

Background

- B.S. in Geological Sciences, B.A. in German (2005)
- Fulbright Fellowship to Germany (2005-2006)
- PhD in Geological Sciences (2006-2011)
- PDRA, then NERC IRF



Pathway to my NERC fellowship

- PhD: Geology, sedimentology, carbonate chemistry, geobiology
 - Identified a possible new carbon sink
- PDRA: Numerical modelling of palaeoclimate/biogeochemical cycling
- Fellowship: Builds on topics from my PhD work using skills developed in my PDRA
 - Helped demonstrate ownership of the project

2012

A subseafloor carbonate factory across the Triassic-Jurassic transition

Sarah E. Greene^{1,2}, David J. Bottjer¹, Frank A. Corsetti¹, William M. Berelson¹, and John-Paul Zonneveld³

2013



Authigenic Carbonate and the History of the Global Carbon Cycle

Daniel P. Schrag *et al.*

Science **339**, 540 (2013);

DOI: 10.1126/science.1229578



Carbon Cycle Makeover

Donald E. Canfield and Lee R. Kump

Science **339**, 533 (2013);

DOI: 10.1126/science.1231981

2014



LETTERS

PUBLISHED ONLINE: 19 JANUARY 2014 | DOI: 10.1038/NGEO2070

Significant contribution of authigenic carbonate to marine carbon burial

Xiaole Sun^{*} and Alexandra V. Turchyn

Plus many
more . . .

Motivating Questions

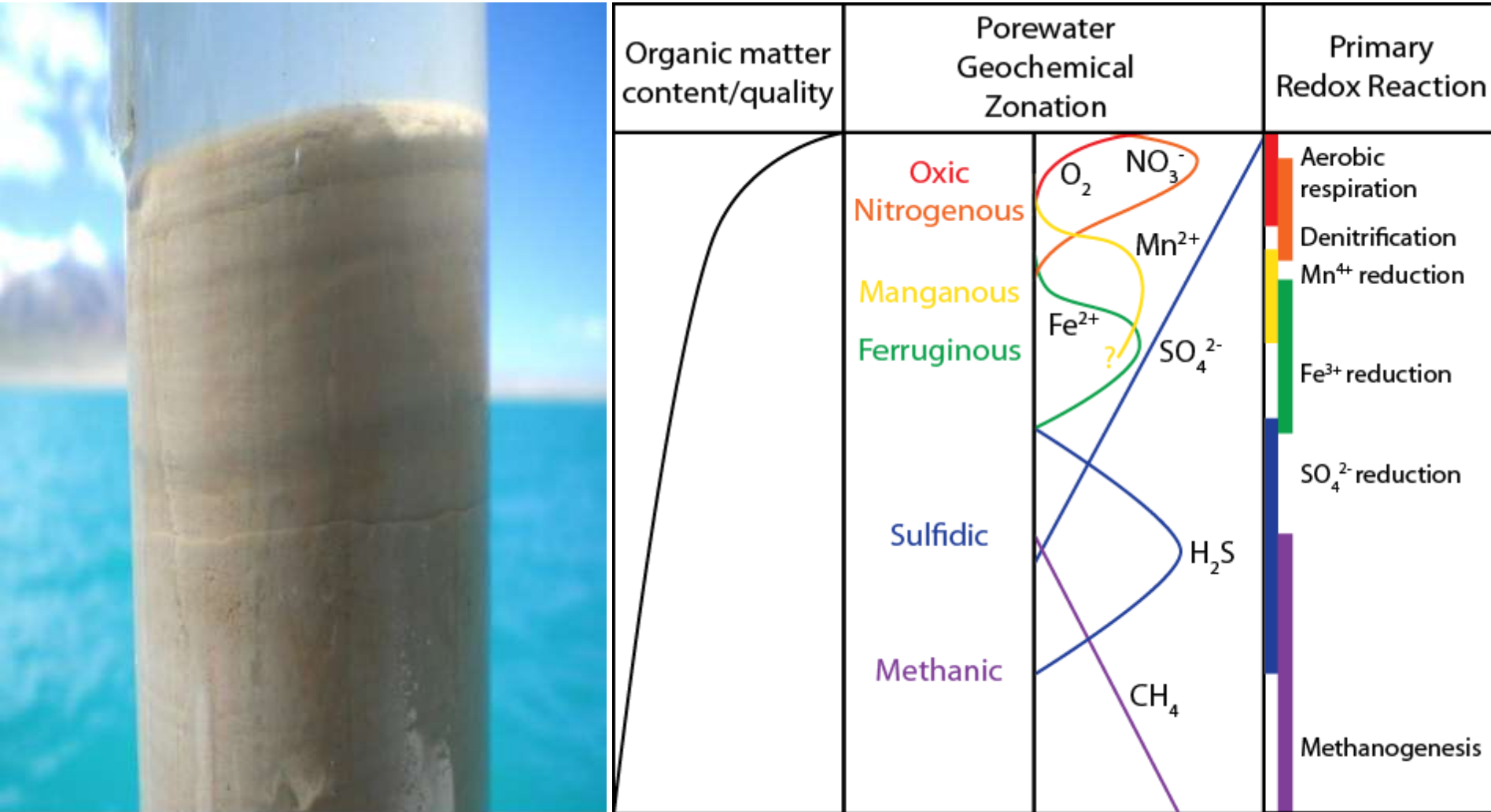
1. Why does it form?

