Exploration of a variety of problems in modern geophysics

Lectures: Monday 11am - 12pm in EPS 4.104, class is Face-to-Face - it will be also recorded/broadcasted to zoom https://utexas.zoom.us/j/96690675102 see below for more info.

Course Topics and Lectures

Aug 30 - Tisato, Nicola <nicola.tisato@jsg.utexas.edu>
   Course introduction. What is an earthquake?

Sept 13 - Rempe, Daniella M <rempe@jsg.utexas.edu>
   Using near-surface geophysics to study Earth’s Critical Zone: Where water, rock, and life interact

Sept 20 - Hesse, Marc A <mhesse@jsg.utexas.edu>
   Ocean worlds/Ceres/Occator/Early solar system

Sept 27 - Catania, Ginny A <gcatania@jsg.utexas.edu>
   Using geophysics and remote sensing to understand ice sheet response to climate

Oct 4 - Grima, Cyril <cgrima@ig.utexas.edu>
   The habitability of Europa and its investigation by radar sounding

Oct 11 - Lavier, Luc L <luc@jsg.utexas.edu>
   Modeling Lithospheric Deformation

Oct 18 - Arnulf, Adrien <aarnulf@ig.utexas.edu>
   Monitoring oceanic lithosphere processes using geophysical methods

Oct 25 - Trugman, Daniel <dtrugman@jsg.utexas.edu>
   Earthquake seismology in the era of big data

Nov 1 - Sen, Mrinal K <mrinal@austin.utexas.edu>
   Subsurface imaging: challenges and opportunities

Nov 8 - Becker, Thorsten <twb@ig.utexas.edu>
   Thermo-chemical mantle convection and plate tectonics

Nov 15 - Fomel, Sergey B <sergey.fomel@beg.utexas.edu>
   Automating seismic data analysis

Nov 22 - Spikes, Kyle T <kyle.spikes@jsg.utexas.edu>
   Rock physics for reservoir characterization

Nov 29 - Christeson, Gail L <gail@ig.utexas.edu>
   Marine seismic acquisition

Dec 6 - Gulick, Sean P S <sean@ig.utexas.edu>
   What geophysics has taught us about asteroid impacts and mass extinction
Canvas site: https://utexas.instructure.com/courses/1315513

Organizer: Nicola Tisato, nicola.tisato@jsg.utexas.edu

Office: JGB 4.216BA and https://utexas.zoom.us/j/8363310129 (see below for more info)

Office Hours: Tuesday, Thursday 11 AM – 12 PM + appointment

**Fall 2020 calendar important dates**

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 25</td>
<td>Wednesday</td>
<td>Classes begin</td>
</tr>
<tr>
<td>September 6</td>
<td>Monday</td>
<td>Labor Day holiday</td>
</tr>
<tr>
<td>November 24-27</td>
<td>Wednesday-Saturday</td>
<td>Thanksgiving holidays</td>
</tr>
<tr>
<td>December 6</td>
<td>Monday</td>
<td>Last class day</td>
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**Description**

The course is an introduction to geophysics, intending to enlighten the student about all the possible applications and avenues that a career in geophysics can offer. Each lesson is taught by a different researcher from the Jackson School of Geosciences who will introduce a geophysics topic and speak about their research.

The course is open to non-geological sciences majors, but registration priority is given to geological sciences students.

Prerequisite: Consent of instructor.

Designed to accommodate 35 or fewer students.

**Text and Web Site:** Canvas will be used to post the presentations.

**University of Texas Policies:** The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community. You are responsible for understanding UT’s Academic Honesty and the University Honor Code which can be found at the following web address:

https://deanofstudents.utexas.edu/conduct/standardsofconduct.php

**Services for Students with Disabilities:** This class respects and welcomes students of all backgrounds, identities, and abilities. If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with me, or if you need specific arrangements in case the building needs to be evacuated, please let me know. I am committed to creating an effective learning environment for all students, but I can only do so if you discuss your needs with me as early as possible. I promise to maintain the confidentiality of these discussions. Any student with a documented disability who requires academic accommodations should contact Services for Students with Disabilities at 471-6259 (voice) or 512-410-6644
(Video Phone) as soon as possible to request an official letter outlining authorized accommodations. For more information, visit http://ddce.utexas.edu/disability/about/.

**Sharing of Course Materials is Prohibited:** No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class unless you have my explicit, written permission. Unauthorized sharing of materials promotes cheating. It is a violation of the University’s Student Honor Code and an act of academic dishonesty. I am well aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure in the course.

**Q Drop Policy:** If you want to drop a class after the 12th class day, you’ll need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution. For more information, see: http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop

**Title IX Reporting:** Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence and stalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms. When sexual misconduct occurs in our community, the university can:
1. Intervene to prevent harmful behavior from continuing or escalating.
2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation.
3. Investigate and discipline violations of the university’s relevant policies (https://titleix.utexas.edu/relevant-policies/).

