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

Name and degree of supervisor :

Csaba Kerepesi, PhD

Are you willing to supervise Stipendium Hungaricum applicants?

Yes

Title of the topic:

Bioinformatics aspects of aging and rejuvenation

Short description:

Aging has a major impact on human health, economy and society in general, but its molecular basis remains poorly understood. Until recently, it was not possible to quantify progression through aging accurately enough to be useful for practical purposes. However, recent research suggests that omics technologies together with advanced bioinformatics and machine learning are capable to track the aging process by developing mathematical models („aging clocks") that can estimate the chronological- and biological age of an individual. Aging clocks can predict the progression of age-related diseases, evaluate longevity intervention and recently emerged rejuvenation therapies. Classification of aging-related genes/proteins and network science also advance aging and rejuvenation biology. In summary, the candidate will analyse large public datasets, related to aging, by using advanced mathematics and informatics (e.g. data mining and machine learning) and draw conclusions.

Requirements:
Contact:
E-mail:

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Place of work:

SZTAKI (Lagymanyosi street 11, Budapest 1111)