- A new class of paleoenvironmental proxy

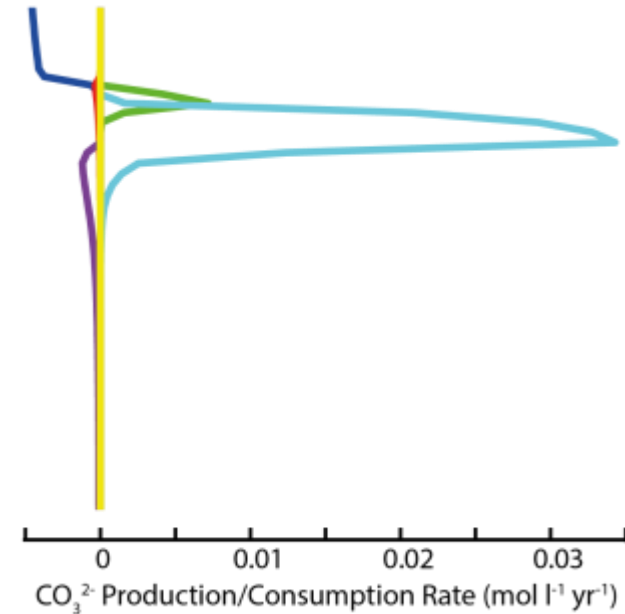
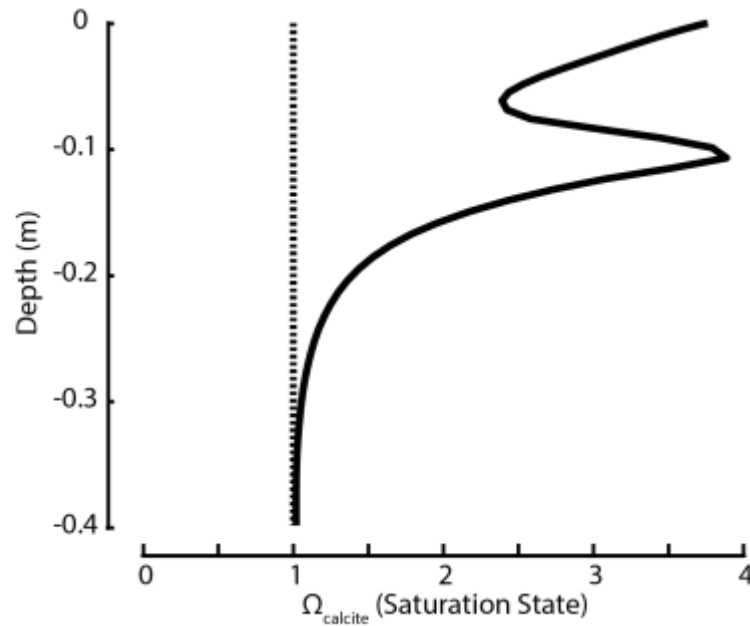
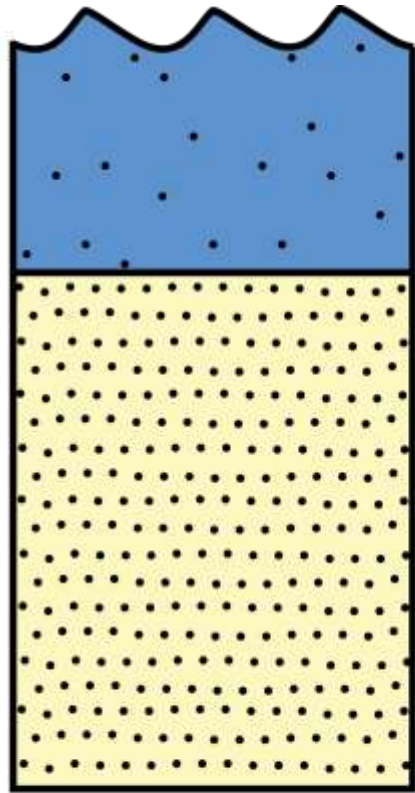
2. Significance of the authigenic carbon sink for global carbon cycling

