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PSI

Louis Tiefenauer :: Research Integrity Consultant :: Paul Scherrer Institut

Research Integity in a nutshell:
why ethics matter in research

Course 932

Research Integrity in a nutshell

Agenda

Introduction, Research Processes I	14.00
Break	14.50
Research processes II, Information sources	15.00
End	16.00

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Research processes

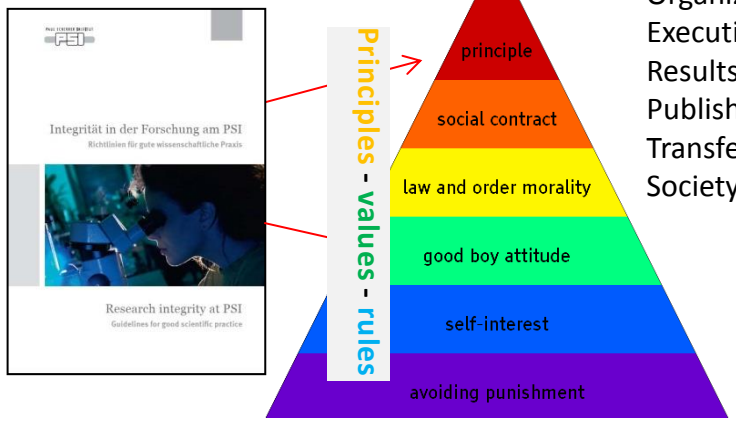
Aim
Proposal
Organization
Executing
Results
Publishing
Transfer
Society

Basic ethical principles:
Create benefit, do not harm, be fair, respect autonomy

1. Idea	
2. Research proposal	Recognize ethical issues, show potential benefit
3. Organizing work	Safety! , mentoring, cooperations, project manag.
4. Executing research work	Data management, safety
5. Results	Robust Knowledge, grey zones, ownership, FFP
6. Publishing	Authorship, reviewing, impact factors
7. Technology transfer	Realize benefit, conflict of interest
8. Benefit for the society	Show results and implications

Ethics in sciences

Aim
Planning
Organization
Executing
Results
Publishing
Transfer
Society



motivation

Sciences

«Good scientific practice» guidelines

Ethics matters:

Funders: proposal submission, ethical issues self-assessment by **PI**

- Legal and ethical issues (e.g. mandatory in Horizon 2020)
- Protection humans, animals, enviroment, data
- Dual use, third countries, misuse of results (e.g. discrimination, for politics)

Cooperative partners: conflict of interest, fairness, ownership

Public relations:

Justification of research work, means, expected benifit

Communicate: Aims, methods, application of results, prevention of misuses

Research Integrity Guidelines

Content

Integral part of your working contract

Guiding precepts

1. General
2. Integrity in research
   - 2.1 Research planning
   - 2.2 Execution of research
   - 2.3 Publication of research
3. Integrity of peer reviewing
4. Final regulations (procedures allegations)

Appendix

Ethical issues:
Authorship / Publishing
Avoiding plagiarism
Data management
Collaborative Sciences
Mentorship
Conflict of interest
Research on humans
Animal experiments

Honesty, openness, self-criticism, reliability and fairness are the basis for credibility and acceptance in science. Researchers at PSI are committed to these values and to the guidelines which derive from them.

Ethical issues in research proposals

Information sheet

Ethical self-assessment before submitting a research grant

Why?

EU Horizon2020, Article 19 of the H2020: Article 34 Grant Agreement: general obligation of beneficiaries to comply with *ethical principles*.

Self-assessment by proposers is a first step in the evaluation process: think about ethical issues raised by the proposed research work. Funding agencies follow independently ethics review and appraisal. Ethical self-assessment will help also to be successful and avoid delays in *other grant applications*.

Here, legal information and keywords (for own search) concerning ethical issues and a contact person at PSI are given. These issues have been defined by the European Commission.

See also: Homepage Research Integrity and the Document "Research Integrity at PSI, guidance for good scientific practice" www.psi.ch/integrity/research-integrity

The ethical issues are:

1. **Human protection**
   Human Research Act (HRA), Human Forschungsgesetz (HFG) SR 820.30
   Ordinance on Research involving Embryonic Stem Cells (Stem Cell Research Ordinance, SCRO), Stammzellenforschungsverordnung (StFG) SR 810.311
   Authority: Ethikkommission Nordwest- und Zentralschweiz (EKNZ); electronic registration for submission of research projects to Swiss ethical committees (Swissethics)
   http://eknz.ch/gesuchseinreichung/ : Templates, checklist, forms, information sheets, guidelines, specific investigations, specific situations, etc.; informed consent is required
   A valid approval from ethical commission is required *before* a research project can be done:
   - *With (on) humans*: „Forschung mit Menschen: Ein Leitfaden für die Praxis" (2015), Schweizer Akademie der Medizinischen Wissenschaften (SAMW)
   - *Using human materials*
   - *Using embryos and stem cells:* EU does not support: (a) human cloning for reproductive purposes; (b) modify the genetic heritage of human beings which could make such changes heritable, (c) to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer.

   Internal contact: Louis Tiefenauer

2. **Animal protection and welfare**
   Animal Welfare Act (no english version found)(Tierschutzgesetz (TSchG)) SR 455
   Animal Welfare Ordinance (no english version found)(Tierschutzverordnung (TSchV)) SR 455.1
   Authority: Kanton Aargau, Amt für Verbraucherschutz, Veterinärdienst
   A valid Swiss approval is required *before* experiments can be done.
   - PSI research projects which forsee the use of animals require permission from the cantonal authority in charge. Without a valid permission research work can't start.
   - When the use of animals in research is planned, see the diverse recommendation, e.g. (www.snf.ch/de/derSnf/forschungspolitische_positionen/tierversuche) or homepage Kommission für Tierversuchsethik (KTVE) (www.akademien-schweiz.ch)

   Approval depends on animal type, pain level of animals in experiments, conditions.
   Internal contact: *Martin Behe*

Ethical issues are:

1. Human protection
2. Animal protection and welfare
3. Data protection and privacy
4. Environmental protection
5. Third countries
6. Dual use
7. Misuse / malevolent use of results

Basic ethical **principles**:
Create benefit, do not harm,
be fair, respect autonomy

Information sheet contains:
- Hints to legal provisions
- Authorities
- Links to more infos
- Internal contacts

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Project management

General management tasks

- Define clear goals
- Let participate all in decisions
- Check compliance to frame issues
- Optimize benefits & transfer
- Communicate to funder & stakeholders

Meetings issues on different levels

Basis: honesty, trust & sense of respons.

- Open discussions, irresponding practices
- Respectful change management
- Fair credits (publications, acknowledg.)

Agreements in collaborative research

- Allocation of means: clear & fair
- Define common procedure for misconduct
- Define & update of responsibles

Frame is given by

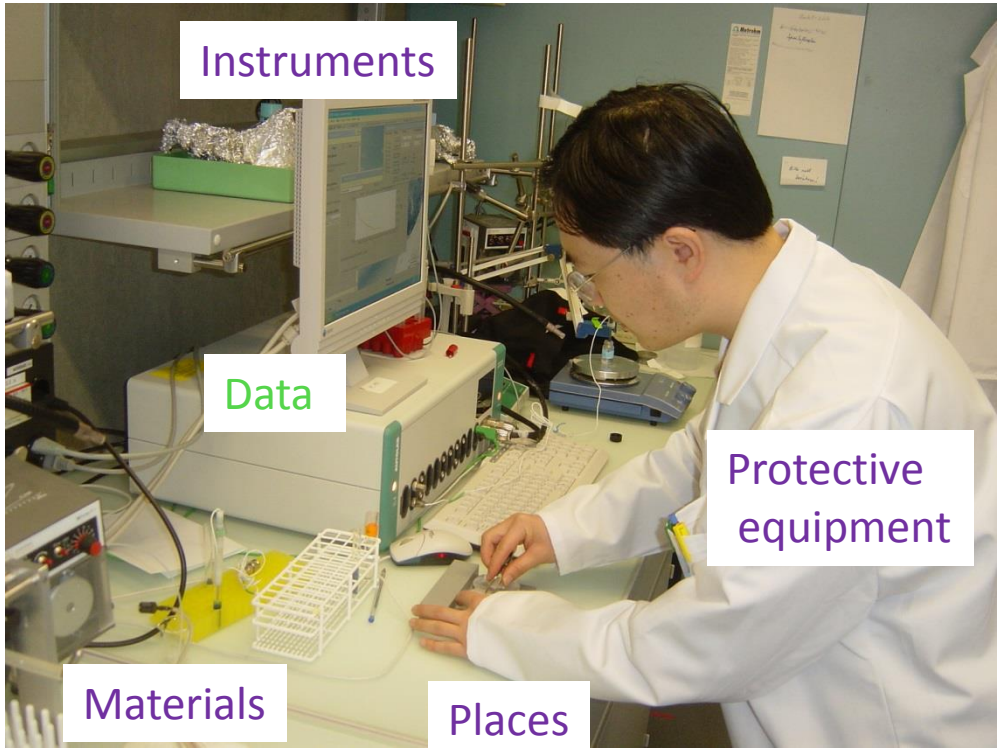
- Laws
- Rules
- Guidelines
- Facilities
- Finances

