

PhD Program in Science & Policy E: Contributing to policy action – Analysis and communication of risks and uncertainties.

Lecturers: Cornelius Senf (Technical University of Munich), Melanie Paschke, (Zurich-Basel Plant Science Center), Christoph Beuttler (Climeworks), Laetitia Ramelet (TA-SWISS)

Location: ETHZ, HG F 33.5

Dates: May 27 to 29, 2024

Credit Points: 2 ECTS

Course Overview

The reliability of scientific data and models are frequently subject of public and political debate. The aim of this course is to understand the concepts of risk, uncertainty and ignorance in relation to these data and models in order for course participants to be more aware of and work more effectively at the science-policy interface. Additionally, we will explore communication tools and strategies linked to risk and uncertainty, including different public engagement strategies in risk dialogues.

Workshop day 1:

The lecturer will introduce the concepts of risk, uncertainty and ignorance. Participants will get to know sources of uncertainty in scientific data and models, how to deal with uncertainty in quantitative models, and limits of uncertainty quantification. In an accompanying exercise, the participants will get hands-on experiences with applying quantitative uncertainty models to practical examples, including the representation and communication of uncertainty.

Workshop day 2:

Workshop **day 2** is dedicated to risk perception and building behavioural changes and trust through public engagement. After an introduction into the relevant tools and theories, students will be offered insights from past projects of the Risk-Dialogue foundation St. Gallen. In the afternoon, students will have the opportunity to test their own strategies in case study work considering real world examples of public engagement and related best practices.

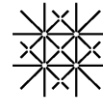
Workshop day 3:

Focus of day 3 is on risk communication: When communicating to policymakers and lay persons good practices can be followed to avoid misunderstanding or misconception by the target auditory. In risk communication as different target



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auditory will view risks differently, message design enables them for action. In different exercises participants will work on their messages.

The afternoon session will include insights in the work of the Swiss Centre for Technology Assessment (TA Swiss). The organisation will show its role in assessing risk and chances of technologies while contributing to parliamentary processes.

Course Objectives

- Understand concepts of risk, uncertainty, and ignorance
- Apply quantitative and qualitative models to measure and propagate uncertainties.
- Understand the role of risk-based evidence as a decision tool/framework for policy choices.
- Understand the framework of inclusive risk governance.
- Understand the concept of risk perception and how to deal with it in public engagement.
- Develop effective strategies for communicating risk and uncertainty.

Individual performance and assessment: To obtain the ECTS points, each participant is required to actively participate in the case-study work, discussions, and presentations during the course days. Participants are expected to study the provided literature beforehand and submit their individual homework as indicated during the course.

Number of Participants: A maximum of 16 students will be able to enrol in this course. Students of the PhD program Science and Policy have priority. This course is free for PSC and LSZGS students.