

Tamás Kói

Date of birth: 26th of January, 1986

E-mail: samatiok@gmail.com



Education:

- 2009: MSc in Mathematics, Budapest University of Technology and Economics, diploma with honours, specialized in stochastics, title of the Hungarian thesis in English: “Belief Propagation algorithm and its applications”, supervisor: Prof. Imre Csiszár
- 2017: PhD in Mathematics and Computer Science, Budapest University of Technology and Economics, title of the thesis: „Error exponents for communication models with multiple codebooks and the capacity region of partly asynchronous multiple access channel”, supervisor: Prof. Imre Csiszár

Professional experience:

- 2021-: Centre for Translational Medicine, Semmelweis University, part time biostatistician
- 2012-: BME, Mathematical Institute, Department of Stochastics, staff member first as a teaching assistant later as an assistant professor
- 2013-2015: part-time research assistant at the MTA-BME Stochastics Research Group
- 2009-2012: PhD student at BME (research and teaching duties)
- 2006-2009: I participated in teaching of engineer students at BME

Language skills:

- Hungarian: Mother tongue
- English: State language certificate, advanced level
- French: State language certificate, intermediate level

Other experience and skills:

- I am the co-author of several scientific journal and conference papers in the areas of information theory and applied statistics (you find the complete list below)
- Profound knowledge of Excel, R and SPSS, basic knowledge of Python
- I am a member of the Statistics and Mathematical Modeling Consulting Group of the BME Mathematical Institute (<https://math.bme.hu/statmodgroup?language=en>)
- In 2020 I participated in an industrial project supported by ENRAVEL and MAGEOSZ
- In 2014 and 2019 I participated in industrial projects supported by Nokia Solutions and Networks Kft
- In 2013 I got BSc pre-degree certificate in quantitative economics stating that all course-units have been completed from Corvinus University of Budapest
- In 2012 I participated in a research project supported by Tesco Hungary

Journal papers - information theory and statistics:

- Csiszár, L. Farkas, T. Kóí: Error Exponents for Asynchronous Multiple Access Channels, Controlled Asynchronism may Outperform Synchronism, IEEE Transactions on Information Theory, vol. 67, no. 12, pp. 7684-7707, Dec. 2021, doi: 10.1109/TIT.2021.3115252.
- L. Farkas, T. Kóí: Universal Random Access Error Exponents for Codebooks of Different Blocklengths, IEEE Transactions on Information Theory, vol. 64, pp. 2240-2252, Apr. 2018 (substantially extended version of the second ISIT2017 conference paper below)
- L. Farkas, T. Kóí: Universal Random Access Error Exponents for Codebooks of Different Blocklengths, IEEE Transactions on Information Theory, vol. 64, pp. 2240-2252, Apr. 2018 (substantially extended version of the second ISIT2017 conference paper below)
- L. Farkas, T. Kóí: Random Access and Source-Channel Coding Error Exponents for Multiple Access Channels, IEEE Transactions on Information Theory, vol. 61, pp. 3029-3040, Jun. 2015, (substantially extended version of the ISIT2013 conference paper below)
- L. Farkas, T. Kóí: On capacity regions of discrete asynchronous multiple access channels, Kybernetika 50 no. 6, 1003-1031, 2014, it can be downloaded from <http://www.kybernetika.cz/content/2014/6/1003> (substantially extended version of the ISIT2011 conference paper below)
- M. Bolla, T. Kóí, A. Krámlí: Testability of minimum balanced multiway cut densities, Discrete Applied Mathematics 160 (2012), 1019-1027.

