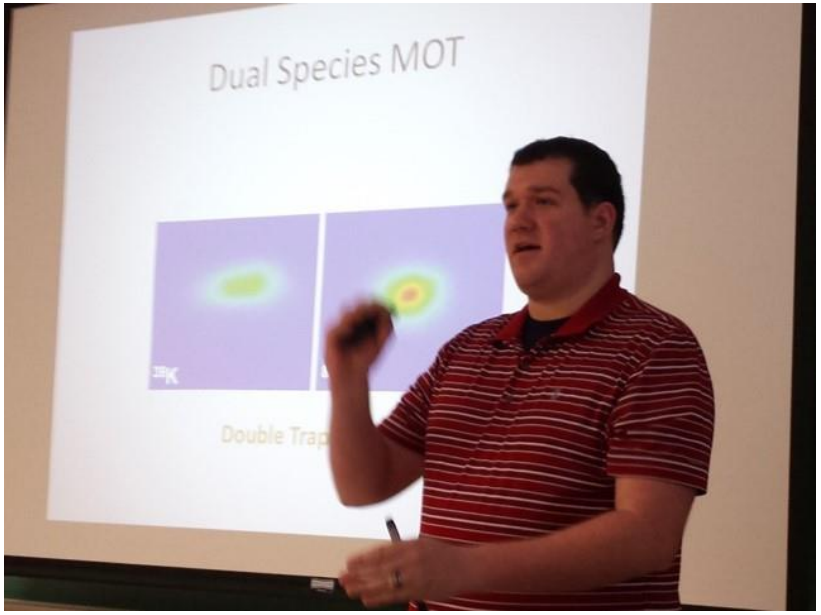
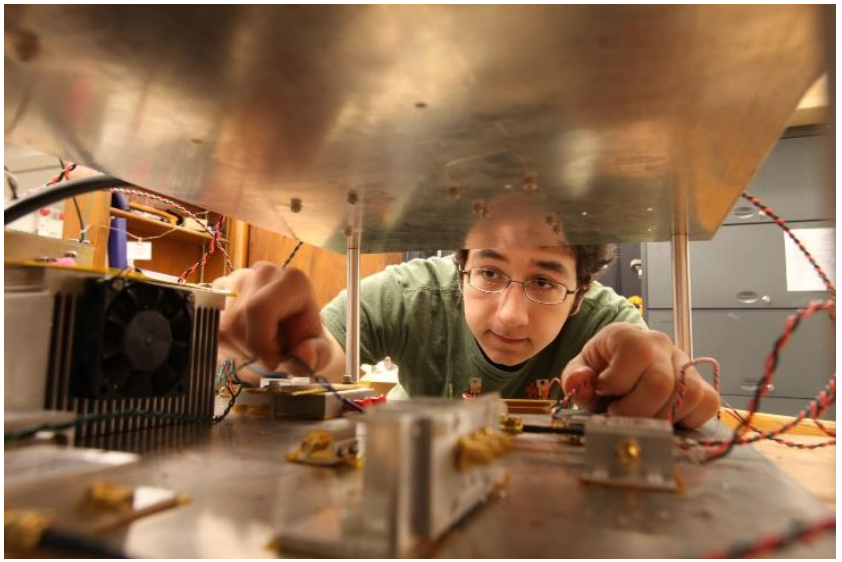
Physics 309: Undergraduate Seminar

(i.e. listening to, analyzing, and giving science talks)





Tuesdays: 2-3:20pm
Small Hall room 122 or 233

Instructor

Prof. Seth Aubin

Office: room 255, Small Hall, tel: 1-3545
Lab: room 069, Small Hall (new wing), tel: 1-3532

e-mail: saaubi@wm.edu
web: http://www.physics.wm.edu/~saubin/index.html

Office hours:

Aubin: Open office hours and Thursdays 4-5pm.

Course Objectives

Effective **oral communication** of science and research.

(i.e. listening, analyzing, and presenting)

The course will include the following:

- Seminar-style talks by physics professors.
- **Short talks** (10-15 minutes) by students.
- Abstract writing (100-150 words).
- **Discussions** of physics research topics and journal articles.
- In-depth exposure to **research in Physics Department.**
- Assistance in identifying a senior thesis topic.
- Searching the **scientific literature**.

Course Work

- Participation

  Attendance to talks, participation in discussions, questions during talks.

- Short talk
  - 10-15 minutes talk on a topic of current research interest in physics.
  - Short summary abstract (100-150 words).

Weighting

Participation:	50 %
Short talk:	50 %
TOTAL =	100 %

CAUTION !!!

Important academic deadlines

Add/drop deadline: Monday, January 28, 2019
Withdraw deadline: Friday, March 15, 2019

Schedule (I)

Week 1: 1/22 – room 233 **Intro to Undergraduate Seminar**

Week 2: 1/29 – room 233 **Talk 1: Seth Aubin**
Title: Ultra-Cold Matter Technology: Physics and Applications.

Week 3: 2/5 **Talk 2**

Week 4: 2/12 **Talk 3: Jeff Nelson**
Topic: How to detect a particle?

Week 5: 2/19 **Talk 4: Bill Cooke**
Topics: Thin film batteries and the Williamsburg Landing project.

Week 6: 2/26 **Talk 5**

---------- Spring Break ----------

Week 7: 3/12 **Talk 6: Chris Carone**
Title: Quantum Gravity.

Schedule (II)

Week 8: 3/19 **Talk 7: Mumtaz Qazilbash**
Title: Infrared Spectroscopy of Collective Quantum Phenomena.

Week 9: 3/26 **Talk 8: Jo Dudek**
Topic: Nuclear theory and Lattice QCD.

Week 10: 4/2 **Talk 9: Tricia Vahle**
Topic: Accelerator Neutrino Physics.

Week 11: 4/9 **Talk 10: Eugeniy Mikhailov**
Topic: Improving Laser-based Detectors.

Week 12: 9/16 **Student Talks, week 1**

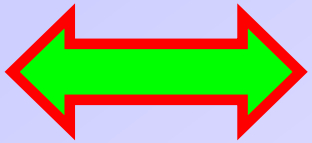
Week 13: 4/23 **Student Talks, week 2**

Tentative speakers: Irina Novikova and David Armstrong.

To be added: Literature search tutorial.

Why Research ?

LEARN **current** knowledge



CREATE **new** ideas, knowledge, science, technology, …