

UNIVERSITY OF HOUSTON-CLEAR LAKE

PHYS 4732 Research Seminar

Spring, 2017

Meetings: M 7:00-9:50 PM, SSCB 1100

Instructor: David Garrison, Ph.D.

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Office Hours: TR 2:00-4:00 pm and by appointment

UHCL Emergency Hotline: 281 283-2221 (call this number to see if the university is closed for bad weather)

Textbook: None

Objectives: 1) Familiarize students with the general methods of attacking physics research problems. 2) Acquaint students with research topics in physics and space science.

Course format: 12 seminars by outside speakers and student presentations.

Method of evaluation: Before each talk, students should investigate the topic and come to class prepared to ask at least 3 questions. Following each talk, Students will write a 1-2 page paper as described below. At the end of the semester each student will present a 15-minute oral presentation on a physics or space science related topic of interest.

Each 1-2 page paper should:

- Summarize the speaker's thesis
- Explain how the speaker's message is relevant
- Analyze the speaker's presentation style
- Explain what makes this an effective or ineffective presentation
- Explain what assumptions the speaker makes if any throughout the talk

**Attendance Policy:** Students will maximize their learning experience by regularly attending class. You will be asked to sign an attendance roster at each class period. You get out of a course what you put into it.

**Academic Honesty:** All students should be aware of the university's policy on academic honesty: I will be honest in all my academic activities and will not tolerate dishonesty.

**Compliance with the American Disabilities Act (ADA):** If you are certified as disabled and entitled to accommodation under the ADA, section 503, please notify the instructor as soon as

possible. If you are not currently certified and believe you may qualify, please contact the UHCL Health and Disability Services office at 281 283-2627.

**6 Drop Rule Limitation:** Students who entered college for the first time in Fall 2007 or later should be aware of the course drop limitation imposed by the Texas Legislature. Dropping this or any other course between the first day of class and the census date (February 2) for the semester/session does not affect your 6 drop rule count. Dropping a course between the census date and the last day to drop a class (March 30) for the semester/session will count as one of your 6 permitted drops. You should take this into consideration before dropping this or any other course. Visit [www.uhcl.edu/records](http://www.uhcl.edu/records) <<http://www.uhcl.edu/records>> for more information on the 6 drop rule and the census date information for the semester/session.

**Learning Outcomes:** Upon completion of this course, students will be able to 1) Understand how advanced scientific research is performed and 2) Communicate details of advanced physics and space-science research to a general audience both orally and in writing.

**UHCL Physics Spring 2017 Seminar Schedule:**

Date	Speaker Name	Speaker's Job Title	Title or Topic of Presentation
30-Jan	Fred Schroeder	Sr. Geophysical Advisor	Consider a Geoscience Career and Apply for a Summer Internship
6-Feb	Michael Zolensky	Space Scientist, NASA JSC	The Hayabusa2 asteroid sample return mission
13-Feb	Lisa Whitehead	Assistant Professor of Physics, University of Houston	Neutrino physics with the Daya Bay and DUNE experiments
20-Feb	Ivy Wang	post-doc at Center for Advanced Materials, University of Houston	ADVANCED LIGHT MANAGEMENT FOR SOLAR CELLS
27-Feb	Wei-Kan Chu	Research Director and Distinguished University Professor of Physics, University of Houston	Ion Beam Characterization and Modification of materials
6-Mar	Adrian Belanger	Systems Engineer	Physics of the Inline Inspection of Steel Pipelines
20-Mar	Bernard Kelly	CRESST Assistant Research Scientist, University of Maryland, Baltimore Count	Simultaneous gravitational and electromagnetic signatures of merging astrophysical black holes

27-Mar	John Miller	Professor of Physics, University of Houston	Charge Transport in Biological Systems
3-Apr	Donovan Domingue (Harlow Shapley Lecture)	Professor of Physics and Astronomy, Georgia College	Pre-Merger Galaxy Pairs as Star Formation Benchmarks in the Local Universe
10-Apr	Joel Walker	Associate Professor of Physics, Sam Houston State University	Searching for New Physics with Coherent Neutrino Scattering
17-Apr	Mark Harvey	Assistant Professor of Physics, TSU	Modeling of Secondary Neutron Production in Proton Radiotherapy
24-Apr	Kito Holiday	Technical Manager, Management Science Associates	From academia to industry: A career in Data Science
1-May	Student Presentations		