

**PhD research topic proposal**  
**BME, Doctoral School of Mathematics and Computer Science**

**Name of supervisor :**

András Telcs

**Degree:**

prof.

**Title of the topic:**

**Causality analysis in economy, ecology and other fields**

**Short description:**

The applicant can join to a vivid interdisciplinary team working on a new method which infer causal connection between systems. The applicability of the method is wide, almost all sciences may benefit from it, where time series are coming from observations and causal link between the source systems are in question. The applicant will work on field specific implementation, adaptation and application of the method and meanwhile contribute to the development of the general method.

The host of the research is the Department of Computational Sciences at Wigner Research Center for Physics. The institute and the department is equipped with excellent research infrastructure including library and computer facilities.

The department has strong focus on computational neuroscience and computational physics.

**Requirements:**

Given the theoretical (probability, information theory and statistics), computational (algorithm design and implementation, scalability), and application side of the research applicants can come with mathematics, physics, informatics, biology and medicine background. Good command of statistics and scientific programming is a must.

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**Place of work:**

Wigner RCF

**Statement:** *The conditions of the research above are satisfied, the theme is confirmed by the Head of the Department/Institute*