Principles - values - rules

Montreal statement on research integrity in cross-boundary research collaborations

Executing research work

Safety issues: avoid damage



Principles - values - rules

Required resources

- Room
- Materials
- Facilities
- Supports
- Time
- Skilled individuals

Ethical issues: valid and usable data

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Ethical topics are:
Authorship / Publishing
Avoiding plagiarism
Data management
Collaborative Sciences
Mentorship
Conflict of interest
Research on humans
Animal experiments

Aim
Proposal
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Society

Responsible Research

Relevant topic, valid data, reproducible results, done in efficient way

Sloppy research practices

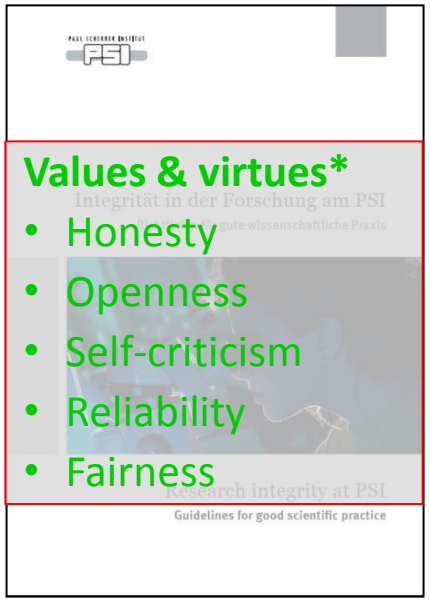
Ignorance, honest error vs.
dubious integrity

Research misconduct

FFPT:
Fabrication, falsification, plagiarism, theft

according to Lex Bouter, Univ. Amsterdam

Good scientific practice



Universalism
Communalism
Org. Scepticism
Benfit !
Desinterested.

*Also in: discourse ethics, deontology, utilitarism ethics, CUDOS (Merton)

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Questionable research practice (QRP)

Principles - values - rules

QRP most relevant (*frequency of occurrence x severity*)

1. Not publish a valid negative study (openness, benefit)
2. Let your beliefs or convictions influence the conclusions (self-criticism)
3. Not report replication problems (honesty, reliability, benefit, fairness)
4. Conceal results that contradict your earlier findings or your convictions (honesty)
5. Keep inadequate notes of the research (Data management)
7. Selectively cite to enhance own findings or convictions (Citation practice, fairness)
8. Unwillingness to share data and materials with peers (openness, fairness)
9. Insufficiently supervise and mentor (junior) coworkers (Mentors in science)
10. Insufficiently mention study flaws and limitations (honesty, openness, self-criticism)
23. Selectively delete data, modify or add data after performing initial data analysis
36. Fabricate data (honesty, harm)
50. Willfully communicate findings inaccurately in public (honesty, openness, benefit)

Questionable research practice (QRP) II

All factors my have adverse effects

«Sloppy science is a larger evil than research misconduct.»

QRP most fatal (*impact on (public) trust*)

1. Data fabrication (36. above) (honesty)
2. Willfully communicate findings inaccurately in public (50. above) (honesty, openness)

QRP most severe (*impact on truth*)

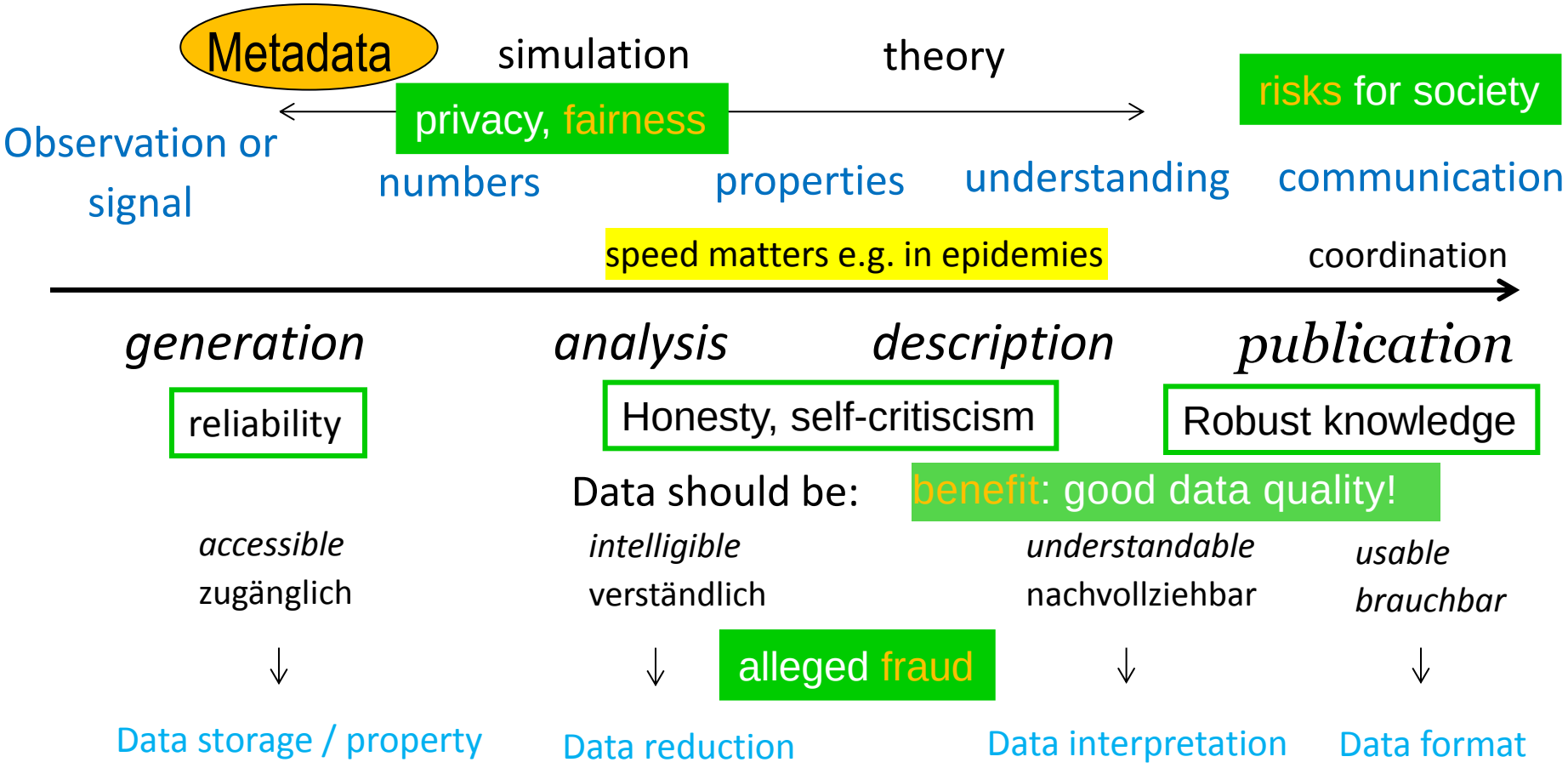
1. Data fabrication (36. above) (honesty) (honesty, reliability)
2. Selectively delete data, modify or add data after performing initial data analysis (23. above)

Web-based survey, 4WCRI2015 Rio, Courtesy from Lex Bouter, Univ. Amsterdam

Science data management & ethics

Principles - values - rules

Raw data Derived data Information **Knowledge** Applications



Severe miscoducts in sciences

Impact on trust & truth: **1.** position

(FFTP)

Principles - values - rules

Fabrication of data

Institutional procedures
Legal prosecution

Institution
Court

Falsification of data

grey zones
regulations by journals

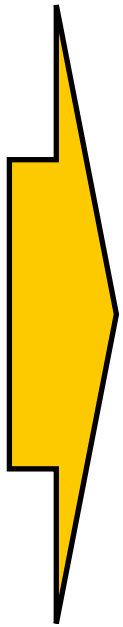
Institution
Court

Theft of data

Institution
Court

Plagiarism

e.g. SNF
Editors



Lost of title or/and job

Damaged reputation

Exclusion from applications

Damage reputation, also of the institution!

