

Curriculum vitae

András József Tóbiás

as of August 10, 2020

Name	András József Tóbiás
Academic qualification	PhD (Dr. rer. nat.)
Place and date of birth	Budapest, 16.05.1992
Nationality	Hungarian
Current affiliation	Research Assistant (PostDoc) at TU Berlin, in the Institute of Mathematics, in Prof. Dr. Noemi Kurt's working group "Mathematical Stochastics with Applications to statistical Physics and Biology"
Office at TU Berlin	Technische Universität Berlin, Institut für Mathematik Straße des 17. Juni 136, Raum MA 767, 10623 Berlin, Germany
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Spoken languages	Hungarian (native), English (C1), German (with teaching experience), Latin (B2)
Programming knowledge	Basic knowledge in Wolfram <i>Mathematica</i> , Maple and Python (Sage). LaTeX.

Education

2005-2011	High school: ELTE Radnóti Miklós School, Budapest
September 2011 - June 2014	Bachelor in Mathematics at the Budapest University of Technology and Economics. Bachelor's thesis: "The axiom system of classical harmony". Supervisor: Dr. Ákos G. Horváth
October 2014 - June 2016	Master in Mathematics at TU Berlin. Master's thesis: <i>Highly dense mobile communication networks with random fading</i> . Supervisor: Prof. Dr. Wolfgang König
July 2016 - March 2019	PhD student in Mathematics at TU Berlin with Wolfgang König. PhD thesis: <i>Message routing and percolation in highly dense multihop networks</i> . Supervisor: Prof. Dr. Wolfgang König

Work experience

September 2007 - August 2013	Young leader at the Children's Railway, Budapest. Organizing free-time activities, excursions and summer camps for 10–14-year-old children
September 2012 - June 2014	Student assistant at the Institute of Mathematics of the Budapest University of Technology and Economics
April 2019- (ongoing)	Research Assistant (PostDoc) at TU Berlin in Noemi Kurt's working group

Scholarships, fellowships, memberships

January 2013	Campus Hungary scholarship for a group study visit to the mathematical faculties of Wrocław, Poland
October 2014 - June 2016	Phase I scholarship holder at the Berlin Mathematical School (BMS)
July 2016 - March 2019	Phase II scholarship holder at the BMS
July 2016 - March 2017	Associated member of the RTG 1845 <i>Stochastic Analysis</i>
June 2017 (4 weeks)	Accommodation granted by the local organizers at the PIMS–CRM Probability Summer School in Vancouver, Canada
November 2017- (ongoing)	Member of the DMV Fachgruppe Stochastik
May 2019 - ongoing	Postdoctoral faculty member of BMS and MATH+

Talks and poster presentations (selected)

April 2015	Presentation of my bachelor's thesis subject at the Hungarian national student research contest at Babeş-Bolyai University, Cluj Napoca, Romania
November 2016	Poster presentation at the <i>Workshop on probabilistic methods in telecommunication</i> at WIAS Berlin
November 2016	Talk about my master's thesis at the <i>Dies Mathematicus 2016</i> at TU Berlin
November 2017	Talk at the Berlin–Leipzig workshop in analysis and stochastics at MPI Leipzig: “A Gibbsian model for message routeing in highly dense multihop networks”
March 2018	Talk at the 13th German Probability and Statistics Days in Freiburg: “Routeing properties in a Gibbsian model for highly dense multihop networks”
May 2018	Talk “Continuum percolation on random structures”, as part of the colloquium talk “Probabilistic models in telecommunication” by W. König at a BIMoS Day, TU Berlin
June 2018	Talk at the International Workshop of Applied Probability in Budapest, Hungary: “Routeing properties in a Gibbsian model for highly dense multihop networks”
January 2019	Talk at the Berlin–Leipzig workshop in analysis and stochastics at MPI Leipzig: “Signal to interference ratio percolation for Cox point processes”
February 2019	Short talk “Signal to interference ratio percolation for Cox point processes” at the spring school “Selected topics in stochastic geometry” at TU Darmstadt
March 2019	Seminar talk about SINR percolation at the Budapest University of Technology and Economics, Department of Computer Science and Information Theory
September 2019	Talk at the workshop “Evolutionary consequences of dormancy” at TU Berlin and at the SPP 1590 Colloquium at the University of Bielefeld: “Invasion and fixation of microbial dormancy traits under competitive pressure”
March 2020	Short talk “Degree bounds and SINR percolation” at the spring school “Complex networks” at TU Darmstadt
August 2020	Prerecorded talk “Particle systems in coordination” at the Bernoulli-IMS One World Symposium 2020

