

INF6900AE/INF7900 (2024)

Lecture 1 - Introduction

Syllabus

- Please see the syllabus for the course schedule, the deliverables, and an indication of the grading criteria
- Note that the schedule may change, depending on the number of students and your interests
- There will be four departmental seminars with guest speakers. You will prepare a short summary of one of these talks.
- The rubrics for each deliverable will be clarified on Moodle.

About me and my communication expertise

- Background on my degrees and travel
- My research interests
- Indication of the conferences I have attended and the papers published

Getting to know the group

- Short discussion on your background, expectations of the course, the top things the group wants to learn, have you written/reviewed/presented before

Science versus engineering

- Iteration between *exploration* in science and *exploitation* in engineering
- That is, science is about discovering/researching new ideas/principles, while engineering is about applying these insights to a real problem
- Example: Building construction.
 - *Material science* would concern the materials used.
 - Research question: “How does the load-bearing of steel change when we add more carbon?”
 - *Structural engineering* concerns the application of these principles to the building.
 - Application question: “Given that the steel column needs to support this load, how large should the column be?”

What is research?

- Research is how we learn about the world
- More precise: Learning about what challenges exist, what has been accomplished, how things work, what methods work to address a challenge
- For us, it's about recording our observations and predictions to expand the sphere of human knowledge

What is scientific and technical communication about/for?

- We have to share knowledge *somehow*
 - Speech, text, video...
- We focus on this because communities benefit from high-quality knowledge sharing
- Nobody wants to waste time repeating work, or reading low-quality papers
- We have to build on other's work (in both a competitive and cooperative manner)
- “If I have seen further it is by standing on the shoulders of Giants.” - Isaac Newton
- Group discussion: Why communication is important and best examples of it

Discoverability

- Need for communication leads to main problem in academia: discoverability
- Demonstrate what you've done and built, and want to do
- In papers, thesis, proposals, grants, blog posts...

Tailoring your message

- Good videos on Moodle about this
- The focus in this course is on scientific communication
- Can also focus on ‘public science’ for laypeople
- Essential to know who will be in the audience and what they expect
- We must tailor structure/content/style to the audience

Success in research

- How do we measure success in research?
- Citations, h-index
- Invited talks and collaborations
- Clear presentation, generate enthusiasm
- Become a leader in the community
- Impact on scientists/government/public/companies