

# Curriculum vitae

June 7, 2020

**Name:** Kaski, Samuel

**Year of birth:** 1968

**Nationality:** Finland

**Website:** <https://people.aalto.fi/samuel.kaski> ; <https://fcai.fi>

## Education and degrees completed

1997, Doctor of Science, Helsinki University of Technology, Finland

1993, Master of Science, Helsinki University of Technology, Finland

## Current position

2016–2020 Academy Professor (research professor), awarded by the Academy of Finland

2020– Professor of Artificial Intelligence, The University of Manchester, UK (50%)

2005– Professor of Computer Science, Aalto University, Finland (50% from 2020)

## Previous work experience

2019, 2015 Visiting Professor (JSPS Invitation Fellow), Kyoto University, Japan

2016 Visiting Scholar, Monash University, Australia

2016, 2013 Visiting Scholar, UCL, UK

2012 SICSA Distinguished Visitor, Univ. Glasgow, Scotland

2007 Visiting Scholar, European Bioinformatics Institute, UK

2004–2005 Professor of Computer Science, University of Helsinki, Finland

2004 Invited Professor, Université Paris 1, Panthéon-Sorbonne, France

2001–2004 Academy Research Fellow, awarded by the Academy of Finland

1999–2001 Professor of Computer Science (pro tem), Helsinki University of Technology, Finland

1998–1999 Postdoctoral researcher, awarded by the Academy of Finland

1997–1998 Junior fellow, awarded by the Academy of Finland

1995–1997 Researcher, awarded by the Academy of Finland

1989–1995 Research Assistant and Researcher, Helsinki University of Technology, Finland

## Personal Research Funding and Grants

External funding of ~7M€ since 2015, plus funding for other groups in big grants where I am the PI: ELISE Network; Center of Excellence in Computational Inference Research COIN and Flagship Finnish Center for Artificial Intelligence FCAI.

## Leadership and Supervision Experience

2021– Director, Christabel Pankhurst Institute for Health Technology,  
The University of Manchester

2020– PI, ELISE EU Network of Centers of Excellence in AI, of 202 core contributors from  
105 organizations across Europe

2020– Director, ELLIS Unit Helsinki

2018– Director, Finnish Center for Artificial Intelligence FCAI, one of six research  
flagships of the Academy of Finland across all sciences

2019– Director and ELLIS Fellow, ELLIS Robust Machine Learning Program ([ellis.eu](http://ellis.eu))

2015–2017 Director, Finnish Centre of Excellence in Computational Inference Research COIN

2010–2015 Director, Helsinki Institute for Information Technology HIIT

2014–2016 Group leader, Biocentrum Helsinki

2006–2011 Vice Director, Center of Excellence in Adaptive Informatics Research

Supervised 24 doctoral dissertations, advisor of 33 postdocs; 18 lab alumni have got faculty positions, the rest are staff members at research institutes, postdocs, entrepreneurs, or in other company positions. Supervised also 65 Master's Theses.

Coordinator of ~10 research consortia and principal investigator in altogether >30 projects funded by the Academy of Finland, Tekes, Helsinki Univ. Technology, Univ. Helsinki, and EU.

### **Teaching experience**

Has founded and been responsible professor for doctoral programmes, master's programmes and majors at Aalto University. Has given numerous courses on bioinformatics, machine learning, computational statistics and data mining, in Helsinki University of Technology, University of Helsinki, and Aalto University, and some in Technical University Graz, Technical University Wien, and Université Paris 1, Panthéon-Sorbonne.

### **Experience of organizing scientific meetings**

22 Program Committee Chairmanships, and Member of Program Committee over 100 times. For example in the leading conferences: IUI General Chair (2022), NeurIPS, Senior Area Chair (2019), AAAI, Senior Program Committee (2018–2020), AISTATS, Area Chair (2018–2020), ICML, Area Chair (2018), NIPS, Tutorials Chair (2017-2018), AISTATS, Program Chair (2014). Additionally organized a number of workshops.

### **Awards and honours**

2019, Aalto Research Impact Award, Aalto University, Finland

2018, Award for Innovation of the Year, Aalto University, School of Science

2017, Member of Finnish Academy of Science and Letters

2016, Academy Professor, the Academy of Finland

2012, Team leader of TeamFIN which won the NCI-DREAM Drug Sensitivity Prediction Challenge 2012 (Sub-challenge 1: breast cancer)

2011–2019, Best paper awards: ECML (2011), ACM IUI (2013), AISTATS (2019)

2007, Distinguished Contribution Award, MLG'07, The 5th International Workshop on Mining and Learning with Graphs

