

**SIOG 268**  
**Seminar in Marine Chemistry and Geochemistry**  
Winter 2021

Thursdays 9:00 – 10:20  
Classes meet remotely over Zoom

**Instructor:** Dr. Julia Diaz  
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**Overview:** In this course, we will be discussing high impact, recently published scientific papers in the field of Marine Chemistry and Geochemistry. One student will select and present a new scientific paper each week. Everyone is responsible for reading the papers and coming to class with a list of questions, comments, and/or critiques for discussion. Discussion of the papers will take place first in small groups (2-3 students in Zoom breakout rooms) and will then be expanded to include the entire class.

**Learning outcomes:** By the end of this course, you will have strengthened your ability to read, write, and review scientific papers by focusing on the following goals:

- Conduct an independent literature search
- Think critically about research papers
- Present scientific research
- Engage in thoughtful discussions about research with others
- Appreciate different types of scientific journals
- Understand different types and levels of authorship
- Identify the components of a well-written scientific paper

**Paper selection:** Each student is responsible for selecting a peer-reviewed primary research article to present to the class. Papers must be approved by the instructor in advance. Your paper selections are due on Jan 14. I encourage you to choose a paper that is related to your research interests. Since the focus of this course will be on high impact, recently published papers, publications should be no more than 5 years old and ideally be published in a high profile journal, such as *Science*, *Nature*, *PNAS*, *Nature Geoscience*, etc. Publications in other journals are acceptable, but it is up to the presenter to explain why the paper is high impact.

**Discussion:** Everyone is responsible for reading each paper and coming to class with a list of questions, comments, and/or critiques for discussion. Here are some general questions to help you get started.

What is the major advance described in this paper?

Do the results support the conclusions? Explain.

Describe the wider implications of this work.

What should be the next step in this research?

How does this paper relate to your area of research?

If you were asked to review this paper, what constructive feedback would you provide the authors?

Who conducted this study, and what career stage are the principal authors (first, last, corresponding)? Was this a collaborative study across multiple labs or was this work done by a single lab? What expertise did each group contribute?

Why was this paper published in this journal?

Describe the style in which this paper was written. How was the paper organized, and why? Do you find it effective? Would you have written it differently?

**Course website:** The course website is available via Canvas ([www.canvas.ucsd.edu](http://www.canvas.ucsd.edu))

**Asynchronous participation:** All class meetings will be recorded and posted to the Canvas website under My Media.

**VPN:** Remote access to library resources while off campus is available through the UCSD VPN. More information and installation instructions can be found on Blink.

**Grades:** Grades will be on a S/U basis