

**GEOL 600**  
**Earth Sciences Colloquium, Fall 2022**

**Class times:**

- **Lecture:** M 3:30-4:30 pm, ZHS 159
- **Discussion section:** M 2:00-2:50 pm, ZHS 118

**Instructors:**

- **Prof. Sylvain Barbot** – [sbarbot@usc.edu](mailto:sbarbot@usc.edu), office hours by appointment
- **Prof. Lowell Stott** – [stott@usc.edu](mailto:stott@usc.edu), office hours by appointment

**Units:** 2

**Introduction:** This 2-unit class will meet twice per week for one hour, structured around a Monday afternoon lecture from a guest speaker. We will meet Monday prior to each lecture to discuss a publication relevant to the talk topic recommended by the speaker. We will distribute the paper on the Tuesday prior to the discussion.

**Assignments:**

Your responsibility for this class is to attend the weekly seminars, carefully read and critically assess related papers, summarize a key point of the topic or identify and ask relevant questions, and participate in discussions in a collegial, constructive manner. In the last day of class, you will give a 5 minute presentation of your research goals that incorporates the lessons you have learned during class.

**Weekly assignments:**

1. Read assigned paper prior to Monday discussion (reading assigned Tuesday, **complete reading by Monday 2pm**).
2. Attend the Monday 2 pm discussion with at least three questions on the reading for oral participation.
3. Attend the Monday lecture (optional: ask questions).
4. Submit a short synopsis of the lecture and describe things the speaker did that was effective.  
**due: Tuesday morning at 10am**

**Summative assignment:**

5. Create a short Keynote presentation (5-10 slides of introductory material to introduce your thesis topic). Structure would typically include title slide, framing of scientific problems, summary of existing knowledge, and identification of where the knowledge gaps lie.
6. Live, 5-min presentation in class on Monday, Nov. 28 at 2 pm.

**Learning objectives**

Students will be able to

- *Identify* research questions and recognize advances and remaining questions from the presentation of novel research findings in geoscience research talks and publications.  
*Summarize* scientific findings from synthesis of complex information.
  - Hone these skills through taking notes on lecture and reading, and refining understanding in discussion sections. Instructors assess these skills demonstrated in oral and written contributions.
- *Evaluate* effective scientific communication, assessed by oral discussion and short written summaries of what speakers did well.

- Hone these skills through discussion sections. Assessed by short written synopses.
- *Contribute* to scientific discourse, assessed by participation in classroom discussions – in a constructive, collegial manner.
  - Opportunities include spoken questions in the discussion section or following the lecture (if time allows during the public Q&A session, and via oral or written questions via Zoom chat).
- *Create* a narrated Keynote recorded talk that introduces a scientific research question, with reference to some existing published research, preferably an introduction to some of your thesis research.
  - Use the techniques and styles of speakers, and class evaluation of speakers in discussions, to learn what works.

## **Grading**

Written assignments: 11 x 5% each = 55%

Weekly participation in discussions, lecture and wiki responses: 25%

Final summative recorded presentation assessment: 20%

A = excellent grasp of academic research – comprehension and collegial discourse – performing at or above the expected level for the student’s career level.

B = good grasp of academic research – comprehension and collegial discourse – continue to develop your skills, e.g. by retaking this seminar in future.

C = basic grasp of academic research – comprehension and collegial discourse – needs improvement to perform at graduate level, continue to develop your skills e.g. by retaking this seminar in future.

## **Missed work**

Participation will be evaluated on the basis of asking at least one question or making a comment during each weekly discussion section (following lecture optional/time dependent), and completion of the written assignments. Late work will be graded but subject to a late penalty (max score 4% instead of 5%). If you miss more than two weeks of class during the semester (synchronous participation and written assignments), you will not receive credit unless you have sought approval of your absences *in advance* and complete alternative assignments (such as attending other seminars, and contributing written work). Please contact the instructors with any questions and need for accommodations/support.

## **Technology and participation:**

Participation in lectures, discussion and office hours in person or via Zoom. We will be using Blackboard for class information and assignments. Please familiarize yourself with Blackboard, including the wiki feature. We will use Flip, an easy-to-use video platform in week 1.

*What device do I need?* You can download the Zoom app to your phone or connect using a laptop and wifi. You can connect to Blackboard and Google docs using your USC ID and password. You can connect to our class Flipgrid using your USC email address.

*Missed a lecture?* You will learn best if you attend class and take notes during lecture, and actively join in the discussion of the paper, however you may have a sick day or technical glitch or other impediment (e.g. time-zone, childcare) that prevents you from attending synchronous sessions. To catch up watch the recorded sessions and complete the assignments – see below.

*How will class absences or technical glitches (e.g. wifi) affect my participation grade?* Lectures and discussion sections will be recorded and a written synopsis can be provided in lieu of attendance if you have to catch up asynchronously. i.e. instead of writing a synopsis or questions, *complete both options (see item 7)*.

*Have trouble participating in class?* Contact the instructors to let them know and to be referred to resources for further technical/wellness support.

Reach out to classmates, instructors and support staff, even though we aren't in our offices – we are all present!

**Lecture schedule and assigned reading:**

The readings are journal articles that will be available via Blackboard for this course.