### **Other scientific or academic merits**

- 27 invited talks and 13 keynote and plenary talks in international conferences
- Member of Scientific Advisory Board: European Center of Excellence on Novel Materials Discovery (NOMAD) 2015– and four other organizations
- Evaluator for Professorships: 18 times; Doctoral thesis committees: 34 times
- Referee for 33 scientific journals
- Reviewer of research proposals for ERC, NSF and multiple other organizations
- Societal Positions of Trust including: Member of Research and Innovation Council of the Government of Finland, 2019–; Member of Steering Group, Finland's AI Programme 2017–; Member of Advisory Board, Statistics Finland 2015–2018; Chairman of Board of Directors, CSC—IT Center for Science 2012–2015

### **Editor, member in scientific societies**

2013– Action editor of Journal of Machine Learning Research JMLR

2017– Associate editor of IEEE Transactions on Pattern Analysis and Machine Intelligence

Member of ELLIS sites and fellows committees, 2019–. Steering committee member, PASCAL 2 EU FP7 Network of Excellence, 2008–2013. Member of advisory board for European Society for the Artificial Intelligence and Statistics (2010–). Member of the Machine Learning for Signal Processing Technical Committee of the IEEE Signal Processing Society (2002–2004). Member of ACM, IEEE, ENNS, ISCB, ISBA.

# List of Publications

Samuel Kaski

June 7, 2020

## Summary

288 peer-reviewed scientific articles. Google Scholar h-index 60, i10-index 207 (data of June 7, 2020).

## A Peer-reviewed scientific articles

### A1 Journal article, original research

- [1] S. Arredondo-Alonso, J. Top, A. McNally, S. Puranen, M. Pesonen, J. Pensar, P. Marttinen, J. Braat, M. Rogers, W. Van Schaik, S. Kaski, R. Willems, J. Corander, and A. Schürch. Plasmids shaped the recent emergence of the major nosocomial pathogen *Enterococcus faecium*. *mBio*, 11(1):e03284–19, 2020.
- [2] J. Sirén and S. Kaski. Local dimension reduction of summary statistics for likelihood-free inference. *Statistics and Computing*, 30:559–570, 2020.
- [3] H. Climente-González, C.-A. Azencott, S. Kaski, and M. Yamada. Block HSIC lasso: model-free biomarker detection for ultra-high dimensional data. *Bioinformatics*, 35:i427–i435, 2019. ISMB/ECCB 2019.
- [4] J. Gillberg, P. Marttinen, H. Mamitsuka, and S. Kaski. Modelling  $G \times E$  with historical weather information improves genomic prediction in new environments. *Bioinformatics*, 35:4045–4052, 2019.
- [5] M. Heinonen, M. Osmala, H. Mannerström, J. Wallenius, S. Kaski, J. Rousu, and H. Lähdesmäki. Bayesian Metabolic Flux Analysis reveals intracellular flux couplings. *Bioinformatics*, 35:i548–i557, 2019. ISMB/ECCB 2019.
- [6] G. Jacucci, O. Barral, P. Daece, M. Wenzel, B. Serim, T. Ruotsalo, P. Pluchino, J. Freeman, L. Gamberini, S. Kaski, and B. Blankertz. Integrating neurophysiological relevance feedback in intent modeling for information retrieval. *Journal of the Association for Information Science and Technology*, 70:917–930, 2019.
- [7] A. Kangasrääsio, J. P. P. Jokinen, A. Oulasvirta, A. Howes, and S. Kaski. Parameter inference for computational cognitive models with approximate Bayesian computation. *Cognitive Science*, 43:e12738, 2019.
- [8] E. Leppäaho, H. Renvall, E. Salmela, J. Kere, R. Salmelin, and S. Kaski. Discovering heritable modes of MEG spectral power. *Human Brain Mapping*, 40:1391–1402, 2019.
- [9] J. Lintusaari, P. Blomstedt, B. Rose, T. Sivula, M. U. Gutmann, S. Kaski, and J. Corander. Resolving outbreak dynamics using approximate Bayesian computation for stochastic birth-death models. *Wellcome Open Research*, 4:14, 2019.
- [10] M. P. Menden, D. Wang, M. J. Mason, B. Szalai, K. C. Bulusu, Y. Guan, T. Yu, J. Kang, M. Jeon, R. Wolfinger, T. Nguyen, M. Zaslavskiy, AstraZeneca-Sanger Drug Combination DREAM Consortium, I. S. Jang, Z. Ghazoui, M. E. Ahsen, R. Vogel, E. C. Neto, T. Norman, E. K. Y. Tang, M. J. Garnett, G. Y. Di Veroli, S. Fawell, G. Stolovitzky, J. Guinney, J. R. Dry, and J. Saez-Rodriguez. Community assessment to advance computational prediction of cancer drug combinations in a pharmacogenomic screen. *Nature Communications*, 10:2674, 2019. (Part of the AstraZeneca-Sanger Drug Combination DREAM Consortium).
- [11] T. Niinimäki, M. Heikkilä, A. Honkela, and S. Kaski. Representation transfer for differentially private drug sensitivity prediction. *Bioinformatics*, 35:i218–i224, 2019. ISMB/ECCB 2019.