Beginning January 1, 2020, Texas Senate Bill 212 requires all employees of Texas universities, including faculty, report any information to the Title IX Office regarding sexual harassment, sexual assault, dating violence and stalking that is disclosed to them. Texas law requires that all employees who witness or receive any information of this type (including, but not limited to, writing assignments, class discussions, or one-on-one conversations) must be reported. I am a Responsible Employee and must report any Title IX related incidents that are disclosed in writing, discussion, or one-on-one. Before talking with me, or with any faculty or staff member about a Title IX related incident, be sure to ask whether they are a responsible employee. If you would like to speak with someone who can provide support or remedies without making an official report to the university, please email advocate@austin.utexas.edu. For more information about reporting options and resources, visit http://www.titleix.utexas.edu/, contact the Title IX Office via email at titleix@austin.utexas.edu, or call 512-471-0419. Although graduate teaching and research assistants are not subject to Texas Senate Bill 212, they are still mandatory reporters under Federal Title IX laws and are required
to report a wide range of behaviors we refer to as sexual misconduct, including the
types of sexual misconduct covered under Texas Senate Bill 212.
The Title IX office has developed supportive ways to respond to a survivor and compiled
campus resources to support survivors.

**Zoom Etiquette:**
1. Mute yourself unless you are speaking. This will cut down on background noise
and limit distractions.
2. Be mindful of your surroundings when on camera. Be sure to avoid as much
distraction as possible.
3. Turn your camera off if you are leaving the meeting temporarily.
4. If the video or audio is choppy, try turning off your video.
5. Please always use reliable private or enterprise WIFI.

**Diversity Statement:** As The University of Texas at Austin strives to meet its mission of
unlocking potential and preparing future leaders of the state, it embraces diversity in
many forms. The university is dedicated to attracting highly-qualified students, faculty
and staff with a wide range of backgrounds, ideas and viewpoints. This includes those
from all races and ethnicities; first-generation college students; women; and others who
have been historically underrepresented on campus. As a university with a past history
of denying equitable access to qualified students, UT recognizes the profound benefits
of creating an inclusive environment in which students can learn from one another. All
students are better prepared to succeed in an increasingly diverse state and
interconnected society when they receive the educational benefits of learning on a
diverse campus.

**Suggested books to learn about Geophysics:**
- The Solid Earth: An Introduction to Global Geophysics, C. M. R. Fowler, Connie
  May Fowler, Clarence Mary R. Fowler – 2005
- Geodynamics, Donald L. Turcotte, Gerald Schubert Cambridge University Press,
  Mar 25, 2002
- Solved Problems in Geophysics, Elisa Buorn, Carmen Pro, Agustín Udías,
  Cambridge University Press, Apr 26, 2012 - Science

- **Course Work and Grades:** The course is offered on the pass/fail basis only. To
  pass the course the student must attend at least 11 lessons out of 14. One
  additional legitimate absence is accepted. The additional legitimate absence
  should be related to research or scholar duties at the instructor discretion. The
course may be repeated. **Lectures are recorded.** Students can watch the
  recording offline for credit. After watching the lecture the student should inform
  the instructor via email. Such email should also contain 1) a short (3 lines)
  description of the lecture and 2) a sentence about the favorite topic presented
during the lecture.
Nicola Tisato Zoom office
https://utexas.zoom.us/j/8363310129

Meeting ID: 836 331 0129
One tap mobile
+13462487799,,8363310129# US (Houston)
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103.122.166.55 (Australia)
209.9.211.110 (Hong Kong SAR)
64.211.144.160 (Brazil)
69.174.57.160 (Canada)
207.226.132.110 (Japan)
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GEOPHYSICS COLLOQUIUM (28035)
Time: Aug 30, 2021 11:00 AM Central Time (US and Canada)
  Every week on Mon, until Dec 6, 2021, 14 occurrence(s)
  Aug 30, 2021 11:00 AM
  Sep 13, 2021 11:00 AM
  Sep 20, 2021 11:00 AM
  Sep 27, 2021 11:00 AM
  Oct 4, 2021 11:00 AM
  Oct 11, 2021 11:00 AM
  Oct 18, 2021 11:00 AM
  Oct 25, 2021 11:00 AM
  Nov 1, 2021 11:00 AM
  Nov 8, 2021 11:00 AM
  Nov 15, 2021 11:00 AM
  Nov 22, 2021 11:00 AM
Please download and import the following iCalendar (.ics) files to your calendar system.
Weekly:
https://utexas.zoom.us/meeting/tJlrfuqT4rGtY8SPYjBm5eiXdo4tXQuV7a/ics?icsToken=98tyKuCuqDlqHNOQsRmFRowABIr4c-7wtiVcjbdkxCzVOipxb1bzP9pGPeZrKOnF

Join Zoom Meeting
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  +1 346 248 7799 US (Houston)
  +1 669 900 6833 US (San Jose)
Meeting ID: 966 9067 5102
Find your local number: https://utexas.zoom.us/u/am90OcLSG

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115.114.115.7 (India Hyderabad)
213.19.144.110 (Amsterdam Netherlands)
213.244.140.110 (Germany)
103.122.166.55 (Australia Sydney)
103.122.167.55 (Australia Melbourne)
209.9.211.110 (Hong Kong SAR)
64.211.144.160 (Brazil)
69.174.57.160 (Canada Toronto)
65.39.152.160 (Canada Vancouver)
207.226.132.110 (Japan Tokyo)
149.137.24.110 (Japan Osaka)
Meeting ID: 966 9067 5102