- A multi-model approach to assess sink size over geologic time

Marine sediments are alive



Model approach



- | | | |
|-----------------------|---------------------|------------------|
| — Aerobic respiration | — Denitrification | — Mn reduction |
| — Fe reduction | — Sulfate reduction | — Methanogenesis |

Stuff I was told or wish I knew when preparing my application

- Seek help/advice early and often
 - Read past (successful) fellowship applications
 - Members of staff here serve(d) on selection panels. Pick their brains!
 - No – you aren't bothering us - it is in our best interest for you to succeed!
 - Do a mock interview. It will suck but you will thank yourself later.

Stuff I was told or wish I knew when preparing my application

- Project scope: think BIG
 - Grand new challenge with far-reaching implications, not a series of incremental papers
 - Should be clear from your application that this is *your* project and you have the skills to do it

Stuff I was told or wish I knew when preparing my application

- Consider host institution choice VERY carefully
 - Same place as UG/PhD/Postdoc? Need to make a strong case
 - Guaranteed lectureship?

Stuff I was told or wish I knew when preparing my application

- Application should convey that you are a future leader in your field and you are ready to be a PI
 - Find your ‘inner American’
 - NERC is funding a fellow as much as they are funding a fellowship project

Stuff I was told or wish I knew when preparing my application

- Apply early and apply often*
 - “I need to spend a year beefing up my CV” (I’ve seen people land NERC fellowships straight out of PhD)
 - “I just don’t have a good enough idea yet” (Waiting a year probably won’t solve this. What *will* solve this is lots of reading/draft writing/conversations with prospective collaborators)
 - Even if you don’t end up submitting this year, 2018 you will thank 2017 you when he/she doesn’t start with a blank sheet of paper

*until/unless NERC caps the number of times you can apply . . .

Stuff I was told or wish I knew when preparing my application

- Success/failure of a fellowship application is a poor reflection of your worth as a researcher
 - Once you've cleared the 'laughability' hurdle, getting to interview is part idea, part writing, part track record and HUGELY luck of the draw
 - Most people apply multiple times before success

Stuff I was told or wish I knew when preparing my application

- Start yesterday
 - Brainstorming, writing, developing network of contacts

