



Coffee Lecture

Fostering scientific integrity at ETH Zurich: current developments & challenges

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10 November 2021, Webinar via Zoom

Goals:

- learn from current examples how ETH Zurich promotes a culture of scientific integrity and good scientific practice.
- know who to contact if you have questions about scientific integrity and good scientific practice.

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1. Policies, procedures and processes

Revision of Guidelines for scientific integrity (RSETHZ 414), effective since Jan 1, 2008



INTEGRITY IN
SCIENTIFIC
RESEARCH!



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1. Policies, procedures and processes



Reasons for the thematic revision of RSETHZ 414

- New developments in science since the last revision (2011)
e.g. open science, requirements for research data management
- Identified gaps and need for revision of specific aspects
e.g. by the confidants, the legal service, the GSP-Commission
- Adjustment to the new code of conduct for scientific integrity of the Swiss academies of arts and sciences
(officially published on May 11th, 2021)

1. Policies, procedures and processes



Revision of the Guidelines – Challenges

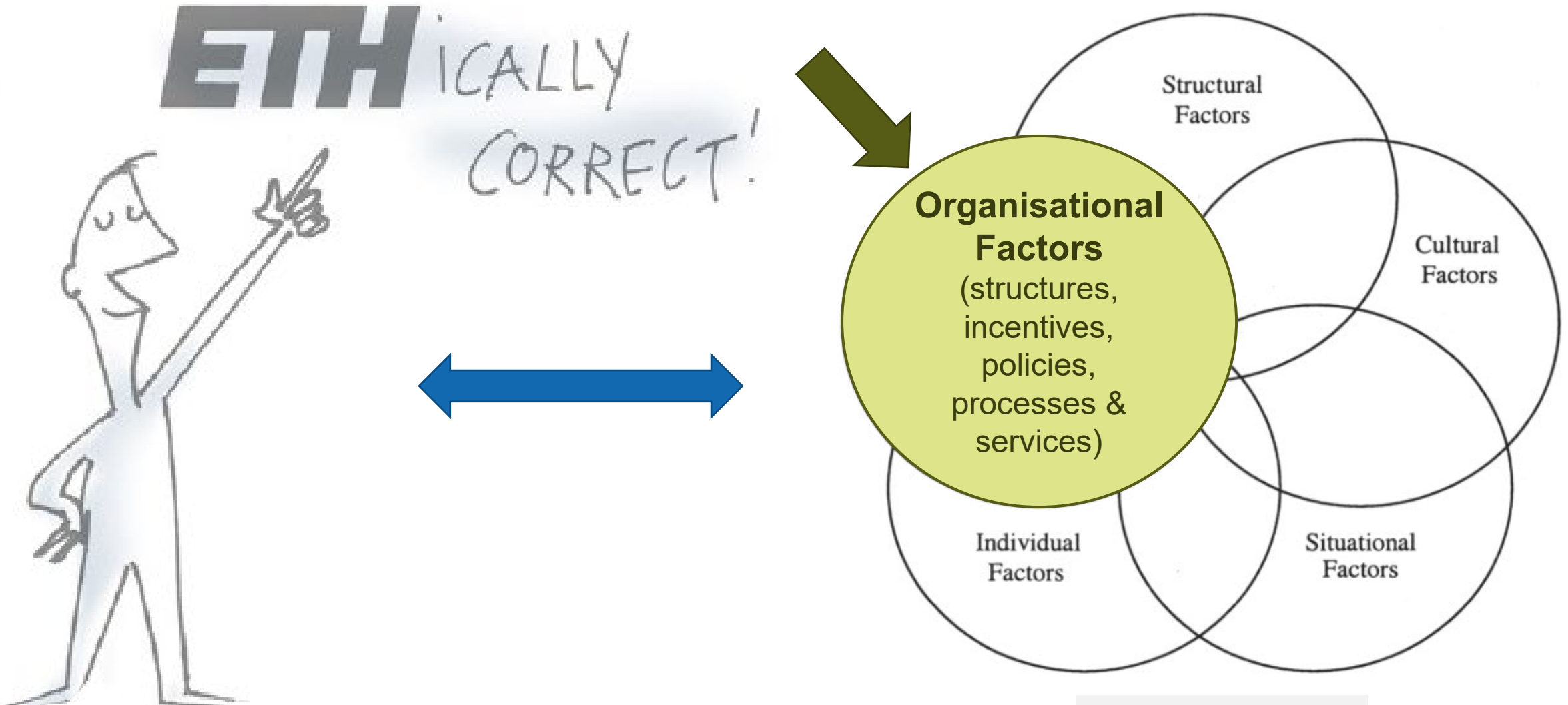
The guidelines should provide an orientation and a basis for self-reflection and group discussion. Inform and help individual researchers to self-regulate (“by us for us”).