Authorship (I)

Who is eligible as an author ?

"A person is considered as an author of a scientific publication if he meets *all* of the three following criteria:

a. Personally providing either a significant contribution to the planning, to the execution, to the supervision or to the interpretation of a piece of research,

b. participating in the drafting of the manuscript, and

c. approving the final version of the manuscript."

Contributors who only partially meet the three criteria set above should be mentioned in the "Acknowledgements" section of the publication."

Source: Research Integrity at PSI, Guidelines 2014

Authorship (II)

a. «Significant contribution»

Principle fairness - values - rules

Elegibility as an author (procedure)

- *Discuss* this with *all involved* early; write a protocol; adjust it, if necessary
- Avoid influence from outside; write a justificaction, when a person is excluded; remember: everybody has the right to consult an ombudsperson
- Final decision takes person with overall responsibility (PI, first, last **corresp. author**)
- Eligibity: is not directly related to the time spent by somebody
- Deciding factor is: who contributes to increase of knowledge

Essential contributions, examples:

- Writer of the accepted proposal
- Who produces *and* characterizes key materials
- Who designs *and* performs experiments
- Statistican: Data reduction *and* analysis
- Primary writer of the manuscript
- *Critical* reviewer of the manuscript

Not eligible as an author is, who *merely*

- provides materials
- provides facilities (e.g. SLS)
- provides financial and organizational support (only heading)
- arises critical questions
- has merely a managerial function (group leader, aso.)

→ Acknowledgment

Scientific reviewers

Research proposal

Funders reviewers

Internal Foko members

Submitted papers

Paper reviewers

Audits

Organizational units auditors

Large projects reviewers

Evaluation of applicants for

Postdocs (e.g. PSI Fellow) committee

Permanent academic position DIRK

Professorship commission

Competence

Do not accept, if you are not fully competent

Do go in details and give supporting suggestions

Independency

Do not judge friends or foes

Confidentiality

Do not make use of findings or disclose information

Destroy copy of manuscript after finishing a review

Anonymity

Don't disclose your name

Don't pass to others without permission

Transparency

Make transparent: process, criteria and goals

Inform affected people on the outcome in due time

Declare scientific relationships and bias

A reviewer *should* detect

Principle fairness - values - rules

- Not **Authorship** complaints (leaving out authors who should be included, or including authors who did not contribute significantly)

but

- **Duplicate submission** or salami publishing (creating several publications from the same research or incomplete story)
- **Lack of ethics approval** (related to animal experiments or for experimentation with human subjects)
- **Undisclosed conflicts of interest** (see www.elsevier.com/conflictsofinterest)
- His own **reviewer bias**
- **Falsification** of results (including image manipulation)
- **Fabrication** of results (from original data acquisition)

" The *peer review system* is the cornerstone of scientific publishing; it helps to improve articles by feedback from experts in the field, but also helps in validating data."

Rob van Daalen, Ethic in publishing – new challenges, W.J. Kolff Institute, Newsletters March 2016

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FFTP: Plagiarism

Is: Verbatim copy of a text without quotation marks*

- From own text: *self-plagiarism, parallel submission*
- From others: *plagiarism*

* Giving [reference in brackets] is *not* sufficient !

What is the problem ?
Poor quality, fairness, copyrights (legal issue)

Plagiarized text in:
Introduction
Methods & materials
Results
Discussion
Acknowledgement

Text not fully matches the topics and issues

theft

copyright infringence

Fair assessment is not possible
Unfair credit distribution
Deception of the reader

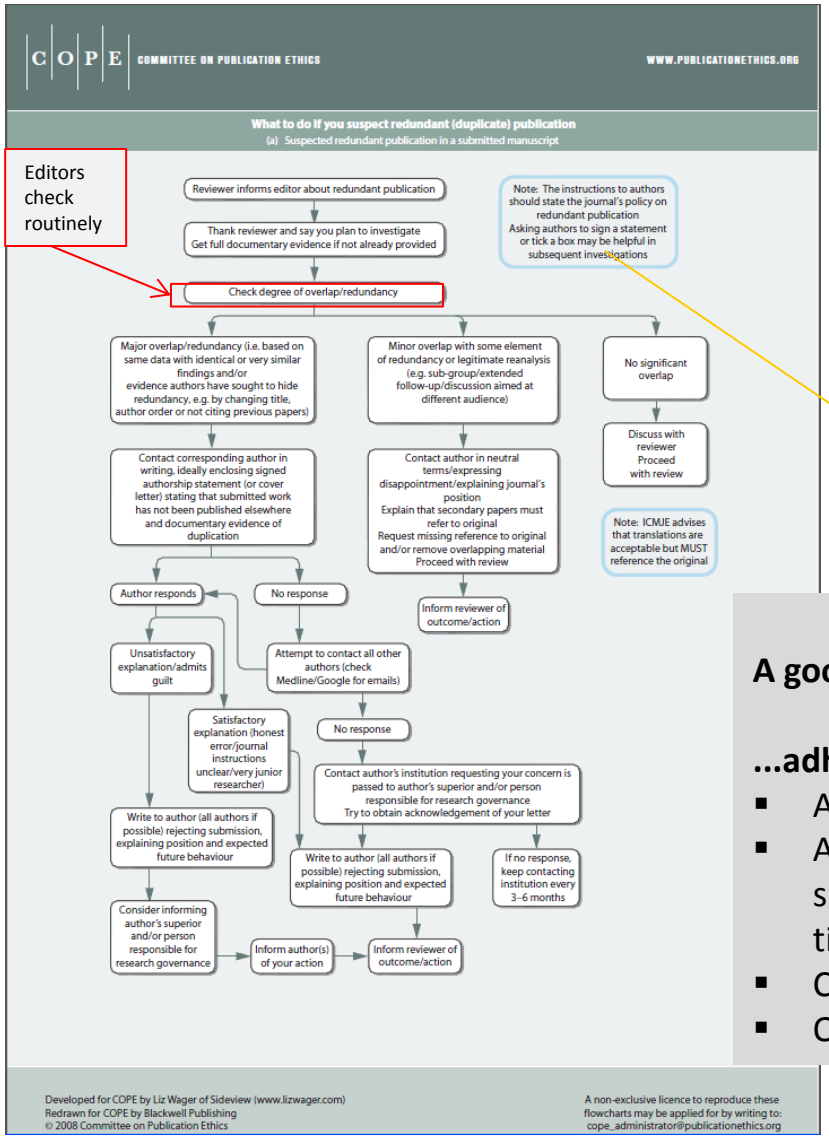
Paper type
Original contribution
Review paper
Research proposal
Textbook contribution
Student work
Master thesis
Scientific popular article

Plagiarism I

From **Office** of Research Integrity (ORI), Miguel Roig

1. An ethical writer ALWAYS acknowledges the contributions of others and the source of his/her ideas.
2. Any verbatim text taken from another author must be enclosed in quotation marks.
3. We must always acknowledge every source that we use in our writing; whether we paraphrase it, summarize it, or enclose it quotations.
4. When we *summarize*, we condense, in our own words, a substantial amount of material into a short paragraph or perhaps even into a sentence.
5. Whether we are *paraphrasing or summarizing* we must always identify the source of our information.
6. When *paraphrasing and/or summarizing* others' work we must reproduce the exact meaning of the other author's ideas or facts using our words and sentence structure.
7. In order to make substantial modifications to the original text that result in a proper paraphrase, the author must have a thorough understanding of the ideas and terminology being used.
8. A responsible writer has an ethical responsibility to readers, and to the author/s from whom s/he is borrowing, to respect others' ideas and words, to credit those from whom we borrow, and whenever possible, to use one's own words when *paraphrasing.*

Editor's guidelines for authors



Summary

- Editors of many journals have committed to COPE-guidelines
- *Suspected* plagiarism will cause a *delay*
- Plagiarism check programs can efficiently detect plagiarism
- *Reviewers* or *readers* can inform editors

