COLOGNE GRADUATE SCHOOL OF AGEING RESEARCH

PhD Journal Club "Method and Logic in Biology" 2026/2027

Syllabus

Time & Venue

Kick-off Journal Club:
Friday, 09 October 2026, 09:00 – 13:00, MPI AGE, meeting room 2 (1st floor)
Regular Journal Clubs:
Thursdays *or tba*, 12:30 – 14:30, MPI AGE, seminar room 1 or *tba*

Dates and Chaperones

Journal Clubs (*corresponding lecture*):

1)	09 Oct. 2026 Friday!!! 09:00 – 13:00	**Kick-off Journal Club:** Dr. Sebastian Grönke / Schaefer Lab *(General Introduction to Ageing)*
2)	05 Nov. 2026 Meeting Room 4, 2nd floor, MPI AGE	Dr. Aleksandra Zecic / Trifunovic Lab *(Model Systems of Ageing)*
3)	19 Nov. 2026	Prof. Dr. Anna Poetsch *(Systems Biology of Ageing)*
4)	11 Dec. 2026 Friday!!!	Dr. Jane Reznick (*Model Systems of Ageing)*
5)	14 Jan. 2027	PD Dr. Thomas Wunderlich *(Dysregulated Metabolism to Ageing-associated Disorders)*
6)	26 Feb. 2027 Friday!!! Change of Date!	Prof. Dr. Alfredo Ramirez *(Stress-signaling in Development, Homeostasis and Disease)*
7)	08 Apr. 2027	Dr. Stephanie A. Fernandez (*Metabolism*)
8)	14 May 2027 Friday!!!	Dr. Marianna Tolve / Korotkova Lab *(Neuronal Control of Metabolism and Ageing)*

9)	03 Jun. 2027	Dr. Gabriele Zaffagnini *(Postpartum Neurocircuits)*
10)	17 Jun. 2027	Prof. Dr. Jan Riemer *(Cell Biology)*
11)	01 Jul. 2027	Dr. David Meyer (Genome Stability in Ageing)
12)	15 Jul. 2027	Prof. Dr. Oliver Cornely (Translational Research)

Publications:

1)	09 Oct. 2026 Friday!!! 09:00 – 13:00	**Kick-off Journal Club:** *Hallmarks of aging: An expanding universe*, López-Otín et al. **2023**, Cell https://doi.org/10.1016/j.cell.2022.11.001
2)	05 Nov. 2026 Meeting Room 4, 2nd floor, MPI AGE	*Apoptotic stress causes mtDNA release during senescence and drives the SASP*, Victorelli et al. **2023**, Nature https://doi.org/10.1038/s41586-023-06621-4
3)	19 Nov. 2026	*AlphaGenome Atlas: in silico mutagenesis of the entire human genome improves prioritization and interpretation of non-coding variants*, Cheng et al. **2026** https://storage.googleapis.com/deepmind-media/DeepMind.com/Blog/alphagenome-atlas-a-predictive-map-of-every-possible-dna-letter-change-in-the-human-genome/alphagenome-atlas.pdf
4)	11 Dec. 2026 Friday!!!	*A cGAS-mediated mechanism in naked mole-rats potentiates DNA repair and delays aging*, Chen et al. **2025**, Science https://doi.org/10.1126/science.adp5056
5)	14 Jan. 2027	*ACLY inhibition promotes tumour immunity and suppresses liver cancer*, Gautam et al. **2025**, Nature https://doi.org/10.1038/s41586-025-09297-0
6)	26 Feb. 2027 Friday!!! Change of Date!	*Consensus meta-analysis of genome-wide association studies for Alzheimer's disease and related dementias*, EADB et al. **2026**, Nature Genetics https://doi.org/10.1038/s41588-026-02583-1
7)	08 Apr. 2027	*The neuromuscular junction is a focal point of mTORC1 signaling in sarcopenia*, Ham et al. **2020**, Nature Communications https://doi.org/10.1038/s41467-020-18140-1

8)	14 May 2027 Friday!!!	*Amyloid-β-driven glymphatic dysfunction in Alzheimer's disease model mice is driven by Ca^{2+}-mediated increases in astrocytic cholesterol*, Zhang et al. **2026**, Nature Neuroscience https://doi.org/10.1038/s41593-026-02261-9
9)	03 Jun. 2027	*The maintenance of oocytes in the mammalian ovary involves extreme protein longevity*, Harasimov et al. **2024**, Nature Cell Biology https://doi.org/10.1038/s41556-024-01442-7
10)	17 Jun. 2027	*ER remodelling is a feature of ageing and depends on ER-phagy*, Donahue et al. **2026**, Nature Cell Biology https://doi.org/10.1038/s41556-025-01860-1
11)	01 Jul. 2027	*Loss of epigenetic information as a cause of mammalian aging*, Yang et al. **2023**, Cell https://doi.org/10.1016/j.cell.2022.12.027
12)	15 Jul. 2027 12:30 – 14:00 !!!	*TBD*

Course Description

Each journal club session will be taught by a faculty member. One current or classic paper with strong relevance in the field of ageing research will be discussed per session. You will receive all publications in advance in order to have sufficient time for preparation. For each paper, one student will be in charge of outlining the major hypothesis and summarizing the results, concluding statements and posing future directions (15 min). All other students will be responsible for describing, but most importantly for critically analyzing 1 - 2 figures per paper (~5 min). After the presentations, the respective paper will be extensively discussed (~20 min) by the group and the chaperone will give feedback to the whole group on their performance. Individual performance will be evaluated by the chaperones and the feedback will be handed out to the students at a later stage.

Course Objective

The journal club aims to teach you critical thinking skills. Moreover, it provides an overview of current literature and classical publications. You are strongly encouraged to actively participate. PIs should strongly emphasize the use of questions as a rhetorical and narrative device that drives the science. Therefore, you should present the depicted hypotheses being tested as questions, the content of each figure should first be posed as a question. PIs are expected to play an active role in challenge the students and raising critical points that they might have been missed.

Guidelines for presenting a paper

- What is the overall hypothesis being tested in the paper?

- What approach did the authors use to address the hypothesis?
- What is the result and why is it important?
- Are new research questions raised by the work in the paper?
- Are there alternatives? Limitations of each approach?
- What are the major findings?
- Did you see patterns or trends in the data that the author did not mention?
- Are the conclusions drawn from the results justified?
- Are there appropriate controls?
- Are there other factors that could have influenced the results?
- Were the hypotheses adequately tested?
- If you were to continue this research, what would you do next and how?