- Focus on essential aspects of scientific integrity
- Valid for all scientific disciplines (“as generic as possible, as (discipline-)specific as necessary”)
- Clarity
- Implementability: connecting the research integrity policy/guidelines with the everyday reality of researchers

What the guidelines for scientific integrity cannot be:

- a complete rule book addressing all possible specialities and potential cases (of questionable research practices).

2. Dealing with research misconduct - Possible causes of research misconduct & non-compliance



2. Dealing with research misconduct – our confidants



Prof. em. Dr. Renate Schubert



Prof. em. Dr. Rainer Schulin



Prof. em. Dr. Peter Widmayer

The confidants are contact persons for all questions of research integrity including

- Authorship conflicts
- Suspected plagiarism in scientific publications
- Falsification and fabrication of data
- Problems with sharing data or handing data over when leaving ETH Zurich
- Conflicts of interest
- Insufficient support for junior scientists (in collaboration with the Vice Rector for Doctoral Studies)

<https://ethz.ch/services/en/organisation/ombudspersons-and-confidants.html#intermediaries>

2. Dealing with research misconduct - Revision of RSETHZ 415

*This English version of the decree only represents a translation of the original German version.
In case of any legal conflict the German version is binding.*

RSETHZ 415

Procedure to address allegations of research misconduct at the ETH Zurich

dated March 30, 2004

3. Education and training

The new Doctoral Ordinance and the new implementing regulations

The new implementing regulations to the new Doctoral Ordinance by the Rector stipulate that every doctoral student must acquire at least 1 ECTS credit by attending a course in the area of "Ethics and Good Scientific Practice" (see section 9.2).

For enlarging the current set of courses, a new course will start in spring 2022:

851-0178-00L Ethics and Scientific Integrity for Doctoral Students

Online part: introduction in Ethics

Face-to-face part: discipline specific GSP-topics at the departments

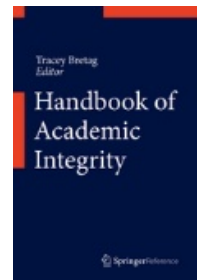
Support for Departments:

- 2 successful Innovedum focus projects financed by the Rector
- 0.8 FTE approved by Executive Board (2023-2025)

4. Other measures...

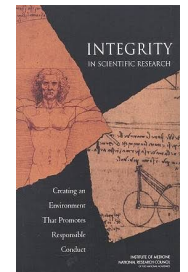
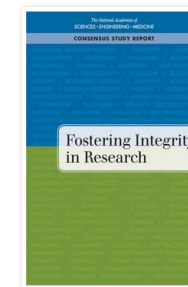
Communicating the guidelines

- repeatedly emphasize their existence and importance => *Guidelines are necessary, but not sufficient for fostering a culture of scientific integrity...*



Other measures:

- Tackle structural problems (e.g. mentoring)
- Institutional Research integrity promotion plan
- Walk the talk! (e.g. exert visible ethical leadership; culture of deliberation as a central part of scientific practice)



5. Additional information on Research integrity

The following are available as **supporting bodies** to members of ETH Zurich:

- a. the **GSP delegates of the departments** for questions regarding the relevant rules of good scientific practice or the discipline-specific standards;
- b. the **Confidants** in case of questions or conflicts related to scientific integrity or suspected cases of scientific misconduct;
- c. the **Ethics Committee** in the event of ethical questions in connection with research collaborations;
- d. the **ETH Library**:
 1. by offering advice and courses on research data management,
 2. by providing advice and support on the Open Access publication of research results;
- e. the **Office of Research** for the planning (e.g. formats, methodology, teaching content) and implementation of events on scientific integrity.

Office of Research, Research Integrity:

<https://ethz.ch/en/research/ethics-and-animal-welfare/research-integrity.html>

E-learning tool “Integrity in research” (I)



ETH zürich

Integrity in research.
What is that supposed to be?

