

Improving data quality
for sustainable
research



Training Course

“How to design, execute and
report robust preclinical
research”

27./28.11.2017

Price 890€
Early bird
registration
690€*
Academic
institutions pay
only 390€

The reproducibility crisis

... 72% of scientists reported
questionable research practices
by colleagues¹.

... 50-90% of published studies
have poor design and
inconsistencies, making them
difficult to reproduce².

... 85% of resources estimated to
be wasted in science³.

*Early bird registration until October, 15th

¹Fanelli D (2009) PLoS ONE 4(8): e5738.

²Freedman, LP et al. 2015. PLoS Biol. 13(6):e1002165.

³Chalmers, I and Glasziou, P 2009. The Lancet 374(9683).

Course Topics

- How to recognize data likely to be irreproducible
- How to generate reproducible data
- What to learn from clinical study design standards
- Meaningful sample size and statistical power
- Transparent record-keeping
- Case studies and analysing scientific publications



Partnership for
Assessment and Accreditation of
Scientific Practice

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PAASP was established in 2015 to provide consultancy and training in the area of Good Research Practice (GRP) for Life Sciences. PAASP has a combined total of over 50 years of expertise in academic and industrial biomedical research.

We strongly believe that more intense training of young scientists in GRP-related questions will ultimately lead to beneficial effects for the whole scientific community, and save valuable time and resources to increase our common knowledge.

Training Course for Young Scientists “How to design, execute and report robust preclinical research”

27/28 November 2017 (Heidelberg, Germany)

Goal of the Course

This interactive course teaches key elements how to recognize published work with high probability of not being reproducible and how to generate reproducible data

The workshop includes

- Two experienced lecturers for the best learning experience
- Training materials to read before the workshop
- Handouts and learning material during the workshop
- Licenses/copyrights for the training materials
- Breakout sessions in smaller groups to enhance discussions and improve learning
- A short examination about the main topics
- A certificate to confirm active participation

Group size

The workshop will consist of a maximum of 15 students / researchers.

Language

The workshop will be held in English.

Costs

Full costs for the course are 890€ (690€ for early bird registration of until October 15th).
Discount rate for academic institutions 390€ per participant during early bird registration.

Contact

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AGENDA

Time	Topic
Day 1	
	<u>Why</u> are we talking about research rigor?
	Introductions, Agenda, Workshop objectives
	Sources of poor data robustness <ul style="list-style-type: none"> • Study design and statistical power • Role of experimental conditions • False discovery rate • Generalizability of research findings
	Beyond study design: Broad assessment of Risks of Bias
	Open discussion: Exceptions when the standards discussed during the day cannot be implemented
	<u>What</u> do we need to do to enhance research rigor?
	Breakout groups: Examples of papers illustrating the need for higher standards in research rigor
	Reports from the Breakout groups
Day 2	
	Common mistakes in (statistical) data analysis
	Culture of tolerating negative results: from identifying key stakeholders to real-life examples and implications
	Study design (blinding, randomization, exploratory vs confirmatory research) – implementation challenges
	Open discussion: Use of lab journals – what they are and why are they important?
	Publication standards: ARRIVE guidelines
	<u>How</u> do we introduce the changes needed to enhance research rigor?
	Publication standards: Presenting data in publications
	Tools that an individual scientist can use (guidelines, recommendations, online repositories of information, software, etc.)
	Guided Brainstorming (in small groups accompanied by a lecturer / instructor): How to cope with the “negative” consequences of higher research quality standards (e.g. less positive data, lower chances to get published in a high IF journal, etc.)?
	What will I change in my research practice after this Workshop?
	Short test
	Closing remarks & Adjourn