

About AITHYRA

AITHYRA is seeking three motivated postdoctoral fellows to join our Google.org-funded Lighthouse Project to study virus-host interactions. These positions connect research in the Nomburg Lab, with the groups of Michael Bronstein (AI for biology) and Georg Winter (chemical biology and functional genetics). This is a fantastic opportunity to join an interdisciplinary team that combines AI, structural biology, molecular virology, functional genetics, and robotics to decode the virus host conflict and understand how viral rewiring can inform drug design.

The Nomburg Lab uses protein structure prediction and comparison to study viral immune antagonists (see Nomburg et al., Nature 2024 https://doi.org/10.1038/s41586-024-07809-y). We recently released the first manuscript from the Nomburg lab (bioRxiv https://doi.org/10.64898/2026.07.21.739742) where we map the structural landscape of the viral proteome and show that conserved folds are recurrently used by pathogens for immune antagonism.

Join us in shaping the future of biomedical AI - where science meets innovation, and where magic happens.

Postdoctoral Fellow (all genders)

Start date: flexible
Contract: full--time, fixed-term
Positions available: 3

Available projects fall into three broad categories. The relevant laboratories and desired skill background is indicated for each.

- General studies of virus-host interactions (**Nomburg, experimental or computational candidates**):
  This will continue the Nomburg lab's efforts to use protein structure-based bioinformatics, functional genetics, and virology to study (i) viral mechanisms of immune antagonism, and (ii) cellular mechanisms of viral sensing.

- Functional genetics for virus-host interactions (**Nomburg + Winter, experimental candidates**):
  We will establish functional genomics methods to study virus-virus and virus-host interactions and coopt viral reprogramming for therapeutic design.

- AI for virology (**Nomburg + Bronstein, computational candidates**):
  This project includes implementation and development of new AI methods to study virus-host interactions, as well as implementation of protein and genome language models to understand protein function and evolution.

Background: We are interested in candidates with either a computational or experimental background. We are highly interdisciplinary and support and encourage experimental scientists in our lab to learn computational methods (and vice versa).

We are dedicated to the success of lab members. The Nomburg Lab and AITHYRA are collegial and highly collaborative, with ongoing computational and experimental work supplemented by a state-of-the-art AI-guided robotics facility. These projects will be implemented in close collaboration with other lab members and members of the AITHYRA team and will be tailored to fit the candidate's interests and wishes for technical development. Lab culture is very important to us, so we strive to be inclusive, friendly, and share culture and science.

Your Profile

- A Ph.D. in biology, virology, biochemistry, bioinformatics, computer science, artificial intelligence, or another related field.
- A strong publication record, including at least one first author publication.
- Experimental candidates:
  - Proven experience leading experimental projects.
  - Strong background in molecular biology, tissue-culture, cloning, etc.
  - Background in one or more of the following areas is optional but welcome:
    - A virology background, including work with viral infections, viral rescue and reverse genetics, and/or viral replicon systems.
    - A biochemistry background.
    - Experience conducting perturbation-based or high-content screens.

        - Experience using robotics infrastructure.
        - Experience with molecular evolution and phylogenetics analyses.
        - Experience combining computational and experimental methods.
- Computational candidates:
    - Substantial experience in python, R, and/or bash.
    - Proven experience leading computational biology projects.
    - Experience using high-performance computing systems.
    - Background in one or more of the following areas is optional but welcome:
        - Experience with structure-based bioinformatics.
        - Experience with molecular evolution and phylogenetics analyses.
        - Experience combining computational and experimental methods.
- Experience developing and/or implementing AI models, including and beyond language models, is required for the collaborative project with Michael Bronstein.

What We Offer

- A dynamic and collaborative research environment that bridges AI and the life sciences.
- Extensive collaborative opportunities with other Principal Investigators at AITHYRA, bridging expertise in machine learning, computational biology, virology, and chemical biology.
- Access to high-performance compute infrastructure and expert collaborators.
- Access to state-of-the-art experimental laboratories and AI-driven robotics infrastructure.
- Close mentorship, training opportunities, and career development support.
- Diverse social, cultural, and sports activities organized by the institute.
- Excellent benefits, including insurance coverage and health services.
- A gross annual salary of 70.200 EUR
- Funding for 3 years with support to apply for fellowships and grants.
- Relocation allowance, and fully-paid business apartment for the first 3 months.
- Workweek: 40 hours. Core hours: Monday to Thursday 09:00-15:00, Friday 09:00-13:00.
- Up to one home office day per week.

Ready to contribute to the next wave of scientific discovery?

Application Process

Review of applications will begin immediately and continue until **December 31, 2026**.

- **Curriculum Vitae**, including a full publication list. Computational candidates should include a github link with representative code.
- **Cover lette**r that explains your prior research background, fit for the position, and interest in the Nomburg Lab. For candidates that wish to join collaborative projects with the Winter and Bronstein labs, please indicate your interest and explain your fit.
- Names and contact information for two references.

Should you have any questions, please contact the AITHYRA HR Team at recruitment@aithyra.at

We are a curiosity-driven, globally minded organization committed to building an inclusive and flexible workplace. At AITHYRA, we believe diverse perspectives strengthen collaboration and spark innovation. We welcome applicants from all backgrounds, cultures, and experiences to help us create teams that reflect the communities our science serves. Your unique contribution matters here - come realize your full potential with us.

Apply now