

Contact details: [estere.seinkmane@gmail.com](mailto:estere.seinkmane@gmail.com) | +44 7522141942

Nationality: Latvia (with UK settled status: full right to work in both EU and UK)

**A scientist by training (Cell Biology PhD, University of Cambridge/MRC LMB) with experience in academia, industry and non-profit sectors. Main expertise includes cell biology and biochemistry, proteomics, as well as other -omics techniques, in addition to a diverse skillset of teaching, outreach, community-building, project coordination, and communications.**

## EDUCATION

- |                             |  |
|-----------------------------|--|
| <b>Oct 2017 – Apr 2022</b>  | <b>PhD in Biological Sciences, University of Cambridge</b><br><b>MRC Laboratory of Molecular Biology (LMB)</b><br><b>Thesis: Circadian regulation of protein homeostasis</b>   |
| <b>Sept 2013 – Jul 2017</b> | <b>BSc in Molecular Cell Biology</b> with a year in Europe, <b>University of York, UK</b><br><b>Thesis: The role of protein glycosylation in mesenchymal stem cell differentiation</b><br><b><i>First class honours with distinction</i></b> (82 weighted average) |

## SELECTED WORK EXPERIENCE

### OUTREACH & COMMUNITY-BUILDING

- |                             |   |
|-----------------------------|---|
| <b>Oct 2022 – present</b>   | <b>Co-Director &amp; Programme Manager at Cell Ag UK</b> <ul style="list-style-type: none"><li>Leading on science outreach and public engagement: e.g. organised a panel talk at a music festival in Scotland, interactive workshops at schools.</li><li>Established several new partnerships; involved in community-building projects: careers development programmes, journal clubs</li><li>Secured grant funding, talked at public events nationally and internationally</li><li>Completed a project on UK universities' potential in cellular agriculture. Led on conceptualisation, planning and implementation, incl. gathering relevant quantitative and qualitative data; interviewing stakeholders; synthesising, summarising and visualising findings</li></ul> |
| <b>Apr 2025 – present</b>   | <b>Science outreach &amp; open science event organiser</b> <ul style="list-style-type: none"><li>Organising an interdisciplinary science school &amp; retreat at INTP (Institut Nature e Teoria en Pireneus) in France in Sept 2025</li><li>Working on open science and metascience initiatives; securing grant funding</li></ul>   |
| <b>Sept 2018, Sept 2019</b> | <b>Volunteer Scientist at European Researchers Night / LifeLab, UK</b> <ul style="list-style-type: none"><li>Bringing research and hands-on experiments to general public in shopping centres</li><li>Designing and delivering interactive lecture on my research, as part of "LifeLab School Roadshow"</li></ul>   |
| <b>Jun 2018 – Jun 2022</b>  | <b>Coordinator, Cambridge Convoy Refugee Action Group, UK</b> <p>Acted as an Outreach coordinator, and previously as an executive committee secretary for the registered charity. Involved in events organisation, volunteer recruitment, communications &amp; G-suite admin.</p>   |

### LEARNING AND TEACHING

- |                            |  |
|----------------------------|--|
| <b>Jun 2018 – Aug 2021</b> | <b>Session Leader, Postgraduate Outreach at the University of Cambridge</b> <ul style="list-style-type: none"><li>Worked for University's Admissions Office on various widening participation programmes (e.g. HE+, Melanin Medics), open day events, etc: designed, organised and led bespoke taster lectures and supervisions for high school students.</li><li>Developed online resources (reading, activity sheets) on Biology topics for She Talks Science programme at Murray Edwards college; organised a site visit to the LMB for students</li></ul>  |
| <b>Jun 2020 – Apr 2021</b> | <b>PhD Tutor at The Scholars Programme, Brilliant Club</b> <ul style="list-style-type: none"><li>Designed and conducted a set of tutorials on my research topic to pupils from low representation backgrounds with the aim to introduce them to HE-style education and increase access</li><li>Developed a short syllabus with a dedicated handbook and delivered 16 virtual (due to the pandemic) group sessions (a set of 8 tutorials for 2 groups).</li><li>Set homework and essay questions, incl. a 2000-word final assignment. Provided written feedback throughout the course, assessed and graded the assignments.</li><li>Undergone training on syllabus design and tutorial delivery</li></ul> |

**Jun 2011 – present      Teacher and Mentor at ABFS, Latvia**

- Independently conducted hands-on science projects for middle- and high school pupils during ABFS summer school, as well as read lectures on various STEM topics
- Organised and delivered extra-curricular activities, creative workshops and social events
- Acted as welfare tutor for pupils at the school, subsequently as a mentor for youth leaders and assistants

**Aug 2017      Research Assistant & Course Leader at School of Molecular and Theoretical Biology, Spain**

Worked at an international summer school for high school students from diverse backgrounds: acted as a lab assistant as well as a course leader for afternoon classes.

