



Engineering Geology Seminar and MSc Project Proposal

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Topics Discussed Today

- ⊕ Seminar Program and Attendance
- ⊕ Selection of an MSc Thesis Research Topic
- ⊕ Developing the MSc Thesis Proposal (Research Plan)
- ⊕ How to Conduct as a Scientist

This seminar deals with research in engineering geology



Schedule for the Engineering Geology Seminar/Webinar

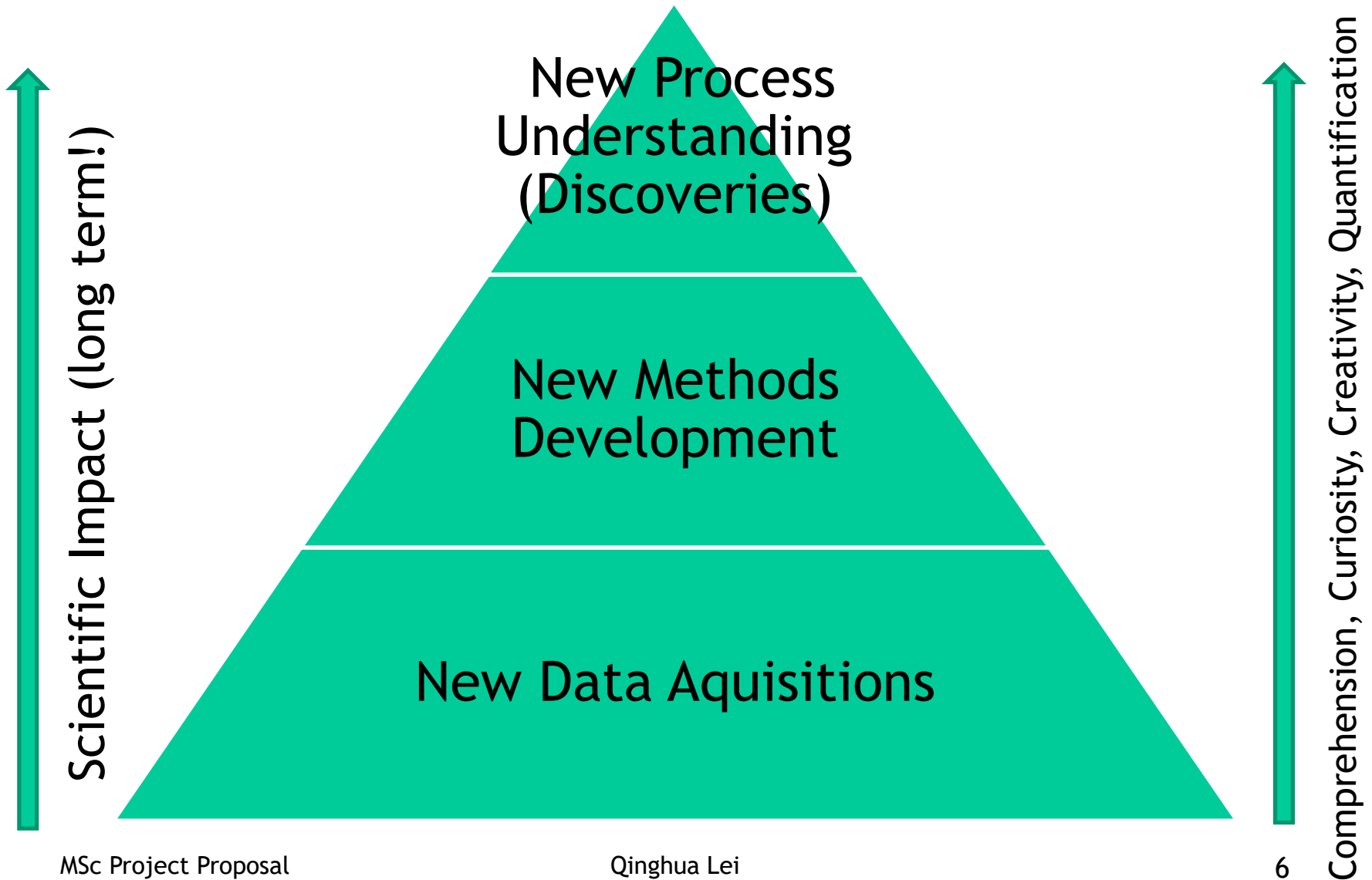
Schedule for the Engineering Geology Seminar/Webinar, Zoom (Version 21 February 2022)