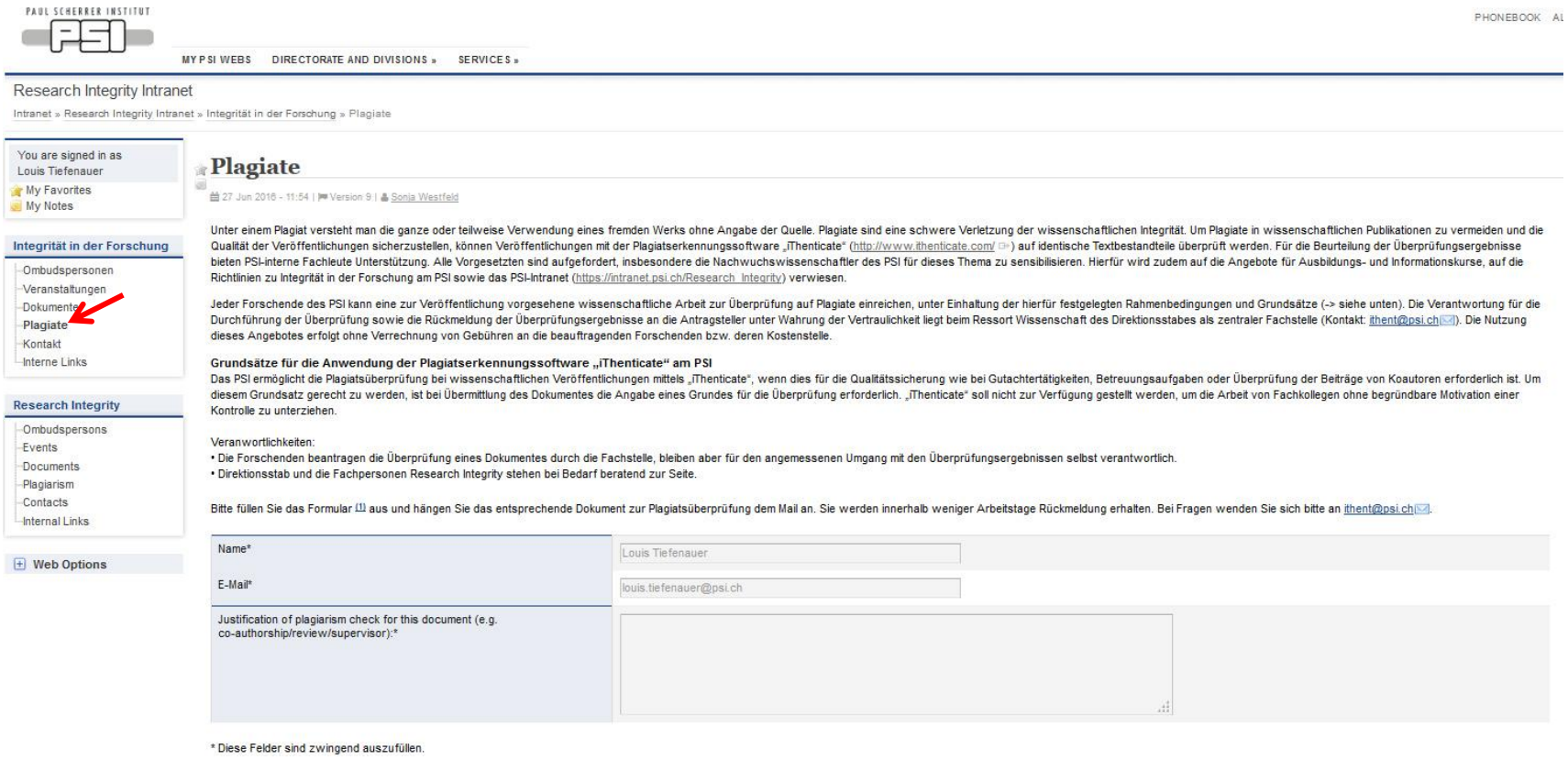
A good manuscipt

ELSEVIER

...adheres to publication ethics

- Avoid plagiarism of others' work
- Avoid multiple publication of the same work, never submit your manuscript to more than one journal at a time
- Cite and acknowledge others' work appropriately
- Only list co-authors who made major contributions

Homepage RI: Plagiarism check



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PHONEBOOK A

MY PSI WEBS | DIRECTORATE AND DIVISIONS » | SERVICES »

Research Integrity Intranet

Intranet » Research Integrity Intranet » Integrität in der Forschung » Plagiate

You are signed in as
Louis Tiefenauer
My Favorites
My Notes

Integrität in der Forschung
- Ombudspersonen
- Veranstaltungen
- Dokumente
- Plagiate
- Kontakt
- Interne Links

Research Integrity
- Ombudspersons
- Events
- Documents
- Plagiarism
- Contacts
- Internal Links

Web Options

Plagiate

27 Jun 2016 - 11:54 | Version 9 | Sonja Westfeld

Unter einem Plagiat versteht man die ganze oder teilweise Verwendung eines fremden Werks ohne Angabe der Quelle. Plagiate sind eine schwere Verletzung der wissenschaftlichen Integrität. Um Plagiate in wissenschaftlichen Publikationen zu vermeiden und die Qualität der Veröffentlichungen sicherzustellen, können Veröffentlichungen mit der Plagiatserkennungssoftware „iThenticate" (http://www.ithenticate.com/) auf identische Textbestandteile überprüft werden. Für die Beurteilung der Überprüfungsergebnisse bieten PSI-interne Fachleute Unterstützung. Alle Vorgesetzten sind aufgefordert, insbesondere die Nachwuchswissenschaftler des PSI für dieses Thema zu sensibilisieren. Hierfür wird zudem auf die Angebote für Ausbildungs- und Informationskurse, auf die Richtlinien zu Integrität in der Forschung am PSI sowie das PSI-Intranet (https://intranet.psi.ch/Research_Integrity) verwiesen.

Jeder Forschende des PSI kann eine zur Veröffentlichung vorgesehene wissenschaftliche Arbeit zur Überprüfung auf Plagiate einreichen, unter Einhaltung der hierfür festgelegten Rahmenbedingungen und Grundsätze (-> siehe unten). Die Verantwortung für die Durchführung der Überprüfung sowie die Rückmeldung der Überprüfungsergebnisse an die Antragsteller unter Wahrung der Vertraulichkeit liegt beim Ressort Wissenschaft des Direktionsstabes als zentraler Fachstelle (Kontakt: ithent@psi.ch). Die Nutzung dieses Angebotes erfolgt ohne Verrechnung von Gebühren an die beauftragenden Forschenden bzw. deren Kostenstelle.

Grundsätze für die Anwendung der Plagiatserkennungssoftware „iThenticate" am PSI

Das PSI ermöglicht die Plagiatsüberprüfung bei wissenschaftlichen Veröffentlichungen mittels „iThenticate", wenn dies für die Qualitätssicherung wie bei Gutachtertätigkeiten, Betreuungsaufgaben oder Überprüfung der Beiträge von Koautoren erforderlich ist. Um diesem Grundsatz gerecht zu werden, ist bei Übermittlung des Dokumentes die Angabe eines Grundes für die Überprüfung erforderlich. „iThenticate" soll nicht zur Verfügung gestellt werden, um die Arbeit von Fachkollegen ohne begründbare Motivation einer Kontrolle zu unterziehen.

Veranwortlichkeiten:
- Die Forschenden beantragen die Überprüfung eines Dokumentes durch die Fachstelle, bleiben aber für den angemessenen Umgang mit den Überprüfungsergebnissen selbst verantwortlich.
- Direktionsstab und die Fachpersonen Research Integrity stehen bei Bedarf beratend zur Seite.

Bitte füllen Sie das Formular [1] aus und hängen Sie das entsprechende Dokument zur Plagiatsüberprüfung dem Mail an. Sie werden innerhalb weniger Arbeitstage Rückmeldung erhalten. Bei Fragen wenden Sie sich bitte an ithent@psi.ch.

Name*	Louis Tiefenauer
E-Mail*	louis.tiefenauer@psi.ch
Justification of plagiarism check for this document (e.g. co-authorship/review/supervisor):*	

* Diese Felder sind zwingend auszufüllen.

Reasons to submit for a plagiarism check
- Collaborations; before paper submission
- PhD work
- Reviewing: if editor did'nt check by default

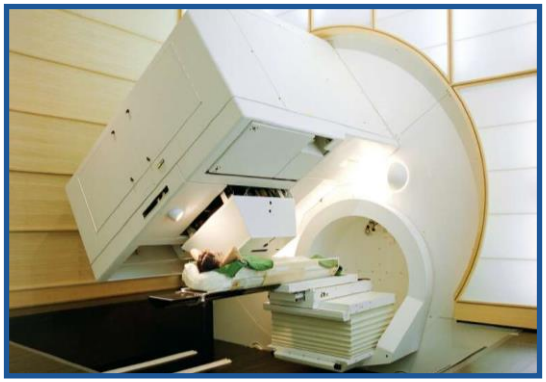
Conditions at PSI
- confidential
- no costs
- fast & easy

Benefit for the society

…Knowledge, better goods, options for the future…

Tell it to the public !