Further study visits, summer schools, and scholarships

January 2013	Group study visit to the mathematical faculties of Wrocław, Poland: Uniwersytet Wrocławski and Politechnika Wrocławska
August 2013	Individual study visit to Leeds, United Kingdom to Robert Sturman, the programme manager of the bachelor's study program Mathematics and Music
April 2016	Participation in the <i>Stochastic Geometry</i> spring school and conference in Nantes, France, organized by the Lebesgue Institute
September 2016	Visit and discussion about telecommunications at the IHP, Frankfurt (Oder)
May 2017	Visit and discussion about telecommunications at the Orange France, Châtillon
June 2017	Participation in the PIMS-CRM Probability Summer School in Vancouver, Canada
August - September 2017	Participation in the BMS summer school “Spatial stochastic models for telecommunications” at TU Berlin, with teaching and organization tasks

Teaching experience

September 2012 -	Student assistant (homework correction of Analysis I-III, office hours for students)
August 2017	BMS Summer School “Probabilistic and statistical methods for networks” (assistance and exercise class)
Summer 2018	Spatial stochastic models for telecommunications (assistance)
Summer 2019	Stochastics for Informatics students (assistance and tutorials)
Winter 2019/20	Insurance mathematics (assistance, exercise class), Analysis 2 for engineers (tutorials)
Summer 2020	Stochastics for Informatics students (lectures)

Organization of collateral activities

Year of 2016	Student representative at the Berlin Mathematical School (BMS)
July 2016	Jury member of the DMV Student Conference at TU Berlin
February 2017	Organizing the 5th Student Conference of BMS
January 2017 - December 2019	Organizing the weekly “What is...?” student seminars at BMS
December 2019	Organizing the <i>Dies Mathematicus 2019</i> at TU Berlin

Research interests

- Point processes and stochastic geometry with applications in telecommunications
- Stochastic analysis with applications in biology: adaptive dynamics and population genetics
- Large deviations
- Mathematical axiomatization in music theory

Publications and preprints

Published:

1. Wolfgang König and András Tóbiás. A Gibbsian model for message routing in highly dense multihop networks. *ALEA, Lat. Am. J. Probab. Math. Stat.* **16**, 211–258 (2019), see also: *arXiv:1704.03499*.
2. Wolfgang König and András Tóbiás. Routing properties in a Gibbsian model for highly dense multihop networks. *IEEE Transactions on Information Theory*, **65:11** (2019), see also: *arXiv:1801.04985*.
3. András Tóbiás. Signal to interference ratio percolation for Cox point processes, *ALEA, Lat. Am. J. Probab. Math. Stat.* **17**, 273–308 (2020), see also: *arXiv:1808.09857* (last revised in February 2020).
4. Benedikt Jahnel and András Tóbiás. Exponential moments for planar tessellations. *Journal of Statistical Physics* **179**, 90–109 (2020), see also: *arXiv:1902.09857* (last revised in August 2019).
5. Christian Hirsch, Benedikt Jahnel, and András Tóbiás. Lower large deviations for geometric functionals. *Electron. Commun. Probab.* **25**, paper no. 41, 12 pp., see also: *arXiv:1910.05993* (last revised in October 2019).

Accepted:

1. Jochen Blath and András Tóbiás. Invasion and fixation of microbial dormancy traits under competitive pressure. *arXiv:1910.13156* (last revised in April 2020).

Submitted:

1. Benedikt Jahnel and András Tóbiás. SINR percolation for Cox point processes with random powers. *arXiv:1912.07895* (last revised in December 2019).
2. Adrián González Casanova, Noemi Kurt, and András Tóbiás. Particle systems with coordination. *arXiv:2001.05802* (last revised in January 2020).
3. Benedikt Jahnel, András Tóbiás, and Elie Cali. Phase transitions for the Boolean model of continuum percolation for Cox point processes. *arXiv:2003.06206* (last revised in March 2020).

Preprint to be submitted:

1. Jochen Blath and András Tóbiás. The interplay of dormancy and transfer in bacterial populations: Invasion, fixation and coexistence regimes. *arXiv:2007.02805* (last revised in July 2020).

Unpublished:

1. András Tóbiás. The axiom system of classical harmony. *arXiv:1604.02698* (last revised in July 2018).

Published, non-mathematical:

1. László Rétvári and András Tóbiás. Nagypám is ott volt – Beszélgetés Rétvári Lászlóval a forradalomról (My grandfather was also there – A discussion with Rétvári László about the revolution [of 1956 in Hungary]).
In: Szónoky–Pál–Karancsi: *A határok kutatója* (The researcher of borders – A book devoted to Ágnes Pál on the occasion of her 65th birthday), Magyarságkutató Tudományos Társaság, Szeged–Szabadka, 2007, pp. 28-37.