8/29 Mon	Organizational meeting and introductions Meet with your instructors Barbot and Stott together with your classmates, be ready to introduce yourself.
9/19 Mon	<b>Seminar: Geochemistry and weathering</b> <b>Earth's rock and roll: Any use for rotational motion observations in seismology?</b> Heiner Igel, Professor of Seismology, Department of Earth and Environmental Sciences, Ludwig Maximilian University of Munich.  YouTube channel: <a href="https://www.youtube.com/channel/UCnJX-Ohwflv9My9PvdE6Cow?app=desktop">https://www.youtube.com/channel/UCnJX-Ohwflv9My9PvdE6Cow?app=desktop</a>  Igel, H. et al. (2021), ROMY: a multicomponent ring laser for geodesy and geophysics, <i>Geophys. J. Int.</i> , <a href="https://doi.org/10.1093/gji/ggaa614">https://doi.org/10.1093/gji/ggaa614</a>
9/26 Mon	<b>Seminar: Paleontology</b> <b>Swimming with Ammonites: How new techniques bring fossils to life</b> Kathleen Ritterbush, University of Utah  Peterman & Ritterbush, 2022. Resurrecting extinct cephalopods with biomimetic robots to explore hydrodynamic stability, maneuverability, and physical constraints on life habits, <i>Scientific Reports</i> . <a href="https://doi.org/10.1038/s41598-022-13006-6">https://doi.org/10.1038/s41598-022-13006-6</a>
10/3 Mon	<b>Seminar: Mineralogy</b> Barbara Carrapa  Goddard & Carrapa, Effects of Miocene–Pliocene global climate changes on continental sedimentation: A case study from the southern Central Andes, 2018. <a href="https://doi.org/10.1130/G40280.1">https://doi.org/10.1130/G40280.1</a>
10/10 Mon	<b>Seminar: Geochemistry</b> <b>Stromatolites as geochemical archive of microbial habitats through deep time.</b> Simon Hohl
10/17 Mon	<b>Seminar: Climate</b> Nick Lutsko, Assistant Professor at Scripps Institution of Oceanography ( <a href="https://nicklutsko.github.io/">https://nicklutsko.github.io/</a> )
10/24 Mon	<b>Seminar: Mineralogy</b>

	Cailey Condit, Assistant Professor, University of Washington ( <a href="https://caileycondit.weebly.com/">https://caileycondit.weebly.com/</a> )
10/31 Mon	<b>Seminar:</b> Rock mechanics Melodie French, Assistant Professor, Rice University ( <a href="https://mefrench.com/">https://mefrench.com/</a> )
11/07 Mon	<b>Seminar:</b> Geomorphic petrology Freya George, Postdoctoral Fellow, John Hopkins University ( <a href="https://www.freyageorge-geology.com/">https://www.freyageorge-geology.com/</a> ) Zoom seminar at noon. No discussion at 2 pm.
11/15 Mon	<b>Seminar:</b> Climate Matt Huber, Professor, Purdue University
11/21 Mon	<b>Seminar:</b> Climate Tripti Bhattacharya, Assistant Professor, Syracuse University ( <a href="https://en.wikipedia.org/wiki/Tripti_Bhattacharya">https://en.wikipedia.org/wiki/Tripti_Bhattacharya</a> )
11/28 Mon	<b>Seminar:</b> Geobiology Erik Sperling, Assistant Professor, Stanford University  Student presentations.

## Statement on Academic Conduct and Support Systems - updated January 2020

### Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” [policy.usc.edu/scampus-part-b](http://policy.usc.edu/scampus-part-b). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, [policy.usc.edu/scientific-misconduct](http://policy.usc.edu/scientific-misconduct).

### Support Systems:

*Counseling and Mental Health - (213) 740-9355 – 24/7 on call*  
[studenthealth.usc.edu/counseling](http://studenthealth.usc.edu/counseling)

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

*National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call*  
[suicidepreventionlifeline.org](http://suicidepreventionlifeline.org)

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

*Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call*  
[studenthealth.usc.edu/sexual-assault](http://studenthealth.usc.edu/sexual-assault)

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

*Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298*  
[equity.usc.edu](http://equity.usc.edu), [titleix.usc.edu](http://titleix.usc.edu)

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

*Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298*  
[usc-advocate.symphlicity.com/care\\_report](http://usc-advocate.symphlicity.com/care_report)

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity | Title IX for appropriate investigation, supportive measures, and response.

*The Office of Disability Services and Programs - (213) 740-0776*  
[dsp.usc.edu](http://dsp.usc.edu)

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

## ONLINE syllabus additions from USC

### Synchronous session recording notice

Per USC policy, synchronous sessions are recorded and provided to all students asynchronously.

### GEOL 599 Zoom etiquette/tips

*Please* mute your microphone when not speaking. Unintended audio can be disruptive.

*Recommend* camera on in discussion; camera off in the seminar; camera on when speaking.

Please connect to class Zoom with a computer browser whenever possible, if you have connectivity issues and need to use a phone to dial into class, there may be admit issues, unless you email the instructor in advance. Viewing slides requires an internet connection.

If you have connectivity or other issues, or other needs for accommodation, please reach out to the instructor outside of the class session. Any immediate issues (e.g., sound quality is unclear, or the font is too small) please raise (e.g. in the chat) for a prompt solution.

### Sharing of course materials outside of the learning environment

Students please note that USC has a policy that prohibits sharing of any synchronous and asynchronous course content outside of the learning environment.

*SCampus Section 11.12(B) Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).*

### USC Technology Support Links

[Zoom information for students](#)

[Blackboard help for students](#)

[Software available to USC Campus](#)

If you need resources to successfully participate in your classes, such as a laptop or internet hotspot, you may be eligible for the university's equipment rental program. To apply, please [submit an application](#).