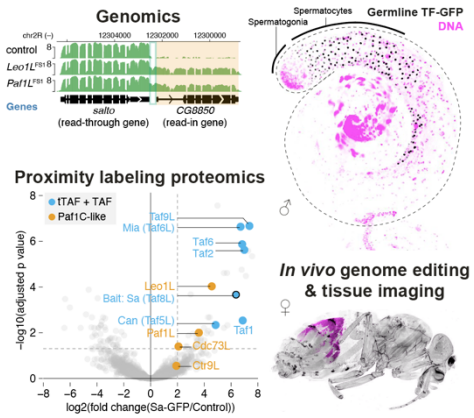
PhD position – Andersen Lab on **Genetic Innovation**

Aarhus University, Denmark

Germ cells build a second gene-expression machinery.

We want to know why.

Open PhD position.



Starting time: From Jan 1, 2027 (flexible)

Application deadline: Rolling review from Oct 1, 2026

Our research

In our group, we aim to understand how germ cells maintain animal fertility and protect our genomes from selfish genetic elements. To achieve this, we study the molecular mechanisms and genetic innovation of **genome regulation, germline biology and intragenomic conflicts**.

The project topic

- **Duplicated machines**

Animals from flies to humans have duplicated the gene expression machinery (TFIID, TFIIA, PAF1C, dREAM, etc.) and switch the copies on mainly in germ cells. Delete one and the animal is sterile. Uncover why germ cells need copies of machines that already work.

- **Parallel pathways**

Our recent work shows the germline copies are wired to each other: a complete alternative route from promoter to mRNA, assembled out of duplicates. You would discover what these complexes are actually made of and what they do.

- **Essential but rapidly evolving**

It's textbook dogma that important genes are highly conserved. But the duplicated gene expression factors flip this: despite being essential for fertility, these genes evolve super-fast. Help figure out what they are running from or towards!

What you would learn

Fly genetics and genome editing | quantitative proteomics | chromatin and transcription genomics | confocal imaging of RNA, DNA and protein | domain expertise in germline biology and gene | computational analyses | designing experiments, doing experiments, discussing the science, writing scientific text, discussing it all again, presenting your work | working together as a team

Who we are looking for

We are looking for motivated candidates with a Master's degree (or enrolled in as Msc program) in molecular biology, biochemistry, genetics, or a related field. Bsc degree candidates enrolled on a Msc program can also apply. Experience with protein biochemistry, genetics, or genomics is an advantage but not required – enthusiasm, rigor, and curiosity are what matter most. Good communication skills in English are essential.

HOW TO APPLY

Simply email a PDF to Peter Andersen (pra@mbg.au.dk):

1-page motivation letter, a 2-page CV, degree transcripts, and two referee contacts. Also, please tell me one result or experience that you are proud of, and why it mattered.

Not sure whether you fit? Just email me two lines and your CV and ask. No fly experience needed.

THE POSITION

- Three years, fully funded. Short extension possible.
- Generous monthly salary (Danish regulations)
- Close supervision. Strong PhD community.

Links: our website | our lab manual | studying in Aarhus | being a PhD student at AU