

## Job Opening

**in the Agglomeration and Social Networks Research Group  
Institute of Economics, Centre for Economic and Regional Studies**

**Position: Post-Doc Researcher, full time**

**„The Role of Social and Collaboration Networks in Economic and Technological Progress”**

**Period:** 22 months.

### **Job description:**

The Agglomeration and Social Networks KRTK Lendület Research Group (ANET Lab) aims to uncover how urbanization and the structure of social networks are interrelated and seeks for new approaches in economic geography, computational social science and network science. We build our research projects on large data bases and intend to answer the questions how social networks form in geographical space, how the structure of social networks explain economic and technological progress in cities, and how dynamic learning and spreading processes happen in spatial social networks.

ANET Lab is involved in a variety of international scientific collaboration and is also active in research co-operation with companies. Our scientific articles have been published in interdisciplinary journals (PLoS ONE, Scientific Reports), in leading journals in geography (Economic Geography, Journal of Economic Geography, Regional Studies), economics (American Economic Review), and management (Journal of Technology Transfer, Small Business Economics). Our research is directly relevant for innovation policy and provides new insights for company managers and for the public. For further information about the research lab, see <http://anet.krtk.mta.hu>.

We are seeking a Post-Doc colleague who will be employed by ANET Lab from September 2020 until June 2022. The new colleague is expected to join at least one of the ongoing research projects of the Lab but will be given the opportunity to start new ones as well. Our projects include:

- Automation and development: we investigate how AI and automation threatens occupations, influences industry structure, business opportunities and labour mobility in regions.
- Diffusion and churn of innovation: we develop an empirical network-science framework to predict the adoption and disadoption of innovation at global and local scales.
- Organizational networks, skills and performance: we analyse the relationship between skills of employees, the network structure of their interactions, and firm performance.
- Price of contact reduction: we aim to understand the extent to which mobility restrictions in certain industries help slowing the spread of COVID-19 in the light of consequent economic effects.
- Social networks and inequality: we explore how network structures in cities contribute to income and educational inequalities.
- Technological diversification of regions: we explore how collaboration networks facilitate the production of new technologies in regions, and the path-dependence regions follow in technological development.

These projects are being carried out in the Budapest research team, in close collaboration with research partners at Central European University, University College Dublin, University of California at Berkeley, University of Exeter, Umea University and Budapest Corvinus University. Further information about the project can be inquired at the PI Balazs Lengyel by email: [lengyel.balazs@krtk.mta.hu](mailto:lengyel.balazs@krtk.mta.hu).

The tasks of the candidate is to actively collaborate with other group members, international collaborators and business partners in carrying out the research project, to prepare statistical analyses and visualizations, to develop agent-based models, to write papers for leading interdisciplinary journals, leading field journals in physics, economics, geography, sociology or related and/or leading data science conferences.

The ideal candidate has experience in and is passionate about high quality research and publication in top journals, is ready to actively contribute to the group's science organization and knowledge dissemination, and is willing to spend time on foreign research visit at partners.

**Salary and amenities:**

The cost of living in Hungary is below the EU standards. The annual salary is 7,200,000 HUF before taxation (equals to 20,300 EUR) that is competitive in Hungarian standards and allows good quality of life in Budapest. Based on personal agreement, a yearly conference budget is available.

**Eligibilities:**

- PhD degree in Economics, Geography, Statistics, Sociology, Physics, Network Science, Computational Methods or related.
- Good skills in statistics and visualization techniques
- Experience with statistical softwares (e.g. R, Python) and working on servers
- Outstanding use of English
- Good programming skills

**Advantages:**

- Experience with infrastructures that can deal with large datasets (e.g. Spark)
- Previous work on social and collaboration networks
- Excellent publication record
- Hungarian communication skills

**Application documents:**

- Detailed CV in English
- List of publications
- Copy of the two most important publications
- Letter of motivation
- Name and address of two referees
- Copy of PhD degree
- Declaration that the candidate authorizes the employer to handle their data

**Start and End dates:**

Start from September 1, 2020, upon agreement, until June 2022.

**Deadline for application:** May 31, 2020.

**Interview days (online):** June 8-12, 2020.

**Submission:**

- By email to Mónika Balla at [balla.monika@krtk.mta.hu](mailto:balla.monika@krtk.mta.hu).

**Further information can be required from**

- Balazs Lengyel, head of ANET Lab at [lengyel.balazs@krtk.mta.hu](mailto:lengyel.balazs@krtk.mta.hu).
- On the website of ANET Lab at [www.anet.krtk.mta.hu](http://www.anet.krtk.mta.hu).

**Decision process:**

All submitted applications will be considered and the shortlisted candidates will be interviewed by members of ANET Lab. Decision will be made by the head of ANET Lab. All applicants will be notified.

**Decision deadline:** June 30, 2020.