Supervisor: prof. Juho Rousu, Ms Viivi Uurtio

Contact information: juho.rousu@aalto.fi

Job description: Matrix factorisation (MF) consists of decomposing one matrix into a product of matrices in order to reveal latent underlying structure. In metagenomics, the composition of the microbial communities is generally unknown in two dimensions: what are the species (or: taxonomic units) responsible of the biological processes, and what genes are used to implement the processes. These problems can be naturally tackled by MF methods, giving the possibility to discover new species and pathways directly from data. Your task will be to evaluate different matrix factorisation methods for metagenomic data analysis and to participate in the development of new methods with the research group.

Additional information: Research group web page http://research.ics.aalto.fi/kepaco/