Mensch und Gesundheit



Energie und Umwelt

Mikro- und Nanowelten

Teilchen und ihre Tücken

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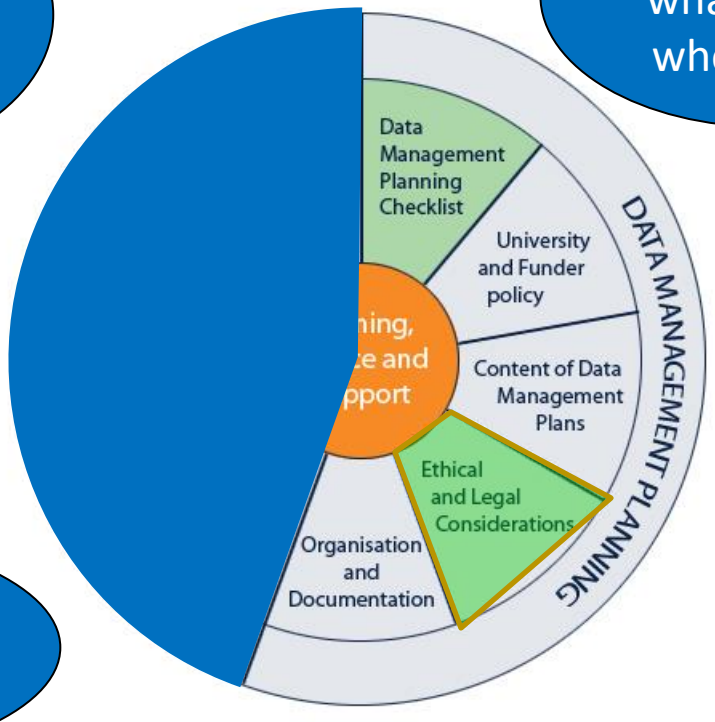
Data management (I)

Regulations
what, when, where, how, who, whith

Advices
what, when, where, how

Training
help for researcher



Policy
Strategy & standards

Support
hard- & software procedures

Plan
who, what, when, how

Realize it
who, what, when, how

Guidelines
what, why, how, who

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Data management II

Data life cycle and ethical issues

Raw data

fabrication, falisification,theft
safety and security (access)

Storage

Duration
Access
Ownership

Responsibilities:
PI and others

Derived Data

Analysis

intelligibile, usable data
benefit and verifiability

Group discussion
Communication plan
Simulations, modelling
Interpretation

Metadata

Indexing
Communication
Indenfication sources

Curation

Readable data
Migration
Data (sets) access

Results

Authorship
Visualization
Conclusions
Applications

Publication

fairness (plagiarism)
maximise benefit
avoid misinterpretation

privacy, fairness, usability
freedom of research
confidentiality

TechTransfer

benefit (science, economies, poverty)
conflict of interest

Data management policy PSI

Data Policy for PSI research data

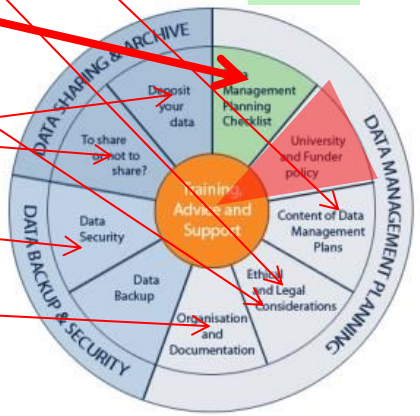
1. General principles
2. Definitions
3. **Raw data** and associated **metadata**
4. Results
5. Good practice for metadata capture and results storage
6. Publication information

Implementation

You

The policy defines the rules for the following topics:

- Data ownership
- Data curation
- Data archiving
- Open access to data



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(Research) Data management (IV)

List of topics (I)

Aim: traceability

1. **Responsible actors**: experimentor, **PI!**, supervisors, leaders
2. **Data management plan** (required in some EU projects): education, responsibilities, communication
3. **Acquisition**: raw data, metadata, statistics, formats, ~~fabrication~~ (double storage)
4. **Treatment**: analysis, validation (grey zones), processing (~~falsification~~), conversion, statistical evaluation, reduction, presentation (tables, graphics, images)
5. **Utilization of results**: publications, authorship ~~(plagiarism)~~, tech-transfer, spin-offs
6. **Storage and archiving**: IT facilities, costs, migration

ethical issues

legal and financial issues

Data management (V)

List of topics (II)

7. **Metadata**: associated personal data, data-catalogue (privacy, freedom of research)
8. **Ownership**: research data, patents, external users (scientific, proprietary), ~~theft~~
9. **Disclosure practice**: ongoing project, for auditing (conflict of interest), reviewing, collaborations (NDA)
10. **Access**: identified persons, passwords strategy, raw data access
11. **Deletion**: public data, storage
12. **Curation**: migration, backups, transformation (history)
13. **Data sharing**: open access, exchangeable formats

ethical issues

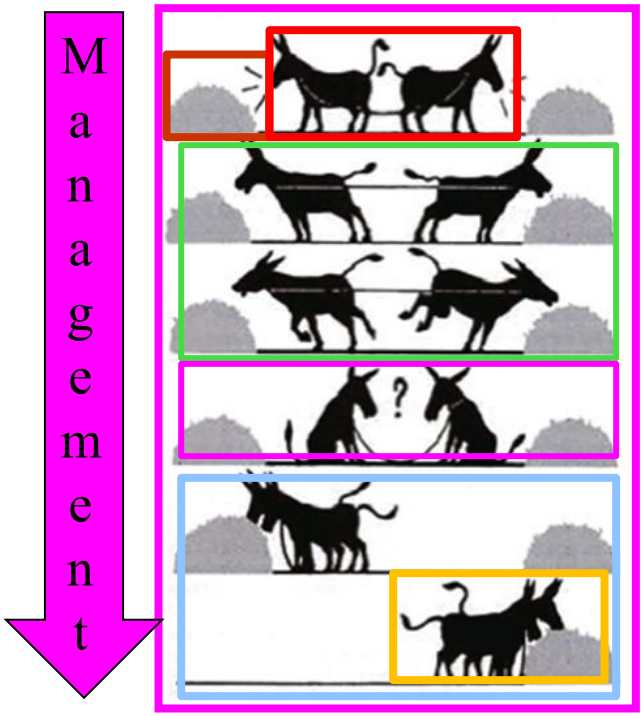
legal and financial issues

Cooperative science

Cooperation

Benefits, more

- *means*
- working time
- *methods*
- influence
- reputation
- *Ideas*



Competition

Risk

- shared means
- waste of time
- damaged reputation
- etc.

Added values

Additional risks

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Functions of mentors in science

Mentors are trusted **friends** providing advises and help

Advisor
Developer
Interpretor
Protector
Door opener
Coacher
Rule setter
Role model

Organization of work: show, suggest, adjust the working plan
Group meetings: participate, support, correct
Critical data interpretation: handling out-drops & grey zones
Clear presentation of results: hints, provide support
Behavior: correct, give feedbacks, mediate, hints (RI)
Conflicts: do not blame, defense, encourage
Safety: observe, brief, control
Writing: standards of community, judge journal impacts
Teach: rules, guidelines, specific scientific issues
Recommend: literature, courses, conferences
Control: quality of work, achievements, misconduct
Early warning: emerging problems
Supporting: administrative work, IT-problems, job search
Participate in: social events, informal talks, lunch
Provide: dedicated help, material, methods

ethical issues

Handling CoI problems

Procedures

Procedures in case of alleged violation of guidelines research integrity

Legal provisions, guidelines, internal regulations (contracts, research comission, personal conflict management, industrial collaborations), evaluation processes, wistle blowing, etc.