Date	Feb 22	Mar 01	Mar 08	Mar 15	Mar 22	Mar 29	Apr 05	Apr 12	Apr 19	Apr 26	May 03	May 10	May 17	May 24	Jun 01	
Time	Lecture	Introduction of New MSc Thesis Topics			Invited Guest Lectures										Mini-symposium	
09.00-16.15																MSc thesis presentations
16.15-17.00	Dr. Qinghua Lei Introduction about MSc thesis projects	MSc Thesis Presentation of topics	Excursion day	MSc Thesis Presentation of topics	Full name, Institution Title XXX	Full name, Institution Title XXX	Full name, Institution Title XXX	Full name, Institution Title XXX	Easter holiday (no lecture)	Francesca Silverii (GFZ Postdam) Hydrologically induced deformation in the Apennines and Sierra Nevada, Long Valley Caldera	Joaquin Jimenez-Martinez (EAWAG) Title XXX	Wenzhuo Cao (Imperial College) Geomechanical modelling and evaluation of induced seismicity in subsurface engineering operations	Junlong Shang (University of Glasgow) Title XXX	Maziar Gholami Korzani (Queensland University of Technology) Title XXX		
17.15-18.00	MSc thesis presentations	MSc Thesis Presentation of topics		MSc Thesis Presentation of topics												
Moderator	QL	All		All	TBC	TBC	TBC	TBC		TBC	BB	QL	TBC	TBC		

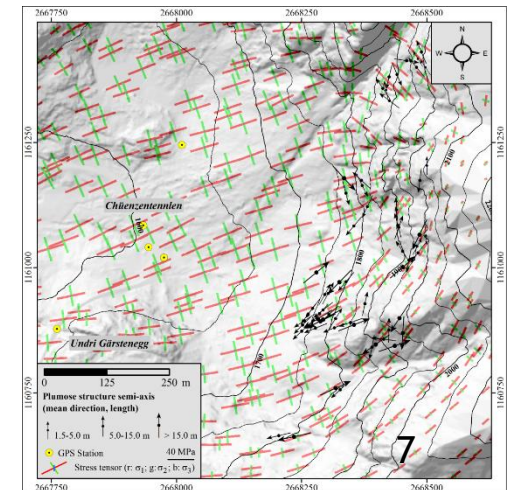
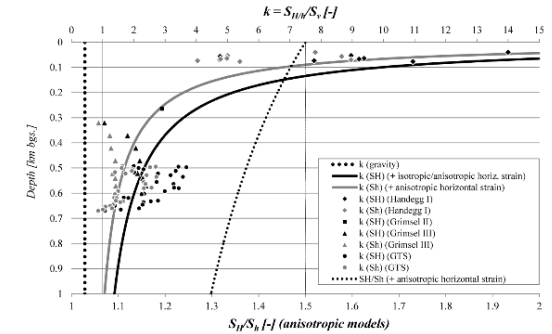
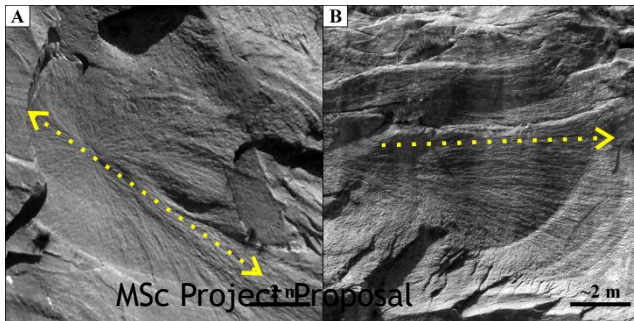
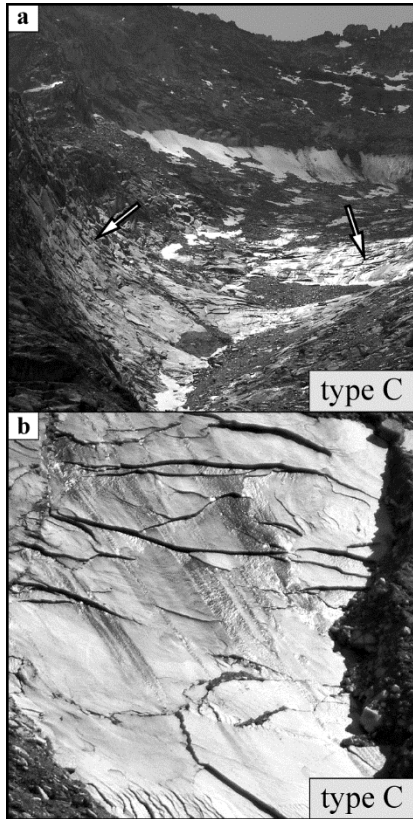
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Research Components



Idealized Work Flow of a Research Project



How to select and develop an MSc Project Proposal?

During spring semester:

- ⊕ Proposed projects should be presented at the beginning of spring semester
- ⊕ Select topics as a group (not first come first served)
- ⊕ Decide about project until summer

During fall semester (during 2 months before/after industry practical)

- ⊕ Search and study key literature
- ⊕ Collect and study available data (field work)
- ⊕ Explore proposed methods
- ⊕ Write draft project proposal & discuss with supervisor(s)
- ⊕ Deliver & sign final version of MSc Project Proposal by January 31st, 2023

Advising and Mentoring

- All researchers have had advisers; many are fortunate to have acquired mentors as well.
- Mentors themselves can benefit greatly from the mentoring that they provide.
- Advisers and mentors often have considerable influence over the lives of beginning researchers, and they must be careful not to abuse their authority.
- Beginning researchers also have responsibilities toward their advisers and mentors. They should develop clear expectations with advisers and mentors concerning availability and meeting times.

