

# Academic CV<sup>1</sup>

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## CONTENTS

1. Employment	2
2. Educational qualifications	2
3. Awards and grants	2
3.1. Grants	2
3.2. Prizes	3
3.3. Scholarships and fellowships	3
4. Publications and research	4
5. Invited talks and invitations to workshops	9
6. Conferences organised	12
7. Editorial work	13
8. Teaching and supervision	13
8.1. Ph.D. students supervised	13
8.2. MSc. students supervised	13
8.3. Postdocs mentored	13
8.4. Courses taught	13

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<sup>1</sup>Last updated December 6, 2024.

## 1. EMPLOYMENT

2021 -present: Associate Professor, Victoria University of Wellington, New Zealand.  
 2021: Associate Professor, Massey University (Auckland), New Zealand.  
 2017-2020: Senior Lecturer, Massey University (Auckland), New Zealand.  
 2015-2016: Lecturer, Massey University (Auckland), New Zealand.  
 2014-2015: Postdoctoral fellow, UC at Berkeley, USA.  
 2013-2014: Postdoctoral fellow, Victoria University of Wellington, New Zealand.  
 2012-2013: Postdoctoral fellow, Nanyang Technological University, Singapore.

## 2. EDUCATIONAL QUALIFICATIONS

2019: **Doktor Nauk<sup>2</sup> (D.Sc.)**, Sobolev Institute of Mathematics, Russia.  
 Subject: Classification problems and constructive models.  
 2013: **Ph.D. in computer science**, The University of Auckland, New Zealand.  
 Subject: Computability and structure.  
 Advisors: Prof. Bakhadyr Khoussainov, Prof. Andre Nies.  
 2012: **C.Sc. (Ph.D.) in mathematics**, Novosibirsk State University, Russia.  
 Subject: Effective properties of completely decomposable groups.  
 Advisor: Prof. Akad. Sergey S. Goncharov.  
 2008: **M.Sc. in mathematics and informatics**, with honours, Novosibirsk State University.  
 2006: **B.Sc. in mechanics and mathematics**, with honours, Novosibirsk State University.

## 3. AWARDS AND GRANTS

## 3.1. Grants.

2023-2026 **Logical and algorithmic foundation of online computations**, funded by the Ministry of Science and Higher Education of the Republic of Kazakhstan<sup>3</sup>. Leading Investigator (with Badaev and Bazhenov).

2021-2022 **Mathematical Research Centre Project<sup>4</sup>**, leading investigator (with Bazhenov and Selivanov).

Project title: Digitalization of mathematical models and intelligent data processing systems.

<sup>2</sup>Click [https://en.wikipedia.org/wiki/Doktor\\_nauk](https://en.wikipedia.org/wiki/Doktor_nauk) to learn more about this degree.

<sup>3</sup>It is roughly the equivalent of the NSF (US) and Marsden (NZ). This particular grant is approximately 350K NZD before tax.

<sup>4</sup>A prestigious grant (3 years,  $9 * 10^6$  RUB  $\approx$  170K NZD) funded by the international research centre based in Sobolev Institute of Mathematics, Russia. The fund was abruptly halted due to the tragic events in Ukraine.

2020-2025: **Rutherford Discovery Fellowship**<sup>5</sup> (PI).

Project title: Applications of modern computability.

2021-2023: **Marsden Fund of New Zealand** (AI; PI Downey).

Project title: New Initiatives in the Theory of Computation

2019: **Massey University Provost Grant for Excellence in Research** (PI).

2017: **Massey University Early Career Research Medal Grant** (PI).

2016-2020 (3 years+2 years extension): **Marsden Fund of New Zealand** (co-PI with Downey).

Project title: The Mathematics of Computation.

2016: **Massey University Research Fund** (PI).

Project title: Selected topics in modern computability theory.

### 3.2. Prizes.

2019: **The NZ Math. Soc. Kalman Prize** for best paper.

2017: **Massey University Early Career Research Excellence Medal**.