Structures

Human Resources Department (PER – Prozesse/Beratung / Konflikte)

Ombudspersons (mediators) (PER-table, research integrity)

Communication

Homepages: Human Resources Depart. & Research Integrity

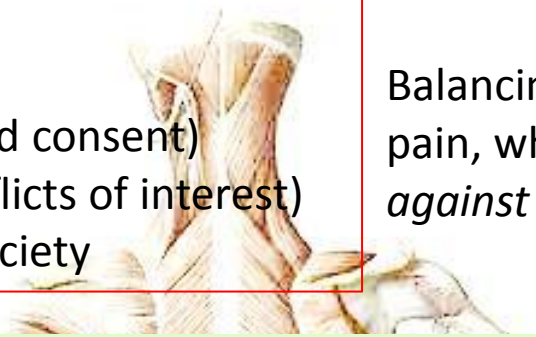
Training

Courses (personal conflict management), education, mentors

Research on humans at PSI

Ethical principles

1. **First:** *Do not harm*
2. *Autonomy* (informed consent)
3. *Fairness* (avoid conflicts of interest)
4. Create *benefit* to society



Balancing cost (autonomy infringement, pain, who profits?, who pays?) *against* benefits (knowledge)

- Legal provisions: laws (HFG, StFG), provisions (VStFG, KlinV) & guidelines
- Ethic commissions (**EKNW**): evaluates proposals and provide approvals
- Institutional evaluation procedure (DUO)

Contact: Louis Tiefenauer

Inputs according to the 3 levels:

1. Clinical trials
2. Non-clinical trials
3. Research projects involving sensitive personal data or human materials

PIs of submitted proposals

Project management is responsible: approved project, competent execution (approval needed), reporting according to approval

Animal experiments at PSI

Etical principle 1: Primum noli nocēre

1. First: Do not harm

Balancing cost (pain)
against benefits (knowledge)

Legal provisions: laws (TSchG), provisions (TSchV) & guidelines

Executive authorities (TSch Behörde): evaluates proposals and provides approval

Institutional evaluation procedure (DUO): approval required *before* work execution

Animal species is the most important criterion

Contact:
Martin Behe

Proposal	Details (who, how, how (many), why, etc.) are requested
Project execution	Approval Competences ? Infrastructure ? Procedures ?
Experiments	Trained individuals, correct procedures
Data	Reporting selected data to authorities according approval
Publication	Report legal and ethical issues according to instructions

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Research Integrity issues

Authorship / Publishing
Avoiding plagiarism
Data management
Collaborative Sciences
Mentorship
Conflict of interest
Research on humans
Animal experiments

Research Integrity (RI) education issues

Nr	Topic	Keywords	Student	Postdoc	PI	Trainers Scientif.	Trainers HR/Admin	Direction
						Mentors Seniors	Consultants	
1	Basics RI	principles, virtues, values, rules	x	x	x	x	x	P
2	Guidelines on RI	How to *teach* contents ?		o	x	o	x	P
3	**Data Management**	Generate, storage, ownerschip	x	x	x	x	x	P
4	**Authorship**	Order, eligibility	x	x	x	x	o	P
5	**Plagiarism**	Publication, proposal, sanctions	x	x	x	x	x	P
6	Fabrication, falsification	Fraud vs. honest error, retraction	x	x	x	x	x	P.
7	**Conflict of interest**	reviewing, Tech-transfer, fairness		x	x	x	o	P
8	**Mentoring**	Responsibiltoies, organization	x	o	x	x	x	P
9	Research on humans	Legal directives & procedures		o	o	o	o	(P) D
10	Research on animals	Legal directives & procedures		o	o	o	o	(P) D
11	**Collaborative Research**	Fairness, openness, organization		x	x	x	x	P
12	**Reviewing, Audits**	Independency and confidentiality		x	x	x	x	(P) D
13	Conflict management	Whistle blowing, ombudsperson	x	o	x	o	x	(P) D
14	Relation to the public	Accountability, debates, reports		x	x	x	x	(P) D
15	Research topics	freedom, evaluation, bibliometry		x	x	x	x	(P) D
	N topics		7	10 + 5	13 + 2	11 + 4	11 + 4	15 + 6

Nutshell level

3 + 10 = 13 topics addressed

Bold: see workshops at PSI

P: policy (guidelines RI)
D: directives

Persecution of misconducts

Verfahrensordnung bei vermuteter Verletzung
der Integrität in der Forschung am PSI (nur deutsche Version), 1. Juni 2010

Article 2 Misconduct in research
A misconduct is a infringment of the rules of Good Scientific Practice as outlined in details in the guidelines on «Research integrity at PSI».
Responsible are also indidviduals participating actively in violation of others or neglecting their direct or *institutional mandatory supervison*.
(my own translation)

Procedure in case of alleged violation of research integrity at PSI

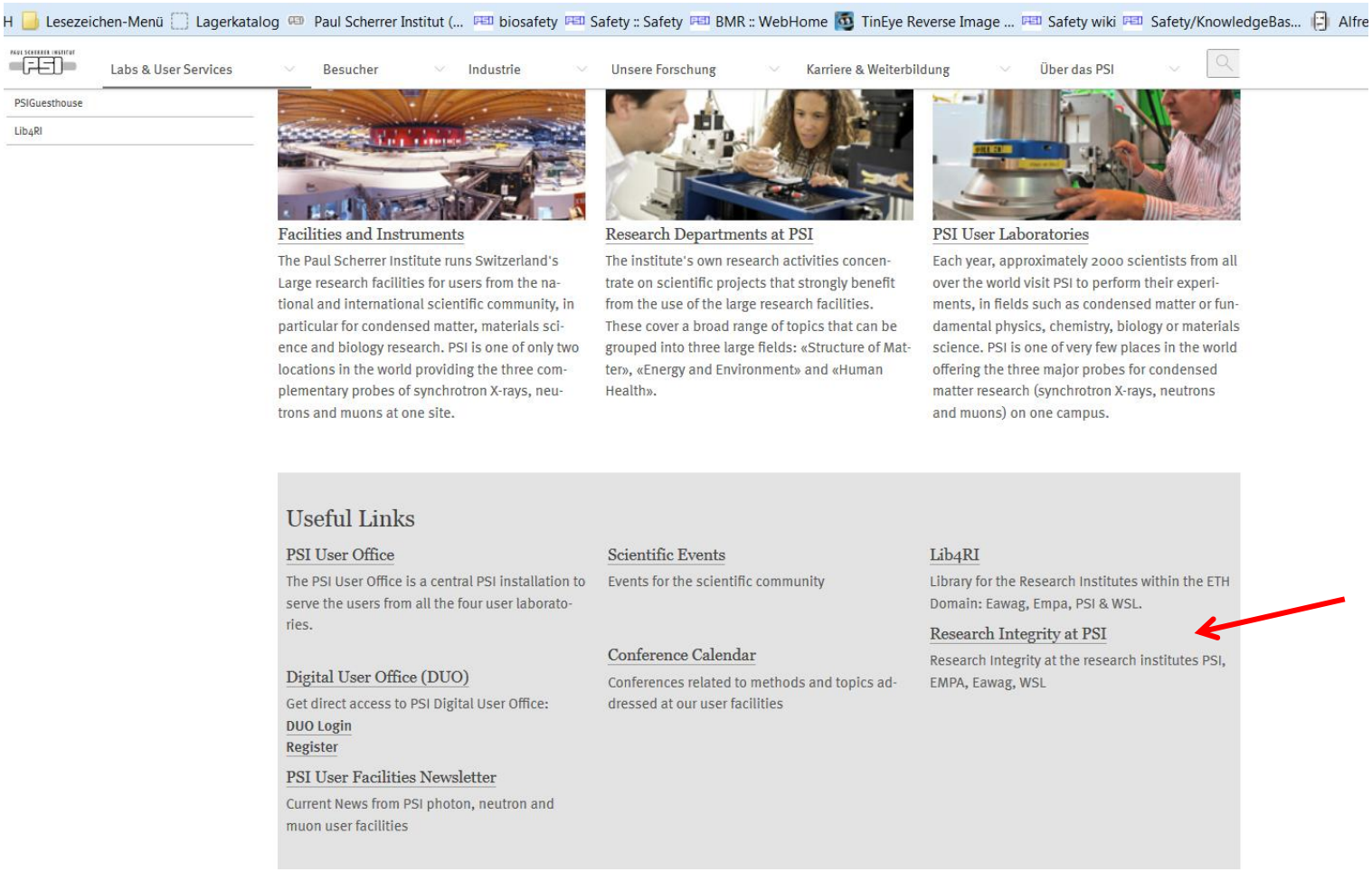
5 pages, 11 paragraphs (procedure step by step)

