



# Designing Clinical Research for Beginning Investigators

# Course schedule Fall Semester 2024

| Topic | Date and time             | Theme  | Lecturer                          | Readings   |
|-------|---------------------------|--|-----------------------------------|--|
| 1     | 17.09.2024<br>10:10-12:00 | Research<br>Question and<br>Study Plan                                   | Prof. Dr<br>Maria C.<br>Katapodi  | Readings week 1:  Designing Clinical Research by Hulley SB, et al. 4 <sup>th</sup> Edition  Chapters 1 and 2, pages 2-22 and Chapter 5, pages 43-46.   |
|       |                           |  |                                   | Reading for Journal Club:  Matthys et al. 2021 Effectiveness of a nurse-delivered FOCUS+) and a web-based (iFOCUS) psychoeducational intervention for people with advanced cancer and their family caregivers (DIAdIC): study protocol for an international randomized controlled trial. BMC Palliat Care; 20(1):193. doi: 10.1186/s12904-021-00895-z.                                     |
| 2     | 24.09.2024<br>10:10-12:00 | Study<br>participants  | Prof. Dr<br>Maria C.<br>Katapodi  | Readings week 2: Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 3, pages 23-31.  Reading for Journal Club: Briel M, et al. Comparison of randomized controlled trials discontinued or revised for poor recruitment and completed trials with the same research question: a matched qualitative study. Trials (2019) 20:800 https://doi.org/10.1186/s13063-019-3957-4 |
| 3     | 15.10.2024<br>10:10-12:00 | Measurement  | Prof. Dr.<br>Maria C.<br>Katapodi | Readings week 3:  Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 4, pages 32-42.  Reading for Journal Club: Yeshokumar et al. 2021 Exploration of patient- and relative- reported outcomes of cognitive, emotional, and social function after encephalitis. Brain Inj; 35(2):255-263. doi: 10.1080/02699052.2020.1865567   |
| 4     | 22.10.2024<br>10:10-12:00 | Observational<br>Studies I –<br>Cross sectional<br>and cohort<br>studies | Prof. Dr<br>Maria C.<br>Katapodi  | Readings week 4: Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 7, pages 85-96. Reading for Journal Club:  |





|   |                           |   |                                  | Hall et al. 2022 Prenatal Maternal Infections and Children's Neurodevelopment in the UK Millennium Cohort Study: A Focus on ASD and ADHD J Atten Disord;26(4):616-628. doi: 10.1177/10870547211015422.  |
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| 5 | 29.10.2024<br>10:10-12:00 | Observational<br>Studies II –<br>Case control<br>studies                        | Dr.<br>Zhongxing<br>Zhang        | Readings week 5:  Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 8, pages 97-116.  Reading for Journal Club:  Dauvilliers et al. Increased risk of narcolepsy in children and adults after pandemic H1N1 vaccination in France. Brain, 2013: 136; 2486–2496   |
| 6 | 05.11.2024<br>10:10-12:00 | Observational<br>Studies III –<br>Causal<br>inference, DAG                      | Dr. Chang<br>Ming                | Readings week 6:  Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 9, pages 117-136.  Reading for Journal Club: Zhang Y, et al. Estimation of causal effect in integrating randomized clinical trial and observational data - An example application to cardiovascular outcome trial. Contemporary Clinical Trials. 2021 Aug; 107:106492. doi: 10.1016/j.cct.2021.106492.                                 |
| 7 | 12.11.2024<br>10:10-12:00 | Experimental<br>studies I –<br>Randomized<br>blinded trials                     | Prof. Dr<br>Maria C.<br>Katapodi | Readings week 7:  Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 10, pages 137-150.  Reading for Journal Club: Katapodi, MC et al. Genetic testing and surveillance of young breast cancer survivors and blood relatives: a cluster randomized trial, Cancers, 2020 Sep 5;12(9):2526. doi: 10.3390/cancers12092526. PMID: 32899538  |
| 8 | 19.11.2024<br>10:10-12:00 | Experimental studies II – Alternative clinical trial designs and implementation | TBD                              | Readings week 8:  Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 11, pages 151-170.  Reading for Journal Club: Batthacharya at al 2021 Can patient decision aids reduce decisional conflict in a de-escalation of breast radiotherapy clinical trial? The PRIMETIME Study Within a Trial implemented using a cluster stepped-wedge trial design. Trials 22:397 https://doi.org/10.1186/s13063-021-05345 |





| 9  | 26.11.2024<br>10:10-12:00 | Studies of medical tests            | Dr. Chang<br>Ming                 | Readings week 9: Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 12, pages 171-190.  Reading for Journal Club: Ming C et al. Machine learning-based lifetime breast cancer risk reclassification compared with the BOADICEA model: impact on screening recommendations. British Journal of Cancer. 2020; Sep;123(5):860-867. doi: 10.1038/s41416-020-0937-0. Epub                                      |
|----|---------------------------|-------------------------------------|-----------------------------------|---|
| 10 | 03.12.2024<br>10:10-12:00 | Research using existing data        | Prof. Dr.<br>Maria C.<br>Katapodi | Readings week 10: Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 13 pages, 192-197.  Reading for Journal Club: Khera et al. 2021 Use of Machine Learning Models to Predict Death After Acute Myocardial Infarction JAMA Cardiology;6(6):633-641. doi: 10.1001/jamacardio.2021.0122.   |
| 11 | 10.12.2024<br>10:10-12:00 | Community and international studies | TBD                               | Readings week 11: Designing Clinical Research by Hulley SB, et al. 4th Edition Chapter 18 pages, 268-276.  Reading for Journal Club: Kim S, et al. Using a Tailored Digital Health Intervention for Family Communication and Cascade Genetic Testing in Swiss and Korean Families with Hereditary Breast and Ovarian Cancer: Protocol for the DIALOGUE Study. JMIR Research Protocols. 2021;10(6):e26264 doi: 10.2196/26264 |





## **Required Book:**

Hulley SB, Cummings SR, Browner WS, Grady DG, Newman TB. Designing Clinical Research, 4<sup>th</sup> Edition, Lippincott Williams & Wilkins

#### **Course Evaluation:**

- 1. Written response to weekly assignments related to the course content: 50%
- 2. Leading and moderating one of the weekly journal clubs: 30%
- 3. Active participation in weekly discussions: 20%

### Course room:

University of Basel, Biozentrum, Seminarraum 02.058, 2nd floor