workshop (2007, Delmenhorst); Raiswell Symposium (2008, Leeds); Ocean Acidification Working Group (2009, Miami); EPOCA Annual Meeting (2009, Plymouth); Paleo-ocean Acidification and Carbon Cycle Perturbation Events (2010, Catalina Island); WUN Workshop (2011, Seattle); TOTAL Foundation on Ocean Acidification (2011, Porquerolles, France); DLB Symsposium (2011, Imperial College, London); Fermor Meeting on Neoproterozoic (Geological Society, London, 2012); Kaplan Symposium on paleoclimate (2012, Jerusalem, Israel); EPOCA Annual Meeting (2012, Nice, France); Gordon Conference on Hydrates (2012, Ventura, US); Exploring the Cretaceous world: data and numerical models at work to fill gaps (2014, Capo Granitola, Italy); Leopoldina German National Academy of Sciences (2015, Halle, Germany); Chemical Oceanography Godron Research Conference (2015, Holderness, NH); Royal Society Discussion Meeting: Feedbacks on climate in the Earth system (2014, Royal Society, London); PETM workshop (2016, ASU); Biogeochemistry Godron Research Conference (2016, Chinese University of Hong Kong); Royal Society Kavli Center Meeting – Evolution of the Biological Pump (2016, Chicheley Hall, UK); 2016 Comer Foundation Changeling Meeting (2016, Leeward Farm, Wisconsin); 38 New Phytologist Symposium – Colonization of the terrestrial environment (2016, Bristol); Cenozoic pCO2 Workshop (2017, Lamont-Doherty Earth Observatory, NY); Royal Society Discussion Meeting: Hyperthermals – rapid and extreme global warming in our geological past (2017, Royal Society, London); PAGES-DICE Workshop (2018, Las Cruces, Chile); Royal Society Discussion Meeting on early evolution (2019, Royal Society, London).

- **Invited lectures – conferences**

EGU (2007, Vienna); AGU Fall Meeting (2008, San Francisco); AGU Fall Meeting (2009, San Francisco); ICP10 (2010, San Diego); IPC3 (2010, London); EGU (2010, Vienna); ASLO (2011, Portland); Goldschmidt (2012, Montreal); Royal Society URF conference (2012, London); AGU Fall (2013, San Francisco); GSA (Vancouver, 2014); AGU (2014, San Francisco); GSA (2016, Denver); Goldschmidt (2018, Boston).

- **Invited lectures – university and institute seminars**

Jena (2001); UCR (2001, California); UCL (2002, London); UCLA (2003, California); UEA (2003); Scripps (California); University of Maryland (2004); University of Western Ontario (2004); UVic (2004, British Columbia); Penn State (2004); British Antarctic Survey (2005); NOCS (2005); IOS (2005, British Columbia); FRCGC (2006, Japan); University of Tokyo (2006, Japan); UBC (2007, British Columbia); Open University (2007); World University Network (2008, Bristol); Stanford (2008); Imperial (2008); Liverpool (2009); Queen Mary, University of London (2010); NOC, Southampton (2011); Trinity College Dublin (2011); Edinburgh (2011); Bristol (Earth Sciences) (2011); Adelaide (2012); Open University (2012); Cambridge (2013); CalTech (2013); UCR (2013); UCL (2014); UCSC (2014); Harvard (2014); Stanford (2014); UC Riverside (2014); AWI, Bremerhaven (2015); MPI, Hamburg (2015); Yale (2016); Portsmouth (2016); UCSC (2016); Syracuse (2017); USC (2017); SCSD (2017); Institut de Ciència i Tecnologia Ambientals (ICTA-UAB) (2018); UC Davis (2018).

Editing and reviewing

• **Editing**

I was one of the founding Editors and until recently, one of the Executive Board members and a 'topical Editor' for the EU journal Geoscientific Model Development (http://www.geoscientific-model-development.net/). I have been a guest editor for two separate special issues of Philosophical Transactions of the Royal Society – one on 'geoengineering' and one on warm climates of the past.

• **Journal reviewing**

AGU Monographs, Biogeosciences, Climatic Change, Climates of the Past, Earth and Planetary Science Letters, Earth-Science Reviews, Environ. Res. Lett., Geobiology, Geology, Global Biogeochemical Cycles, Geochemistry Geophysics Geosystems, Geophysical Research Letters, JGR-Biogeochemistry, Journal of Quaternary Science, Marine Ecology Progress Series, Nature, Nature Climate Change, Nature Geoscience, Nature Communications, Netherlands Journal of Geoscience, New Phytologist, Paleoceanography, Philosophical Transactions of the Royal Society, PNAS, Quaternary Science Reviews, Science, Science Advances, Sedimentlogy.

(AGU 2002 Editors' Citation for Excellence in Refereeing for Paleoceanography; AGU 2013 Editors' Citation for Excellence in Refereeing for Geophysical Research Letters.)