Art. 2 **Misconduct in research**

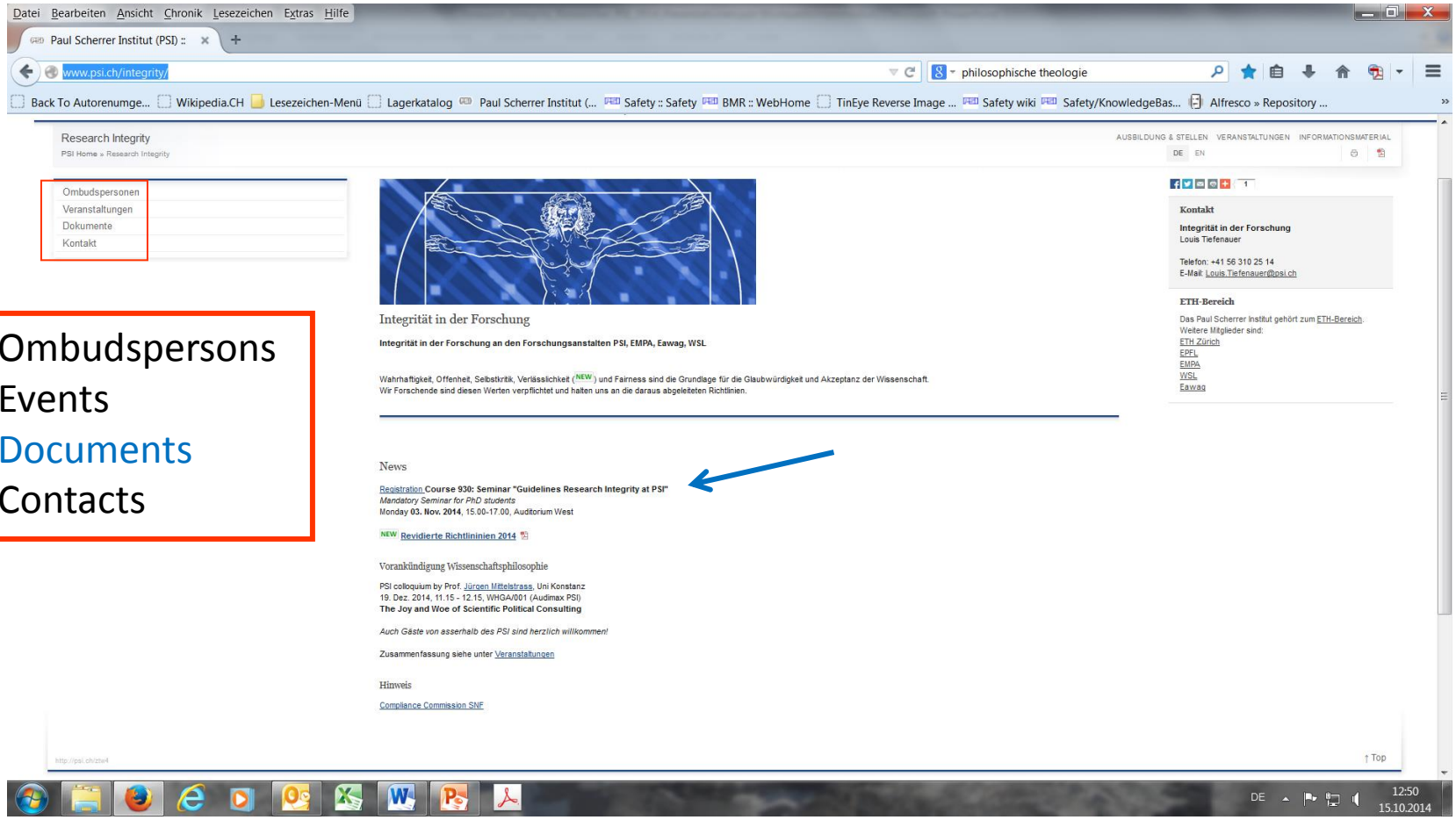
Violation of guidelines

Assessment: issue, severity, intentionality

Research Integrity Homepage I

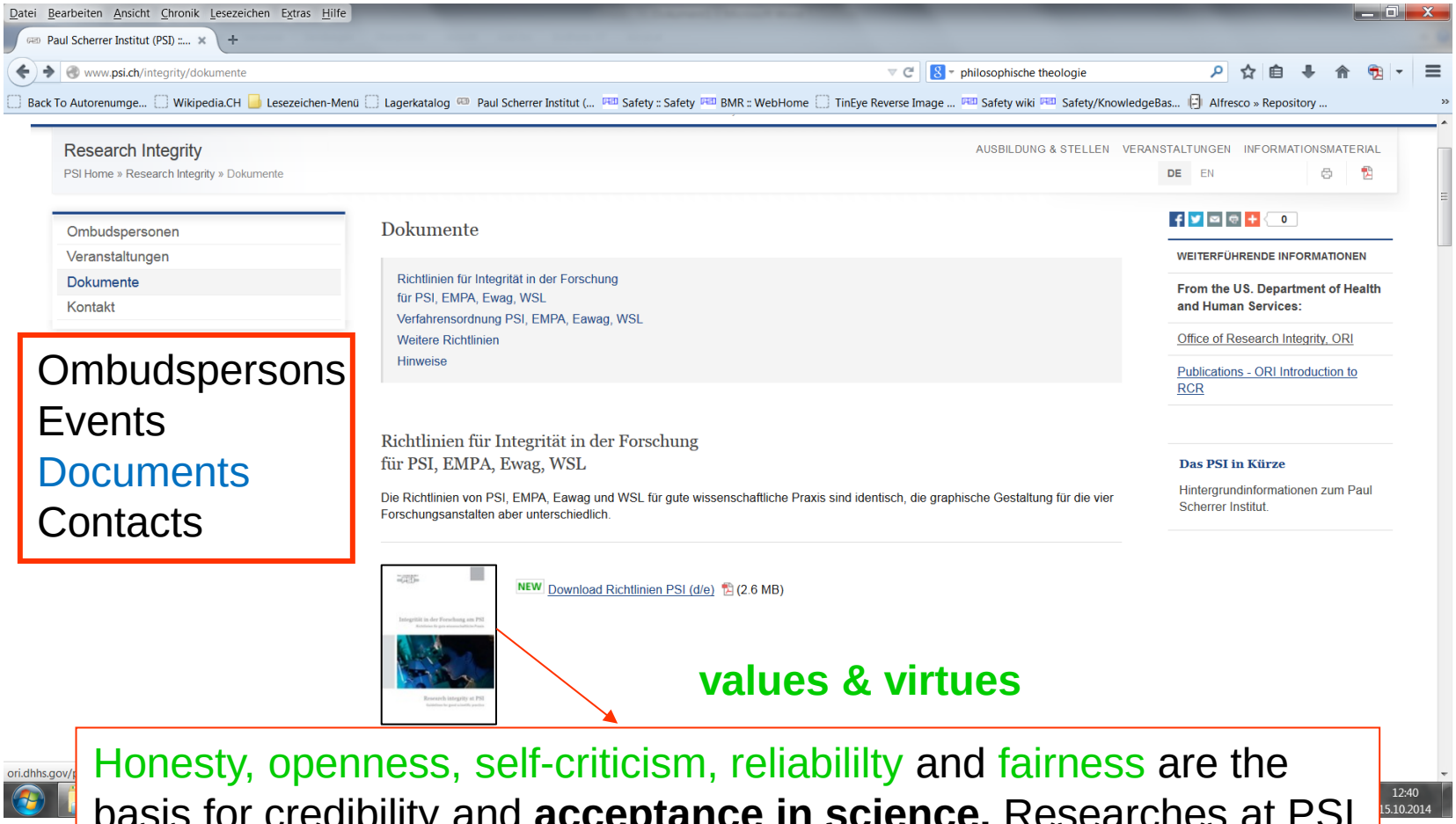


Research Integrity Homepage II



Ombudspersons
Events
Documents
Contacts

Research Integrity Homepage III



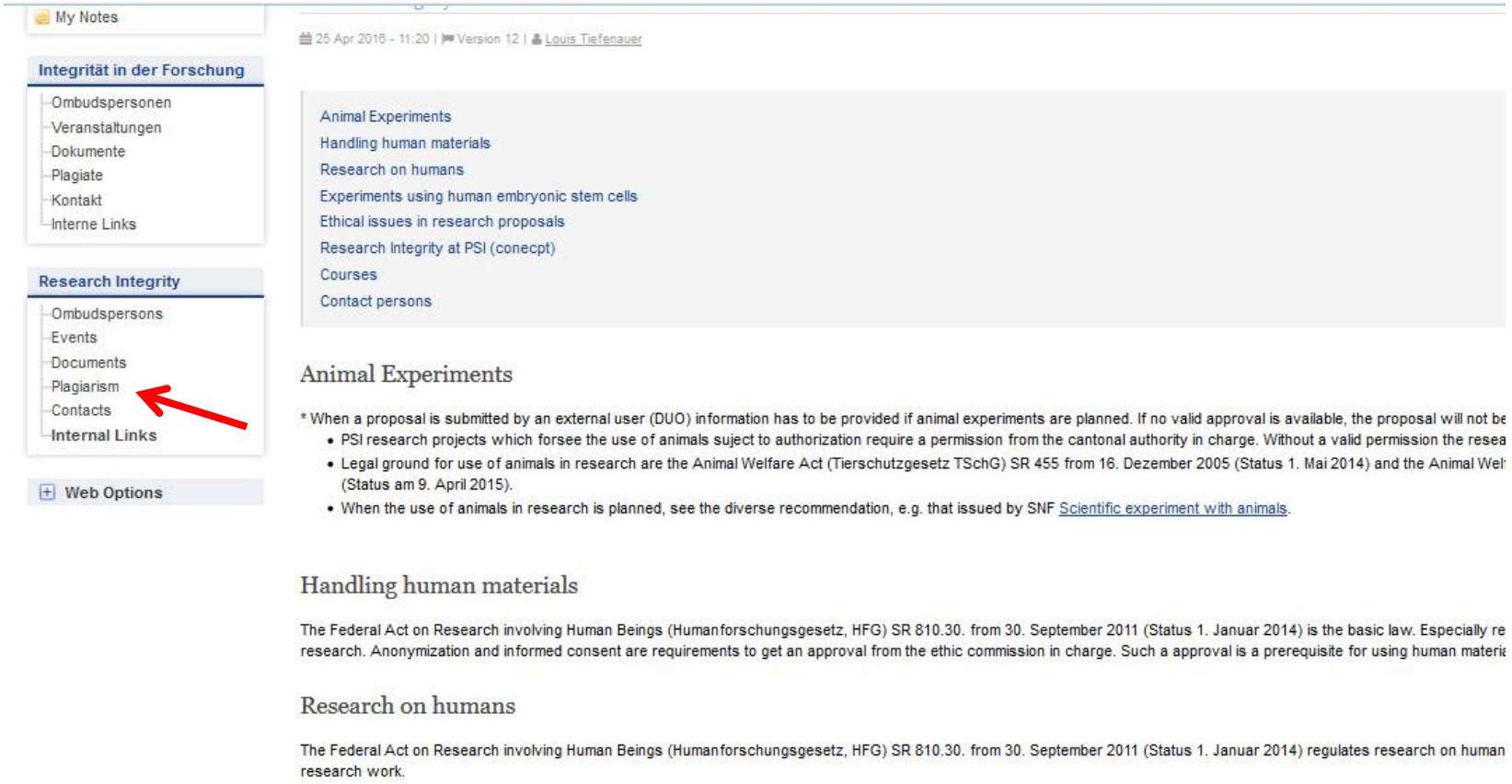
Ombudspersons
Events
Documents
Contacts

values & virtues

Honesty, openness, self-criticism, reliabililty and fairness are the basis for credibility and **acceptance in science.** Researches at PSI are committed to these values and to the guidelines which derive from them.

Homepage RI (Intranet) IV

Search: Research Integrity



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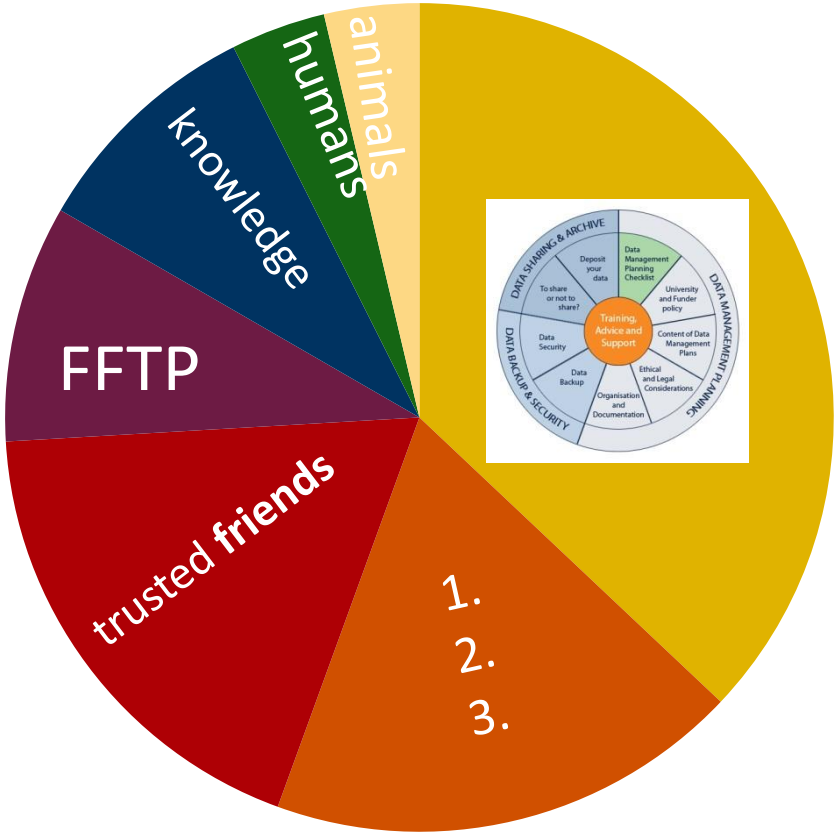
You duties

- ***Respect* guidelines** (are legal part of working contract)
- ***Avoid* misconduct** (severe violations are persecuted; especially fabrication, falsification & theft of data, plagiarism, FFTP, etc.)
- ***Contribute***
  - to *benefits* by science (**valid results!**)
  - to *credibility* of sciences (self-criticism)
  - to *acceptance* of sciences (open days, popular sciences)
  - to *advancement* of sciences (participation in seminars & education courses, etc.)
- ***Report*** (to supervisor or ombudsperson for all topics) *misconduct, misbehaviour* and deviations early

Research integrity issues

My personal assessment of relevance in general



- Data Management
- Authorship
- Mentors in science
- Miscoducts
- Research for Society
- Research on humans
- Research using animals

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Research integrity in a nutshell

Ethical issues in proposals
- Research invoving humans
- Research using animals
- Dual use of results
- Third world countries
- Transfer knowledge

Honesty, openness, self-criticism, reliability and fairness are the basis for credibility and acceptance in science. Researchers at PSI are committed to these values and to the guidelines which derive from them.