**RESEARCH**

**May 2025 – present      Research Fellow – Computational Scientist for Proteomics at UCL Cancer Institute, London**

- Responsible for implementing computational approaches for quantitative processing of mass spectrometry data, characterisation of the regulatory phosphoproteome, and data integration with multi-omics.
- Working in close contact with other members of the institute and managing a variety of high-paced, collaborative projects; collaborating with researchers from project design to the interpretation of experimental results as well as training other scientists

**Jun 2023 – Oct 2024      Proteomics Scientist at RxCelera, Cambridge**

Delivered ProQuant® platform offering proteomics and data analysis services for drug discovery:

- Designed LC-MS/MS proteomics experiments for biotech and pharma clients, e.g. for analysis of biologics' cleavage patterns, proteoforms, PTM biomarkers in human serum.
- Processed and analysed proteomics data from raw mass spectra to biological insights using commercial & open-source software and custom Python & R scripts.
- Developed bioinformatics methods, incl. DIA analysis pipelines and QC procedures;
- Conducted exploratory data analysis on clinical and plasma proteomics datasets
- Managed internal and external projects, collaborating with *in vitro* scientists and service providers, and presenting findings to clients; supported data-driven projects beyond proteomics

**Oct 2017 – Oct 2021      PhD Candidate**

**Nov 2021 – Oct 2022      Postdoctoral scientist at MRC Laboratory of Molecular Biology, Cambridge**

- Completed PhD project, investigating the interplay between cell-autonomous circadian rhythms and protein homeostasis in mammalian cells. Developed and optimised cellular assays to gain insight into temporal regulation of cell metabolism, protein synthesis & degradation, and post-translational function
- Developed and implemented advanced pulsed SILAC-TMT dynamic proteomics strategies as well as novel analyses of existing -omics datasets (RNAseq, phosphoproteomics, network/GO analyses)
- Involved in multiple collaborative projects, incl. performing a novel phosphoproteomics and protein disorder regions (IDR) analysis for a biophysics project, resulting in a *Nature* article
- Wrote and edited multiple scientific articles, reviews, proposals, presentations; presented findings at national and international conferences
- Proactively involved in public engagement initiatives around the institute's research, incl. participating in open days, organising school visits
- Organised scientific conferences (e.g. graduate student-run interdisciplinary conference, UK Clock Club – a circadian community meeting) and talks

**2014-2016      Research Intern, multiple months-long placements in UK, Germany, Sweden**

- Worked with GC-MS-based glycomics and Bayesian modelling approaches for investigating protein glycosylation (University of York, research assistant & final year project)
- Developed tumour spheroids methods for spatial metabolomics (EMBL, Germany, internship)
- Conducted CRISPR screens for glioblastoma cancer models (Karolinska Institutet, Sweden, Erasmus+)
- Employed lipidomics and signalling studies in prostate cancer organoids (Babraham Institute, UK, Amgen Scholars placement)

## KEY SKILLS AND TRAINING

- **Teaching:** preparation of written and oral teaching materials, facilitation, delivery of virtual and in-person classes, assessment & feedback
- **Communications:** writing, editing, and oral presentations for academic and non-academic audiences
- **Bioinformatics and programming skills:** R (advanced), Python (intermediate); statistical analysis of omics data (advanced proteomics, PTM analysis; experience with other -omics); biological network gene ontology analysis; data integration with public databases
- **Other computer skills:** full proficiency in MS Office365 and Google Suite, database software (Filemaker), web management, AI tools, virtual learning environments
- **Laboratory skills:** extensive hands-on experience and understanding of cell culture (incl. stem cells, 3D models, cancer models) and cell assays; protein biochemistry; molecular genetics; microscopy; FACS
- **Languages:** English (fluent); French, German (intermediate); Latvian, Russian (fluent)
- **Other transferable:** problem solving, critical thinking; teamwork; project coordination; event organisation

## SELECTED AWARDS & PUBLICATIONS

- 2022 Excellence Award (Society for Research of Biological Rhythms – SRBR)** – award of \$600 for presentation at SRBR 2022 conference (~5 awards given out, selected from ~500 submitted abstracts)
- 2020 Merit Award (SRBR)** – award of \$300 for (online) presentation at SRBR 2020 conference
- 2017 LMB Scholarship (Medical Research Council)** – full paid tuition and living expense stipend for 3.5 years for PhD study at the University of Cambridge and MRC Laboratory of Molecular Biology (LMB)
- 2017 Top Project award (Royal Society of Biology)** for the best undergraduate final year project

### Publications

- E. Seinkmane, et al., Circadian regulation of macromolecular complex turnover and proteome renewal. *EMBO J* (2024)
- J. Watson, E. Seinkmane, et al., Rapid changes in protein condensation buffer intracellular water against osmotic and thermal challenge, *Nature* (2024)
- D. Wong, E. Seinkmane, et al., CRYPTOCHROMES promote daily protein homeostasis. *EMBO J.* (2022).
- A. Stangherlin, E. Seinkmane, J. O'Neill, Understanding circadian regulation of mammalian cell function, protein homeostasis, and metabolism. *Curr. Opin. Syst. Biol.* (2021).
- A. Stangherlin, [...], E. Seinkmane, [...], et al., Compensatory ion transport buffers daily protein rhythms to regulate osmotic balance and cellular physiology. *Nat. Commun.* (2021).
- M. Putker, D. Wong, E. Seinkmane, et al., CRYPTOCHROMES confer robustness, not rhythmicity, to circadian timekeeping. *EMBO J.* (2021)
- K. Wilson, [...], E. Seinkmane, et al., Glycans modify mesenchymal stem cell differentiation to impact on the function of resulting osteoblasts. *J. Cell Sci.* (2018)
- N. Hoyle, E. Seinkmane, et al., Circadian actin dynamics drive rhythmic fibroblast mobilization during wound healing. *Sci. Transl. Med.* (2017)
- N. Rzechorzek, [...], E. Seinkmane, et al., Circadian clocks in human cerebral organoids. *bioRxiv* (2024)