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Comparision of Consulting Reports and Research Papers


Consulting Report

- ⊕ Contract, Task
- ⊕ Available Data, Work Conducted
- ⊕ Results & Interpretation
- ⊕ Appendices: Data and Data Analysis

Research Paper

- ⊕ Current State of Knowledge
- ⊕ Research Questions
- ⊕ Methods & Approach (e.g. Experimental Setup, Data Processing)
- ⊕ Presentation of Results
- ⊕ Interpretation & Discussion
- ⊕ Conclusions

MSc Project Proposal Components and Assessment

- ⊕ MSc Project Proposal (max. 20 pages) including:
 - Introduction (Literature Review)
 - Objectives of Study
 - Study Area and Available Data
 - Approach and Methods
 - Timetable, Start and End Dates
 - Reference List
 - ⊕ See also MSc Project Proposal Guidelines of D-ERDW
 - ⊕ Format: Use format described on EngGeol website “Seminar”
 - ⊕ Course Assessment: Written Research Plan (internal and external referee grading)
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- MScThesis Part 1

MSc Research Project Deadlines

- ⊕ Official duration: 6 months
- ⊕ Field work: Summer-Fall 2022 (“Project Proposal”)
- ⊕ Official start (default):
 - February 1st, 2023
 - or earlier/later in case of other specified reasons
- ⊕ Official end:
 - 6 months after official start
 - plus time for additional courses, or other specified work
 - Not later than beginning of fall semester 2023
- ⊕ Dates must be fixed (and interruptions explained) in the research plan

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Treatment of Data

- Researchers who manipulate their data in ways that deceive others, even if the manipulation seems insignificant at the time, are violating both the basic values and widely accepted professional standards of science.
- If data are altered to present a case that is stronger than the data warrant, researchers fail to fulfill all three of the obligations described at the beginning of this guide:
 - They mislead their colleagues and potentially impede progress in their field or research.
 - They undermine their own authority and trustworthiness as researchers.
 - And they introduce information into the scientific record that could cause harm to the broader society, as when the dangers of a medical treatment are understated.

Mistakes and Negligence

- Even the most responsible researcher can make an honest mistake in the design of an experiment, the calibration of instruments, the recording of data, the interpretation of results, or other aspects of research.
- Despite these difficulties, researchers have an obligation to be as accurate and as careful as possible.
- Some mistakes in the scientific record are quickly corrected by subsequent work. But mistakes that mislead subsequent researchers can waste large amounts of time and resources. When such a mistake appears in a journal article or book, it should be corrected in a note, erratum (for a production error), or corrigendum (for an author's error).

Research Misconduct

- ⊕ The **three elements of misconduct** are defined as follows:
 - Fabrication is “making up data or results.”
 - Falsification is “manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.”
 - Plagiarism is “the appropriation of another person’s ideas, processes, results, or words without giving appropriate credit.”
- ⊕ A crucial distinction between falsification, fabrication, and plagiarism (sometimes called FFP) and error or negligence is **the intent to deceive**. However, intent can be difficult to establish.

What qualifies as plagiarism?

Plagiarism is understood as the complete or partial imitation of the work of another author without citing that work's source and author. It may be more narrowly defined as follows:

- ✦ The author uses extracts from another author's work without citing the source. This includes using material from the internet without citation.
- ✦ The author takes extracts from another author's work and changes (paraphrases) them slightly without citing the source.
- ✦ The author translates texts or extracts from foreign-language documents and submits them as his/her own work without citing the source (translation plagiarism).
- ✦ The author submits a paper in his/her name which he/she has actually commissioned another person (a 'ghost writer') to write.
- ✦ The author submits the work of another author in his/her own name (full plagiarism).
- ✦ The author takes an extract from someone else's work, paraphrases it and indeed cites the original author, but somewhere other than in the context of the extract (for example, the (in practice, plagiarised) source is hidden away in a footnote at the end of the paper).

Procedure to address plagiarism at the ETH Zurich (RSETHZ 361.1)

- ⊕ Plagiarism violates the disciplinary code and must be immediately **reported to the Rector**, the responsible prorector, and any other responsible persons. The Rector instigates the necessary disciplinary procedures.
- ⊕ In the case of an ETH lecturer notifying the Rector and the responsible prorector, disciplinary proceedings are initiated.
- ⊕ In the case of minor misconduct, the Rector decrees the disciplinary measure(s), following a hearing with the concerned person, or can decide against taking any measures. In the case of serious misconduct, the Rector asks the Disciplinary Committee to convene.