Journal papers - applied statistics:

- E. Uhrin et al., Teledentistry: A Future Solution in the Diagnosis of Oral Lesions: Diagnostic Meta-Analysis and Systematic Review Telemedicine and e-Health, accepted for publication
- T. Fazekas et al., Therapeutic sensitivity to standard treatments in BRCA positive metastatic castration-resistant prostate cancer patients — a systematic review and meta-analysis, PROSTATE CANCER AND PROSTATIC DISEASES, Paper: in press (2022)
- D. Bajzát et al., Safety Analysis of Preoperative Anti-TNF- α Therapy in Pediatric IBD After Intestinal Resection : A Systematic Review and Meta-analysis, INFLAMMATORY BOWEL DISEASES Paper: In press (2023)
- K. Vörös, T. Kóí, D. Magyar, P. Rudnai, A. Páldy: The influence of air pollution on respiratory allergies, asthma and wheeze in childhood in Hungary. Minerva Pediatr., 2019
- Vörös K, Bobvos J, Varró JM, Málnási T, Kóí T, Magyar D, Rudnai P, Páldy A. (2018a) Investigation of the impacts of long-term ragweed pollen load and other potential risk factors on ragweed pollen allergy among schoolchildren in Hungary, Ann Agric Environ Med, 25(2):307-313.

Refereed conference papers:

- L. Farkas, T. Kóí: Two contributions to error exponents for asynchronous multiple access channel, *Int. Symp. Inform. Theory Proc. (ISIT)* 27 (2019), 2664-2668.
- L. Farkas, T. Kóí: Contributions to successive decoding for multiple access channels, *ISITA 2018*, 570-574.
- L. Farkas, T. Kóí, I. Csiszár: Error exponents for sparse communication, *Int. Symp. Inform. Theory Proc. (ISIT)* 25 (2017), 3145-3149.
- L. Farkas, T. Kóí: Universal Random Access Error Exponents for Codebooks of Different Word-Lengths, *Int. Symp. Inform. Theory Proc. (ISIT)* 25 (2017), pp. 3150-3154.
- L. Farkas, T. Kóí: Controlled Asynchronism Improves Error Exponent, *Int. Symp. Inform. Theory Proc. (ISIT)* 23 (2015), 2638–2642
- L. Farkas, T. Kóí: Universal Error Exponent for Discrete Asynchronous Multiple Access Channels, *Int. Symp. Inform. Theory Proc. (ISIT)* 22 (2014), 2944–2948.
- L. Farkas, T. Kóí: Random Access and Source-Channel Coding Error Exponents for Multiple Access Channels, *Int. Symp. Inform. Theory Proc. (ISIT)* 21 (2013), 374–378.
- L. Farkas, T. Kóí: Capacity regions of partly asynchronous multiple access channels, *Int. Symp. Inform. Theory Proc. (ISIT)* 20 (2012), 3018–3022
- L. Farkas, T. Kóí: Capacity regions of discrete asynchronous multiple access channels, *Int. Symp. Inform. Theory Proc. (ISIT)* 19 (2011), 2273–2277.

Conferences, summer schools:

- 2019: IEEE International Symposium on Information Theory, Paris, France (paper contribution, **talk**)
- 2018: International Symposium on Information Theory and its Applications, Singapore (paper contribution, **talk**)
- 2017: IEEE International Symposium on Information Theory, Aachen, Germany (paper contributions, **talk**)
- 2016: IEEE International Symposium on Information Theory, Barcelona, Spain (poster contribution, **poster presentation**)
- 2016: Nexus of Information and Computation Theories Secrecy and Privacy Theme, Paris, France (participant)
- 2016: Nexus of Information and Computation Theories Tutorial Week at CIRM, France (participant)
- 2015: IEEE International Symposium on Information Theory, Hong Kong Special Administrative Region of the People's Republic of China (paper and poster contributions, **poster presentation**)

- 2013: IEEE International Symposium on Information Theory, Istanbul, Turkey (paper contribution, **talk**)
- 2013: Workshop on Statistics for Complex Networks: Theory and Applications, Eindhoven, Netherlands (participant)
- 2012: IEEE International Symposium on Information Theory, Cambridge, USA (paper contribution, **talk**)
- 2011: IEEE International Symposium on Information Theory, Saint Petersburg, Russia (paper contribution)
- 2010: SPSS Summer School, Veszprém, Hungary (participant)
- 2010: 1st Conference of PhD Students in Mathematics, Szeged, Hungary (**talk**)
- 2007: 37th International Probability Summer School, Saint-Flour, France (participant)
- 2006: Athens programme, mini-course in Cryptography, École Nationale Supérieure de Techniques Avancées, Paris, France (participant)