Case studies

<https://ethz-compliance.ch/en/module/integritt-in-der-forschung>

E-learning tool “Integrity in research” (II)



Working together

Taking responsibility
Looking after students
Research abroad

Duration: 3 min



Dealing with data

Reproducing results
Avoiding fabrication
Migrating data

Duration: 3 min



Publishing

Acknowledging authorship
Dealing with plagiarism
Postprocessing images

Duration: 3 min



Facing misconduct

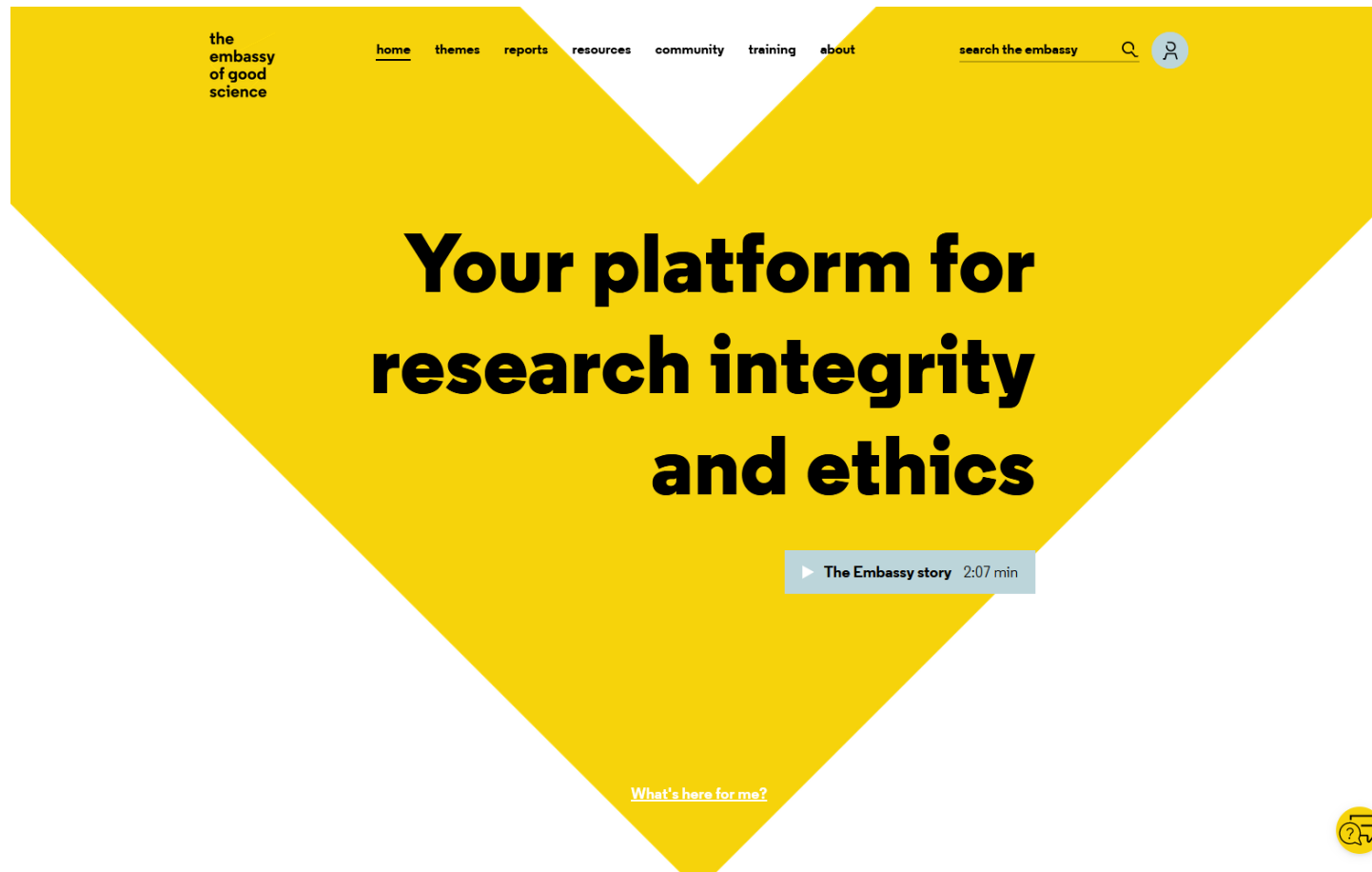
Addressing problems
Knowing the consequences

Duration: 2 min

Case studies

<https://ethz-compliance.ch/en/module/integritt-in-der-forschung>

The Embassy of good science



https://embassy.science/wiki/Main_Page



Thanks for your attention!

Next Coffee Lecture:

Interactive scientific computing with computational notebooks

17 November 2021, Webinar via Zoom
www.library.ethz.ch/coffee-lectures

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