

The [Center of Excellence in Decision-Analytic Modeling and Health Economics Research](#) (CoE-DAMHER) at the Swiss Institute of Translational and Entrepreneurial Medicine (sitem-insel), led by Dr. Rowan Iskandar, and the [Child and Adolescent Health Research group](#) with the Swiss Rare Disease Registry at the Institute of Social and Preventive Medicine (ISPM) at the University of Bern, led by Prof. Dr. med. Claudia Kuehni, are looking for:

PhD student in health economic evaluation of genetic newborn screening and AI-based tools for diagnosing rare diseases

Period: PhD contract (100%) for 3 years with a starting date no later than August 2022

Supervisors: Dr. Rowan Iskandar and Prof. med. Claudia Kuehni

Place: University of Bern, Bern, Switzerland

The PhD position is a part of the [Screen4Care](#) project, a public-private collaboration of 35 partners funded by the European Commission's Innovative Medicines Initiative. Screen4Care aims to shorten the time required for rare disease diagnosis and efficient intervention by utilizing genetic newborn screening and advanced analysis methods such as machine learning. Under the supervision of Dr. Iskandar (the project partner lead from sitem-insel), the successful candidate will co-lead workstreams related to health economic evidence generation within Screen4Care. The PhD student will be mainly responsible for (1) the design and development of mathematical models to emulate the clinical pathways and disease trajectories, (2) the conduct of comparative analyses between genetic newborn screening and other screening modalities (e.g., cost-effectiveness analyses) that will be piggybacked to the envisioned clinical studies, and (3) the conduct of uncertainty quantification due to the pervasive uncertainty (e.g., lack of knowledge and data due to the rarity of the diseases). The candidate is expected to manage the daily activities of the workstreams and liaise with academic and industry partners.

Your roles in addition to the Screen4Care workstreams

- Contribute to ongoing research within the groups, e.g., the Swiss Rare Disease Registry
- Contribute to the development of grant proposals
- Present interim results at scientific conferences and prepare project reports and manuscripts

Your profile

- Master's degree in health economics, epidemiology, biostatistics, or other quantitative disciplines
- Experience or familiarity with conducting cost-effectiveness analyses alongside clinical studies/trials
- Knowledge of epidemiology, decision-analytic modeling, and disease modeling
- Strong interest in rare disease research
- Reasonable basis and strong motivation for acquiring necessary skills in advanced quantitative methods and programming
- Experience with R and/or Python for modeling and statistical analyses
- Excellent English proficiency in writing and speaking

We offer

- Embedded in two research groups with high research outputs and excellent track records in securing competitive grants
- Part of a large research project involving scholars in more than 10 European countries and from large academic centers as well as major pharmaceutical and medical device companies (www.screen4care.eu).
- Highly connected research network within the University of Bern and innovation-driven ecosystem at sitem-insel
- Enrolment in a graduate school of the University of Bern (www.gcb.unibe.ch or www.ghs.unibe.ch)
- Opportunity to participate in bleeding-edge method development research at CoE-DAMHER
- Preparation for a research career
- Salary according to the pay scales of the Swiss National Science Foundation for PhD students

Application requirements

- CV
- A letter of motivation highlighting your relevant experience and skills for the PhD project (max two pages)
- A writing sample (published work or Master's thesis)
- Official transcripts from bachelor and master programs

Please send the above documents as a single PDF to rowan.iskandar@sitem-insel.ch and with a copy to Prof. med. Claudia Kuehni (claudia.kuehni@ispm.unibe.ch). For informal inquiry about the opportunity, please contact Dr. Rowan Iskandar (rowan.iskandar@sitem-insel.ch).