

# Markus Heinonen, PhD

Hämeentie 36 A 22  
00530 Helsinki, Finland  
+358 44 294 2600

Year of birth 1983, Finnish nationality

markus.o.heinonen@aalto.fi  
users.aalto.fi/~heinom10

## Academic positions

2016–2019	<b>Postdoctoral Fellow (AoF), Aalto University, Finland</b> – in “Next-generation statistical learning for synthetic enzyme engineering” project developing Bayesian optimisation for proteins.
2018–2019	<b>Principal investigator</b> – of the SITRA “AI4SynBio” project with VTT
2016–2017	<b>Acting research leader</b> – of the computational modeling work package of the “Living Factories” project
2015–2016	<b>Post-doc, Aalto University, Finland</b> – in “Living Factories” in collaboration with VTT Technical research centre of Finland studying synthetic biology. Developer of computational tools for HTS tuning of biological systems and on computer-aided optimisation
2013–2014	<b>Post-doc, University of Evry, France</b> – in the <i>ROSIRIS</i> project in collaboration with Prof. Florence d’Alche-Buc and the <i>Institut de radioprotection et de sûreté nucléaire</i> (IRSN) studying the systems level effects of irradiation on human endothelial cells
2008–2013	<b>PhD student, University of Helsinki, Finland</b> – in Prof. Juho Rousu’s group “Kernel machines, Pattern Analysis and Computational Biology”

## Education

2008–2013	<b>PhD in Computer Science, University of Helsinki, Finland</b> – PhD thesis: “Computational methods for small molecules”, <i>with Distinction</i>
2003–2008	<b>MSc in Computer Science, University of Helsinki, Finland</b> – MSc thesis: “Algorithmic daughter ion identification from mass spectrometry data” (in Finnish), grade <i>eximia cum laude</i> (5/5)

## Languages

Fluent	Finnish, English
Fair	German, French, Swedish

## Publications

**20** peer-reviewed publications (including NIPS, ICML, UAI, AISTATS) at Google Scholar profile

– <http://goo.gl/Hyi6of>

## Merits

	<b>PC member</b> of NIPS, ICML, AISTATS, AAAI, ICLR
2014	<b>Best presentation award</b> , MLSB'14
2014	<b>Organizer</b> of the 8th Workshop on Machine learning in Systems biology (MLSB) ( <a href="http://mlsb.cc">mlsb.cc</a> )
2010	<b>Organizer, editor</b> of the Workshop on Mass Spectrometry Informatics in Systems biology (MSiB)
2010–2013	<b>Board member</b> of the Finnish society for bioinformatics
2016	<b>Personal grant</b> as PI, AoF postdoctoral grant 299915, 255k€
2018	<b>Project grant</b> as PI, 70k€ SITRA AI4SynBio project within 1000k€ SynBioPower consortium
2018	<b>Participant</b> in TensorBioMed AoF consortium, total 820k€

## Reviewing

### Conferences:

– NIPS, ICML, AISTATS, AAAI, ICLR, ECML, EUSIPCO, ISMB

### Journals:

– Neural networks, Bioinformatics, Molecular Biosystems, Journal of the American society for Mass Spectrometry, PLOS ONE, Mass Spectrometry Reviews, IEEE Signal Processing Letters, Computational and Structural Biotechnology Journal, IEEE/ACM Transactions on Computational Biology and Bioinformatics

## Supervision experience

### Finished PhD degrees

– Huibin Shen (2017), Kyle Barlow (2017), Hongyu Su (2015), Romain Brault (2016)

### Finished Msc degrees

– Parisa Mapar (2018), Anni Antikainen (2017), Emmi Jokinen (2016)

### Research interns (at least 3 months)

– Pashupati Hegde, Zheyang Shen, Kenneth Blomqvist, Sami Remes, Sebastian Szyller, Maria Osmala, Alexis Bozio, Henrik Mannerström

## Teaching experience

	<b>Co-lecturer, Aalto University</b>
2017	– Machine Learning: Basic Principles (600 enrolled students)
2016	– Machine Learning: Basic Principles (500 enrolled students)
	<b>Coordinator, Aalto University</b>
2015	– From data to knowledge (in Finnish) (250 enrolled students)
	<b>Co-lecturer, University of Helsinki</b>
2012	– Computational methods for Systems biology
2006–2012	<b>Assistant teacher, University of Helsinki</b>
	– Discrete Optimization, Metabolic modeling, Programming in python, Biodatabases
2008–2013	<b>Tutor, University of Helsinki</b>