

# Curriculum Vitae

## ALEX GAVRYUSHKIN

1<sup>st</sup> August 2016

### Contacts

Address: Computational Biology Group  
Department of Biosystems Science and Engineering  
ETH Zürich  
Office 3.10, WRO 1078  
Mattenstrasse 26  
4058 Basel, Switzerland

Homepage: <http://alex.gavruskin.com>  
Email: [alex@gavruskin.com](mailto:alex@gavruskin.com)

### Education

2009 Ph. D. in Mathematics from Sobolev Institute of Mathematics, Novosibirsk  
Thesis advisor: Professor Sergei S. Goncharov

2006 M. S. in Mathematics from Novosibirsk State University (with First Class Honors)

2004 B. S. in Mathematics from Novosibirsk State University (with First Class Honors)

### Professional Activity

August	2016–present	Research Fellow	ETH Zürich (CH) Department Biosystems Science and Engineering
February	2012–July	2016 Research Fellow	The University of Auckland (NZ) Department of Computer Science
September	2009–December	2014 Senior Lecturer	Irkutsk State University (RF) Institute of Mathematics, Economics, and Computer Science

### Awards

2011 Dr of Science Scholarship for three years

2009 Siberian Fund for Algebra and Logic Award (2005–2009)

2008 Award for excellence in teaching (at ACM-ICPC North-Eastern European Regional Contest)

2007 Siberian Mathematical Journal Award (from Sobolev Institute of Mathematics)

2006 Best Student Scientific Work Award (from Novosibirsk State University)

2005 Maltsev Award (from Novosibirsk State University)

## Recent publications

- A. Gavryushkin, C. Whidden, and F. Matsen IV. The combinatorics of discrete time-trees: theory and open problems. *bioRxiv*, DOI 10.1101/063362, 2016.
- A. Gavryushkin and A. Drummond. The space of ultrametric phylogenetic trees. *Journal of Theoretical Biology*, Vol. 403, 197–208, 2016.
- C. Zeidler, A. Gavryushkin, C. Lutteroth, and G. Weber. Tiling algebra for constraint-based layout editing. *Journal of Logical and Algebraic Methods in Programming*, accepted.
- A. Gavryushkin, B. Khoussainov, M. Kokho, and J. Liu. Dynamic algorithms for multemachine interval scheduling through analysis of idle intervals. *Algorithmica*, DOI 10.1007/s00453-016-0148-5, 2016.
- T. Stadler, T. Vaughan, A. Gavryushkin, S. Guindon, D. Kühnert, G.E. Leventhal, and A. Drummond. How well can the exponential-growth coalescent approximate constant-rate birth-death population dynamics? *Proceedings of the Royal Society B: Biological Sciences*, 282, 1806, 2015.
- P. Gavryushkin, Z. Popov, K. Litasov, and A. Gavryushkin. Unbiased crystal structure prediction of NiSi under high pressure. *Journal of Applied Crystallography*, 48, 3, 906–908, 2015.
- A. Gavryushkin, B. Khoussainov, and F. Stephan. Reducibilities among equivalence relations induced by recursively enumerable structures. *Theoretical Computer Science*, Vol. 612, 137–152, 2015.
- A. Gavryushkin. Decidable models of small theories. *Lobachevskii Journal of Mathematics*, 36, 4, 446–449, 2015.
- A. Gavryushkin, B. Khoussainov, M. Kokho, and J. Liu. Dynamic algorithms for monotonic interval scheduling problem. *Theoretical Computer Science*, Vol. 562, 227–242, 2014.
- A. Gavryushkin and A. Nies. Universality for left-computably enumerable metric spaces. *Lobachevskii Journal of Mathematics*, 35, 4, 292–294, 2014.
- A. Gavryushkin, B. Khoussainov, M. Kokho, and J. Liu. Dynamic interval scheduling for multiple machines. *ISAAC 2014, Springer LNCS*, Vol. 8889, 235–246, 2014.
- A. Gavryushkin, S. Jain, B. Khoussainov, and F. Stephan. Graphs realised by r.e. equivalence relations. *Annals of Pure and Applied Logic*, 165, 7, 1263–1290, 2014.
- A. Gavryushkin, B. Khoussainov, M. Kokho, and J. Liu. Dynamising interval scheduling: the monotonic case. *IWOCA 2013, Springer LNCS*, Vol. 8288, 178–189, 2013.
- A. Gavryushkin. On constructive models of theories with linear Rudin-Keisler ordering. *Journal of Logic and Computation*, 22, 4, 793–805, 2012.

## Recent invited talks

June	2016	<i>Evolution Meeting</i> in Austin, Texas	Spotlight session talk
November	2015	<i>Computational Biology Group Seminar</i> at ETH—Zürich	Seminar talk
February	2015	<i>Matsen Group Seminar</i> at Fred Hutchinson Cancer Research Center	Seminar talk
February	2015	<i>Workshop on Networks of Life</i> at the University of Canterbury	Workshop talk
June	2014	<i>Algebra and Mathematical Logic: Theory and Applications</i> in Kazan	Special session talk
November	2013	<i>Randomness Workshop</i> at the University of Auckland	Workshop talk
November	2012	National University of Singapore	Seminar talk
October	2011	<i>Maltsev Meeting</i> in Novosibirsk	Plenary talk
October	2011	<i>Logic Seminar</i> at Cornell University	Seminar talk
September	2011	<i>Southern Wisconsin Logic Colloquium</i> University of Wisconsin—Madison	Seminar talk

## Grants

2012–2013	Associate Investigator of an FRDF grant from the University of Auckland Contract # 2795185 for \$200,000
2011–2013	Principal Investigator and Coordinator of a Russian Government Grant Contract # 16.740.11.0567 for US\$50,000
2010–2012	Principal Investigator and Coordinator of a Russian Government Grant Contract # II1227 for US\$65,000
2006–2010	Participant of a Russian Fund for Fundamental Research Grant
2003–2009	Participant of a Russian President Grant

## Students

2015–2016	Lena Collienne	Intern	The University of Auckland (University of Greifswald)
2015–2016	Edwardo Reynolds	Intern	The University of Auckland

## Recent teaching

2012–2014	The University of Auckland	Discrete Structures in Maths and CS (CompSci 225)
2013–2014	Auckland U of Technology	Engineering Mathematics I and II (715001/716001)
2013–2013	Auckland U of Technology	Finite Mathematics (715205)
2012–2012	Auckland U of Technology	Theory of Computation (717300)
2012–2012	The University of Auckland	Software Engineering Theory (SoftEng 211)

## Professional Affiliation

2016	Society of Systematic Biologists	Member
------	----------------------------------	--------

## Service to Department and University

2013	Auckland–Novosibirsk Workshop on Algebra, Logic, Geometry, and Combinatorics	Co-Chair of the Program Committee
2009	Maltsev Meeting	Organizing Committee
2007	Mathematics in the Modern World	Organizing Committee
2007	Domains VIII and Computability Over Continuous Data Types	Organizing Committee
2005	Asian Logic Conference	Organizing Committee

I am a regular reviewer for *AMS Mathematical Reviews* and a referee for such journals and conferences as

- *Genome Biology and Evolution*
- *Journal of Mathematical Biology*
- *LICS Symposium*

Up-to-date CV: [https://gavruskin.github.io/AGcv\\_short.pdf](https://gavruskin.github.io/AGcv_short.pdf)