Fair collaborations
- Safety at work
- Avoiding conflicts
- **Prosecution misconduct**

- Data acquistion
- Raw data storage
- Data reduction
- Generate results
- ~~**Falsification**~~
- ~~**Fabrication**~~

Authorship
- Eligibles Authors
- Order of autors

Plagiarism

Reviewing processes

RI researcher, course 932E 2016

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Research Integrity issues

https://www.psi.ch/integrity/research-integrity

Research Integrity (RI) education issues

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6	Fabrication, falsification	Fraud vs. honest error, retraction	x	x	x	x	x	P.
7	**Conflict of interest**	reviewing, Tech-transfer, fairness		x	x	x	o	P
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13	Conflict management	Whistle blowing, ombudsperson	x	o	x	o	x	(P) D
14	Relation to the public	Accountability, debates, reports		x	x	x	x	(P) D
15	Research topics	freedom, evaluation, bibliometry		x	x	x	x	(P) D
	N topics		7	10 + 5	13 + 2	11 + 4	11 + 4	15 + 6

Bold: see workshops at PSI

P: policy (guidelines RI) **D: directives**

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Research Integrity Guidelines

Content

Integral part of your working contract

Guiding precepts

1. General
2. Integrity in research
   - 2.1 Research planning
   - 2.2 Execution of research
   - 2.3 Publication of research
3. Integrity of peer reviewing
4. Final regulations (procedures allegations)

Appendix

Ethical issues:
Authorship / Publishing
Avoiding plagiarism
Data management
Collaborative Sciences
Mentorship
Conflict of interest
Research on humans
Animal experiments

Avoid bad science and unfair practices

Honesty, openness, self-criticism, reliability and fairness are the basis for credibility and acceptance in science. Researchers at PSI are committed to these values and to the guidelines which derive from them.