On March 21, 1949, I attended a lecture given by Linus Pauling...
That talk was the best talk by anyone on any subject that I had ever heard...
The talk was more than a talk to me. It filled me with a desire of my own to become a speaker.

— Issac Asimov

Welcome

Welcome to Physics 489: The Art of Scientific Communication! Being a scientist today is about more than just being smart and adventurous. Modern scientists interact with many people from all walks of life, and it is extremely important to be able to communicate efficiently.

Whether you have plans for an academic or industrial career, good communication skills are both a requirement for almost any job, and a necessity for getting a job. In your future career, most of you will have to write scientific documents (from short e-mails to lengthy manuscripts), and make a variety of presentations from a 30-second “elevator pitch” to an hour-long talks. Besides these “traditional” forms of scientific writing and presentations, you will also practice interviewing and writing a resume. This course will help you build communication skills required of today’s scientists, and acquire very important practical knowledge that will help you in your job search and in your work.

In addition, this course covers yet another important aspect of scientific communication: how to get the information from various sources. You will learn techniques for reading scientific literature and practice various methods of searching for and organizing technical information. These advanced communication skills are essential in many fields of science and engineering.

Outcomes: Upon successful completion of the course, you will learn to:

- identify various forms of scientific communication and understand the difference between them
- distinguish the main components and purposes of different scientific written forms (papers, abstracts, reports)
- read scientific publications more efficiently
- work with various sources of scientific information
- target your communication to your audience
- create effective presentation materials (posters, slides, etc.)
- prepare, rehearse and present:
  o technical presentations;
  o scientific presentations for general public;
  o short “elevator-pitch” presentation (useful for job search and networking).

Prerequisites: Good operating knowledge of oral and written English.

Instructor: Dr. Igor V. Roshchin
E-mail: roshchin@physics.tamu.edu (preferred way!)
Office: MPHY 459
Phone: 979-845-8520
Office hours: TBA

Web Page: http://faculty.physics.tamu.edu/roshchin/489
This page will be updated often. It is student’s responsibility to check it often.

Class times: twice a week (3 hours a week) for the first 10 weeks of the semester. Time TBD

Catalog Title and Description: (CREDIT 2.0) The Art of Scientific Communication I. – Communicating Science to Scientists. Scientific presentations; scientific writing; information retrieval; reading technical publications; job interview.
Required Material:  Access to a computer with Microsoft Power Point (or other software for presentations), word processor (Microsoft Word (preferred) or compatible). General working familiarity with this software will be beneficial.

Required text: None.

Recommended text:  TBA.

Homework:  You will be expected to complete variety of homework assignments: information search, reading, writing, editing, peer reviewing, and preparing presentations.

Written assignments:  You will be expected to complete several written assignments of different type and length, totaling over 2300 words. You will be expected to edit your work based on the critique by the instructor peer-reviewers. You will be expected to review the work of your peers.

Oral assignments:  Several in-class presentations of different length.

Final assignment:  The final assignment will be conducted in a form of a final presentation and a take-home written assignment.

Classes:  Classes will be conducted in a highly interactive form. They will require your active participation through presenting your homework assignments and through your involvement in class discussions. The work of the class participants (presentations and/or written assignments) will be analyzed in class by the instructor and all students in class. Some class activities will be video- (and audio-) recorded.

Class participation:  This is a very important part of the course.
(a) Hence it is crucial that you do not miss any classes
(b) You have to be prepared for each class
(c) If you miss a class due to an authorized excused absence as outlined in the University Regulations, you should contact me no later than the next class meeting following the missed class.

Course Grade:  At least 70% of the final grade will be based on the writing and presentation quality. The course grade will be determined from the various components of the course:

- In-class participation (presentations, discussions)
- Homework assignments (written and oral)
- Final assignment

Course grades may be scaled depending on special conditions of the course. In no case will the scale result in a lower letter grade than the standard 90-100% A, 80-89% B, 70-79% C, 60-69% D, and <60% F.

ADA Policy:  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Room 218 of Cain Hall or call 979-845-1637.

Your Responsibilities:  Texas A&M University assumes that all students enroll in its programs with a serious learning purpose and expects them to be responsible individuals who demand of themselves high standards of honesty and personal conduct. All students are expected to behave at all times with respect and courtesy toward their fellow students and instructors and are to have the highest standards of honesty and integrity in their academic performance. Any behavior which disrupts the classroom learning environment or any attempt to present work that the student has not actually prepared as their own work, or to pass an examination by improper means, is regarded as a serious offense. The minimum penalty for such an offense is a failing grade for this course. Aiding and abetting the above behavior is also considered a serious offense resulting in equally severe penalties.

Academic Integrity:  The Aggie Honor Code states, "An Aggie does not lie, cheat, or steal or tolerate those who do." Further information regarding the Honor Council Rules and Procedures may be found on the web At http://www.tamu.edu/aggiehonor.
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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Assignments</th>
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<tr>
<td></td>
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<td>Finding and Reading an article. Writing a short summary (~300-500 words)</td>
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<td>2</td>
<td>Written communication. Different forms. How to write a manuscript/thesis/report. Styles of writing in Physics. How to start writing (outline). Different formats (Journal articles, reviews, reports, instructions, etc.) Discussion of outlines.</td>
<td>Prepare an outline for a research article</td>
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<td>Write the “main” part.</td>
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<td>3</td>
<td>Different types of Plagiarism and how to avoid it. How to improve your document. Reverse outline. Correspondence. Small organizational details that can be of great help.</td>
<td>Completing the first draft of the research article (~1500-2000 words)</td>
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<td>4</td>
<td>Types of oral presentations. What makes a presentation successful. Breadth, depth and length.</td>
<td>Peer editing/review of the first draft (using WLC system) Writing reviewer’s response (250-500 words)</td>
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<td>5</td>
<td>The role of the slides and other props. How to make great slides. Class presentations – discussions and analysis.</td>
<td>Prepare a 5-10-minute presentation Revise your writeup</td>
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<td>6</td>
<td>What makes slides great (continued) How to make a presentation without slides Impromptu presentations</td>
<td>Revise your presentation</td>
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<td>7</td>
<td>Presentations continued. Abstracts: what, why and how.</td>
<td>Write an abstract (~200-400 words) for your writeup</td>
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<td>8</td>
<td>How to write progress report.</td>
<td>Revise your abstract</td>
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<td>E-mail as a form of communication</td>
<td>How your presentation and writing can help you in your job search</td>
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<td>9  How can you further improve your presentations</td>
<td>Prepare the final presentation and final assignment.</td>
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<td>Impromptu presentations</td>
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<tr>
<td>10 In-class presentations (final)</td>
<td>Prepare and present in the final presentation. Prepare and turn in the final written assignment (~200-500 words)</td>
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