



CoAGE

Join us as a PhD student!

You are thinking of doing your PhD in the Life Sciences and are interested in research topics like healthy ageing and age-associated diseases? The Cohorts for Healthy Ageing (CoAGE) is offering **talented scientists** the chance to work on **cutting edge research projects in the field of ageing research and epidemiological studies**.

You will be part of the CoAGE graduate programme. This programme focuses on investigating the causes of age-related diseases, such as cardiovascular diseases, diabetes and cancer, and why they often occur together. CoAGE brings together experts who are studying healthy ageing and age-related diseases to address current issues in an interdisciplinary manner. Each of these experts leads one of the major German ageing studies and will supervise a CoAGE PhD student where the study is located.

PhD position on 'Association of the pituitary-thyroid axis with COVID-19 infection and vaccine-based immune response in the general German population' in Greifswald, Germany

Different organs like thymus, spleen or lymph nodes are important for proper functioning of the body's immune system. The involvement of thyroid hormones (T3 and T4), that are secreted in response to thyroid stimulating hormone (TSH) from pituitary glands, target the immune system to modulate specific immune responses like natural killer cell activity, antiviral action of interferon and proliferation of T and B-lymphocytes. Some studies associated thyroid dysfunction (lower fT3, fT4, TT3) with a variety of poor outcomes during COVID-19 infections including critically increased in-hospital mortality, prolonged hospital stay and increased serum biomarkers of inflammation and cardiac injury in COVID-19 patients. Despite the association, a study using Mendelian randomization models did not find any susceptibility to COVID-19 in patients with thyroid dysfunction. It remains an open question whether and to which extend COVID-19 infections influence thyroid functions and vice versa.

The aim of the proposed CoAGE PhD project is to assess whether antibody titres correlate with proper thyroid functioning after COVID-19 infection or vaccination within the Study of Health in Pomerania (SHIP). In all SHIP cohorts, measurements of TSH, fT3, fT4 and anti-TPO-antibodies as well as sonographic measurements of thyroid volume, nodules and thyroid patterns are available. In SHIP-COVID, a large number of COVID-related parameters like anti-spike and anti-nucleocapsid proteins antibodies have been measured at different time points in around 800 individuals of the SHIP-START cohort. We will use different regression models to analyse the association of thyroid size and functional parameters with the immune response induced by SARS-CoV-2 infection and vaccination. In addition, we will also investigate the association of inflammatory parameters (hsCRP, fibrinogen and white blood cells count) with the COVID-19 infection as well as with the thyroid functional parameters. This will enable us to understand the role of a healthy thyroid in combatting viral infections.

We will extend the study with the similar set of analyses to other German Cohorts like the Gutenberg Health study and the German National Cohort.

Supervision: Henry Völzke (Greifswald University Medicine); [The SHIP Cohorts](#)

Requirements

Are you an ambitious scientist looking to push the boundaries of research while interacting with colleagues from multiple disciplines and cultures? Would you like to employ **bioinformatics and cutting-edge computational biology** to advance translational research? Then joining CoAGE is your opportunity to give your scientific career a flying start!

Further requirements:

- Master or equivalent
- Interactive personality & good command of English
- 2 letters of reference
- background in bioinformatics, biostatistics or data science is a plus

What else you need to know

- **Starting Date:** 01.10.2024
- **Duration:** 3 years
- **Deadline:** 31.08.2024

Have we sparked your interest?

To apply, please send a **single PDF file** containing your cover letter, CV, certificates and at least two professional references to coage-recruiting@imb.de. In your email, **please specify the project for which you are applying**. IMB is an equal opportunity employer.

Declaration of Consent and Data Protection

By sending us your application, you are consenting to us saving your personal data in order to carry out the selection process. You can find more information on data protection and retention periods at <https://www.imb.de/jobs/data-protection>.