

## MSCA PF 2026 HOSTING OFFER

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| <b>Name of the host institution</b>             | ELTE Eötvös Loránd University, <a href="https://www.elte.hu/en/">https://www.elte.hu/en/</a>  |
| <b>Faculty</b>                                  | Faculty of Science, <a href="https://ttk.elte.hu/en/">https://ttk.elte.hu/en/</a>   |
| <b>Name of the supervisor</b>                   | Máté Csanád, <a href="https://physics.elte.hu/en/ATOM_CsanadMate">https://physics.elte.hu/en/ATOM_CsanadMate</a>  |
| <b>Organisational Unit / Research Group</b>     | Femtoscapy Research Group<br><a href="https://physics.elte.hu/en/content/rhic-hungary-research-group.t.11745">https://physics.elte.hu/en/content/rhic-hungary-research-group.t.11745</a>  |
| <b>Research Team</b>                            | <p><a href="#">Máté Csanád</a> (professor; femtoscopy, QCD phase diagram, hydrodynamics, flow)<br/> <a href="#">Márton Nagy</a> (femtoscapy, hydrodynamics, complex analysis)<br/> <a href="#">Dániel Kincses</a> (postdoctoral researcher; femtoscopy, QCD phase diagram)<br/> <a href="#">Barnabás Pórfy</a> (PhD student, femtoscopy, QCD phase diagram, data aquisition)<br/> + several other students working on various fields<br/> <a href="https://phenix.elte.hu/">https://phenix.elte.hu/</a><br/> <a href="https://star.elte.hu/">https://star.elte.hu/</a><br/> <a href="https://normadiagnostika.com/norma-instruments-and-elte-university-collaborate-on-granulocyte-isolation-research">https://normadiagnostika.com/norma-instruments-and-elte-university-collaborate-on-granulocyte-isolation-research</a></p>   |
| <b>Project experiences (EU / international)</b> | COST Action CA15213 <a href="https://thor-cost.eu/">https://thor-cost.eu/</a> (as MC member)  |
| <b>Research Interests</b>                       | <p><i>Femtoscapy encompasses methods that enable one to measure femtometer-scale geometries. In heavy-ion physics, this is achieved through the investigation of quantum-statistical correlations among the observed particles. The system's size, lifetime, geometrical as well as flow asymmetry can be studied, which, coupled with phenomenological models, carry information about the Equation of State of the matter. Furthermore, the strength of the multi-particle correlations reveals the ratio of primordial particles to decay products, has connections to in-medium mass modifications, symmetry restorations, and may give insight on possible exotic particle emitting sources such as coherent hadron production or pion lasers. Our group spearheads the effort to establish the methodology of novel types of femtoscopic measurements utilizing Lévy distributions to describe the system. We publish <a href="#">phenomenology</a> and <a href="#">experimental</a> papers on the topic at SPS (NA61), RHIC (PHENIX and STAR) and LHC (CMS). We welcome postdoctoral candidates interested in joining this endeavor, from the experimental (NA61, PHENIX, STAR or CMS) and/or the phenomenological side.</i></p> |
| <b>ORCID (link)</b>                             | <a href="https://orcid.org/0000-0002-3154-6925">https://orcid.org/0000-0002-3154-6925</a>   |
| <b>Contact e-mail</b>                           | <a href="mailto:csanad@elte.hu">csanad@elte.hu</a>  |