

Postdoctoral Fellowship in Bioinformatics and Computational Biology at the University of Coimbra

We are looking for a highly motivated **postdoctoral researcher** to join the SYSSCA project – a pioneering initiative that applies systems biology and artificial intelligence to the study of Spinocerebellar Ataxias (SCAs), which are inherited neurodegenerative diseases without any cure to date. Our aim is to identify and validate novel biomarkers and drug candidates, advancing both the scientific understanding and clinical management of SCAs. The SYSSCA project will be led by Dr. Matthias Futschik, Head of the Bioinformatics and Data Analytics Unit at the Centre for Innovative Biomedicine and Biotechnology (<https://cibb.uc.pt/en/bioinformatics-and-data-analytics>), and executed in close collaboration with members of the Vectors, Gene and Cell Therapy group (<https://cibb.uc.pt/en/research-group/vectors-gene-and-cell-therapy>), an internationally leading hub of Spinocerebellar Ataxia research.

Key Tasks for the Research Fellow:

- Integration and curation of omics and clinical datasets related to SCAs
- Bioinformatic and systems biology analysis to uncover disease mechanisms and modifiers
- AI-driven drug repurposing using expression and network-based strategies
- Development of a web resource for querying and visualizing SCA data
- Contribution to public engagement and dissemination activities

The position represents an exceptional opportunity to contribute to impactful, cutting-edge translational research in rare diseases and to build a highly competitive international research profile at the University of Coimbra, which is the oldest university in Portugal and a UNESCO World Heritage Site. The position also offers opportunities to develop complementary skills in science communication and commercial exploitation, supported by institutional training. While the core work is computational, fellows with interest may engage in experimental research as well.

Essential Qualifications and Skills:

- Doctoral degree in the scientific area of Bioinformatics, Systems Biology, Computational Biology, Molecular Biomedicine, Molecular Biology and related areas, **obtained within the three years prior to the start date**
- Knowledge in R and/or Python programming for high-throughput omics data analysis and visualisation
- Demonstrated track-record in analysing omics datasets
- Familiarity with biological databases and pathway resources
- Proven ability to work both independently and as part of a research team
- Proficiency in English (oral and written)
- Publications in international peer-reviewed scientific journals

Advantageous Skills:

- Knowledge in machine-learning or AI methods, especially network/graph approaches
- Knowledge in network biology (e.g., analysis of interaction networks)
- Knowledge in web development or scientific software creation
- Knowledge in bioinformatic study of diseases

Further Fellowship Details:

- **Duration:** Up to a total of 33 months
- **Start Date:** October 2025 (negotiable)
- **Eligibility:** Holders of a PhD degree in Bioinformatics, Systems Biology, Computational Biology, Molecular Biomedicine, Molecular Biology or related areas obtained **within the last 3 years** prior to the start date of the grant.
- **Selection process:** Details can be found at <https://euraxess.ec.europa.eu/jobs/363061> and <https://apply.uc.pt/IT137-25-300>

Interested candidates are encouraged to contact Matthias Futschik (matthias.futschik@uc.pt) for more information about the project and to consult the project web-site: <http://www.sysbiolab.eu/syssca.html>.

Application Instructions:

Applicants should submit

- A motivation letter (including contact details of two referees and covering the essential and optionally desirable qualifications)
- Curriculum Vitae (CV) dated and signed
- academic degree certificates
- optionally other supporting documents

Application Deadline: 8 September 2025

Apply via the UC platform: <https://apply.uc.pt/IT137-25-300>