

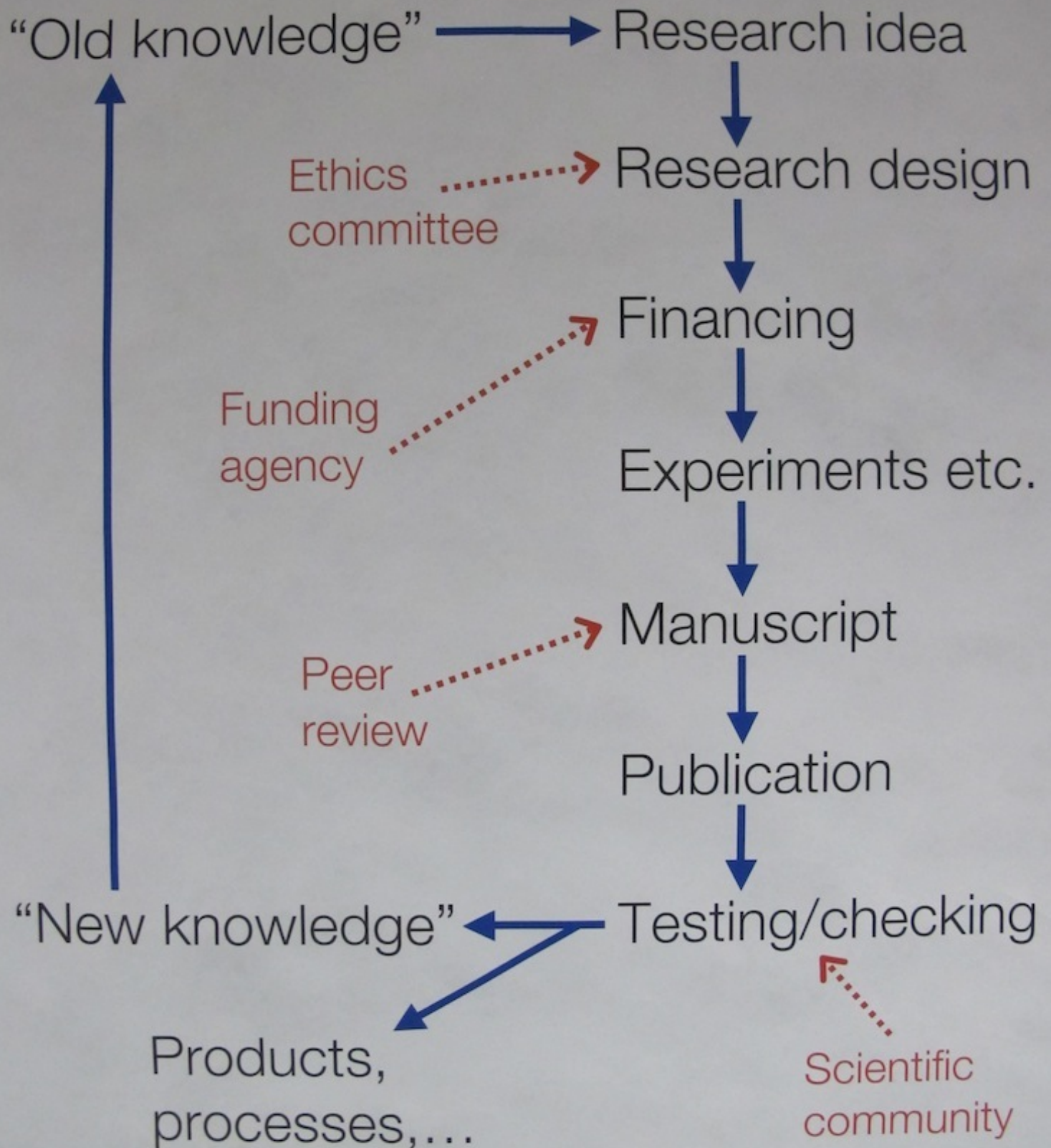
Welcome to the course “Good scientific practice”

Course plan

- Good scientific practice
- Data management
- Scientific misconduct
- Authorship and publication
- Mentoring
- Dealing with misconduct
- Rules and regulations

Dr Michael Gommel

The Process of Science



Issues in Data Management

- Permissions?
- Methods for research and recording?
- Who owns your data, ideas, ...?
- Who has access to your data?
- Safe storage: where, who, how?
- Duration of storage?
- Electronic storage? Own means?
- Data sharing?
- Lab notebook? Research diary?

Issues with Authorship and Publication

- Journal content?
- Authors' guidelines?
- How to present findings?
- Data and material access?
- Who must be/cannot be an author?
- Salami/duplicate publication?
- Plagiarism?
- Guest/phantom authorship?
- Corrigendum, erratum, addendum
- Retraction

What is "good practice" in research in your opinion?

Following safety instructions

Honesty

Documentation

Validation

Transparency

Completeness

Creativity

Teamwork

Publish all data

Being professional

Reproducibility

Defend your work

Being critical

Curiosity

Always copy your data

Open access

Trust (cautious)

Unbiasedness

Open-mindedness

Objectivity

Mentoring

Confidentiality

Communication

Novelty

Fairness

Documentation

thorough
complete
permanent
durable
understandable
explained
readable, legible
(in English)
organized
structured
consistent
accessible

user-friendly
searchability
available
timely
precise
accurate
detailed
truthful
tamper-proof
backed-up

Data

Exp. parameters
Measurements
Numbers
Spectroscopics
Pictures
Software, codes
Scripts
Statistics
Equations
Literature
Models
Hardware
Licences

Raw data
Designs
Methods
Devices, machines
Processes
Formalisms
Time stamps
Materials
Chemicals
E-Mails
Destruction/loss protocols
Minutes
Transfer protocols
Agreements

Ombudspersons

experts
mediation
advice
confidentiality
independence
neutrality
power
accessibility

whistle-blower

Prof. Neuweiler, Hübner
Dr. Grabow

What is „misconduct“ in research in your opinion?

Sloppy work

Incomplete docum. →
Not checking sources
Lack of calibration
Programming mistakes
Citation mistake
Bad statistics →

Questionable practices

Safety negligence →
Wrong methods
Biased citations
Citation club
Salami slicing

Stealing
Falsification
Fabrication
Unjustified destruction
Sabotage
Plagiarism
Bad management
Authorship
Default
Authorship
Duplication
Self-plagiarism
Obstruction
Denying

F. Herrmann/
M. Brach - D. Stapel - J.-H. Schön - H.-I. Moon - SFB 552 -

conduct" in research in your opinion?

Questionable practices

→ Safety negligence →
Wrong methods
Biased citations
Citation club
Salami slicing

Severe misc.

Stealing data
Falsification
Fabrication
Unjustified authorship.
Destroying data
Sabotage
Plagiarism
Bad mentoring
Author doping
Default authorship
Authors' club
Duplicate publication
Self review
Obstruction
Denying authorship

D. Stapel - J.-H. Schön - H.-I. Moon - SFB 552 - K.T. zu G.

Authors' lists

①

1 ————— N

equal contribution
(alphabetic)

②

1 ————— N

sequence determines
credit

③

1 ————— N

first - last - author-
emphasis

④

1	20
2	15
3	15
4	10
⋮	⋮
N	5

percentage contribution
indicated

Why do we have to engage in GSP?

- the world builds on science
- to determine who should be funded
- science is part of humanity
- to avoid punishment
- to keep a clear conscience
- to uphold trust and responsibility
- to keep being funded
- to avoid more rules & controls
- to keep the privilege of independent self-regulation