• **Grant reviewing**

Panel member for (German) DFG priority program "Climate Engineering", NSF panel member American Chemical Society, CRC (Canada), EU/ESF (EuroCLIMATE program), EU/ESF (ERC), FNRA, Helmholtz, Israel Science Foundation, NERC (UK SOLAS program), NERC (Standard grants), NERC (Postdoctoral Fellowships), Netherlands Organisation for Scientific Research, New Zealand Marsden Fund, NSERC (Canada), NSF (Chemical Oceanography), NSF (Geology and Paleontology), NSF (Postdoctoral Fellowships), The Israel Science Foundation, Royal Society.

• **PhD vivas**

I have conducted a number of PhD viva examinations, both as internal and external examiner, and both in the UK and abroad, including: University of Edinburgh (external), three times at the University of Bristol as internal, IPSL/Laboratoire des Sciences du Climat et de l'Environnement, France (external), University of Bern (external) , Exeter (external), Imperial (external), and the University of Earth Anglia (external).

Graduate student supervision

• Completed graduate students include:

- Jamie Wilson, whom I second-supervised and studied modern ocean carbon cycle dynamics and controls, and Cenozoic implications.
- Maria Grigoratou, whom I co-supervised and was supported by my ERC grant, studying/modelling zooplankton dynamic and foraminiferal ecology.
- Sally Wood, whom I second-supervised and assessed the controls on coral reef 'connectivity' using ocean tracer-transport models.
- Suzanne Jennions, whom I second-supervised and studied historical records of Antarctic Ocean acidification.
- Peter Irvine, whom I lead-supervised, in a study of solar radiation management geoengineering impacts using fully coupled climate models.
- Elena Couce, whom I second-supervised and who studied the environmental controls on tropical coral reef habitat suitability.
- Dominik Huelse, whom I second-supervised and who studied the role of organic carbon reactivity and transformations in past deoxygenation events.
- Natalie Lord, whom I second-supervised and who studied the long-term fate of fossil fuel CO_2 and climate change as relevant to the future integrity of nuclear waste repositories.

• I have also first-supervised a completed Masters student at UBC (Vancouver) and second-supervised one at SFU (Vancouver), plus informally acted as an additional supervisor to two completed PhD students at Penn State (US) whose research used the GENIE Earth system model. Additionally, I have previously and continue to informally support numerous graduate students in applying the GENIE Earth system model.

Teaching and summer-schools

• **Courses**

At the University of British Columbia I co-devised and led an undergraduate unit to provide a base level of computer programming skills in MATLAB, and co-led a masters level unit in Earth history and global biogeochemical cycles.

At Bristol I have developed and run a Masters level unit on Earth system modeling, which I provide as part of both the 4-year MSci program as well as for a 1-year Masters course. I also provide lectures for a 1-year open unit ('World in Crisis') and physical geography, and to 2nd and 3rd year units on geobiology and physical geography.

At UC Riverside, I have devised an undergraduate level introduction to computer programming and practical MATLAB skills for the Earth sciences. I have also extended my previous Earth system modeling teaching material to a full 10-week graduate level course. I have written two ca. 300 page (on-line/open-ource) textbooks in the process.

I have also devised and run, a series of innovative hands-on 2-3 day workshops on Earth system modelling, which to date have taken place (some multiple times) at: Penn State, CalTech, UCSC, Yale, University of Bristol (UK), University of Exeter (UK), University of Cardiff (UK), Utrecht (Netherlands), AWI (Bremerhaven , Germany).

• **Summer-schools**

I am a frequent invitee to lecture and teach on international graduate/postgraduate summer schools, including: QUEST (2007 and 2008, Bristol) and SOLAS (2007 and 2009, Corsica, France) summer-schools. I am also a regular contributor to the annual Urbino Summer School in Paleoclimatology in Urbino, Italy (2010, 2011, 2012, 2013, 2014, 2019), and have taught on the 'ACDC' climate change summer school (2011, Friday Harbor, US). I have also provided lectures for the ERCR Introduction to Palaeoceanography 'short-course' at UCL.

Popular articles and educational scribblings

- "Cooling Europe with crops", EU Parliament *Research Review* , issue 8, page 37 (2009)
- "Global warming". in: *The Seventy Great Mysteries of the Natural World*, Eds. Benton, M. J., Thames & Hudson, London, p. 257-261 (2008).
- "What will Earth's future climate look like?", in: *The Seventy Great Mysteries of the Natural World*, Eds. Benton, M. J., Thames & Hudson, London, p. 262-265 (2008).
- "Anti-freeze for snowball Earth", *Planet Earth*, winter 2003 (2003).
- "Planète poussiéreuse, planète heureuse!", *Met Mar*, No. 200, pages 24-25 (2003).
- "A dirty planet is a happy planet", *The Marine Observer*, vol. 73, no. 359, pages 25-27 (2003).
- "The role of feedbacks in the Earth System: Past changes in dust and iron fertilization of the ocean", IGBP '*Global Change*' Newsletter, Issue no. 51, pages 2-5 (2002).
- "Trees that bite the dust", *The Guardian* August 15th 2002 (2002).
- "Robbing Peter to pay Paul", NERC Annual Report 2001-2002 (2002).
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Prizes and Awards

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