

Course Syllabus | WISE Frontiers of Physics and Mathematics Graduate Program

Course Title

Scientific Writing, Publication, and Communication

Instructors (in alphabetical order)

Kate Harris, Ph.D., URA, School of Science

Euan McKay, Ph.D., Assistant Professor, UTokyo

Mark Vagins, Ph.D., Professor, Kavli-IPMU

Charles Yokoyama, Ph.D., Professor, UTokyo

Overview and Objectives

Research communication with the scientific community in English is essential for a scientific career, especially as research continues to become more global and team-oriented. In this course, students will learn the major forms of scientific communications used by professional scientists, develop their abilities as confident, capable communicators, and understand how to publish in academic journals. This 2 credit summer semester course is required for WISE FoPM program graduate students.

Teaching/Evaluation Methods

The course is organized into four modules: oral presentation, manuscript writing, publication basics, and public communication. Each instructor will teach one module, and a guest instructor will cover the public communication lecture. The teaching will include lectures, class and home assignments, and group or individual study. The evaluation will include an essay project including peer review of others' papers (40%), class attendance and participation (30%), and a final examination (30%).

Lecture Schedule (Online)

4/24 Oral Presentation | Communication in an era of global science (Vagins)

5/01 Publication Basics | Building scientific knowledge (Yokoyama)

5/08 Manuscript Writing | Literature reading and problem finding (Harris)

5/15 Oral Presentation | How to prepare a scientific presentation (Vagins)

5/22 Publication Basics | The journal peer-review process (Yokoyama)

5/29 Manuscript Writing | Manuscript structure and narrative (Harris)

6/05 Oral Presentation | How to deliver a scientific presentation (Vagins)

6/12 Publication Basics | Research publication landscape (Yokoyama)

6/19 Manuscript Writing | Words, sentences, and paragraphs (Harris)

6/26 Oral Presentation | Preparing and giving conference posters (Vagins)

7/03 Publication Basics | Ethics of science communication (Yokoyama)

7/08 Public Communication | Public science communication (McKay)

7/10 Manuscript Writing | Titles, abstracts, and cover letters (Harris)

7/17 Final Exam