2016: **The NZMS Early-Career Award** for “highly original contributions to the theory of computability in algebra and topology”.

2007: **Special prize of Algebra and Logic seminar**, Sobolev Institute of Mathematics.

2006: **Special prize of Algebra and Logic seminar**, Sobolev Institute of Mathematics.

### 3.3. Scholarships and fellowships.

November 2018 - January 2019: **The President Research Center in Kazan**, a visiting fellowship (three months).

January 2018: **Research in Pairs in Oberwolfach**, a visiting fellowship.

April 2013: **Buenos Aires Semester in Computability, Complexity, and Randomness**, Argentina, a visiting fellowship (one month).

May 2012: **Isaac Newton Institute for Mathematical Sciences in Cambridge**, visiting fellowship (one month).

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<sup>5</sup>A New Zealand fund given to a dozen of mid-career researchers across all sciences every year. I am the third-ever pure mathematician to receive the fellowship. Click [here](#) to learn more about this fund and my project.

2008 - 2012: **The University of Auckland International Doctoral Scholarship.**

2006 - 2008: **Maltsev Scholarship for gifted MSc students**, NSU, Russia.

During the earlier stages of my career I also received several travel awards, including multiple travel awards from Massey.

#### 4. PUBLICATIONS AND RESEARCH

My research interests include mathematical logic, computability theory in particular, and its interactions with algebra and analysis. Click on [my on-line publication list](#) to see my preprints. (Note that **the authors are listed in the alphabetical order.**)

##### **Ph.D. Dissertations:**

- (89) Classification Problems and Constructive Models, **Doctor of Sciences dissertation** (click [here](#) to learn more about this post-Ph.D. degree<sup>6</sup>), Sobolev Institute of Mathematics, 2019.
- (88) Computability and Structure, **Ph.D. dissertation**, The University of Auckland, 2013.
- (87) Effective Properties of Completely Decomposable Abelian Groups, **C.Sc. (Ph.D.) dissertation**, Novosibirsk State University, 2012.

##### **Books:**

- (86) Computable structure theory: A unified approach, *to be submitted in December 2024*, with Downey.

##### **Books edited:**

- (85) Computability and Complexity. Essays Dedicated to Rodney G. Downey on the Occasion of His 60th Birthday. Editors (in the alphabetical order): Day, A., Fellows, M., Greenberg, N., Khoussainov, B., **Melnikov, A.**, Rosamond, F. Springer 2017.

##### **Book chapters:**

- (84) Punctual degrees and lattice embeddings, **Aspects of Computation and Automata with Applications**, Greenberg, Jain, Ng, Schewe, Stephan, Wu, Yang editors, World Scientific Press IMS LNS 42 (2024), 42, pp. 315–334, with Kalimullin and Zubkov.
- (83) Computable Model Theory, **Turing’s Legacy: Developments from Turing Ideas in Logic**, R. Downey, editor, Cambridge University Press (2014), pp. 124-194, with Ekaterina Fokina and Valentina Harizanov.

##### **Papers:**

- (82) Computable topological presentations, **submitted**, with Hoyrup and Ng.

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<sup>6</sup>Quote from Wikipedia: In the former USSR, this degree is considered a sufficient credential for tenured full professorship at any institution of higher education. Unless an academic holds a Doctor of Sciences, she or he can make it to a full professor only through 15 years or more of outstanding teaching service on the university level. At least one published and widely accepted textbook and the degree of Kandidat Nauk (C.Sc.) are required in the latter case, anyway. A Doctor of Sciences degree holder can become a tenured full professor after just one year of teaching experience in a non-tenured faculty position.

- (81) A pathological punctually 1-decidable structure, **submitted**, with Hammatt, Ng, and Turetsky.
- (80) Enumerating compact spaces, **submitted**, with Bazhenov and Mustafa.
- (79) Computably locally compact groups and their closed subgroups, **submitted**, with Nies.
- (78) Effective Gelfand duality, **submitted**, with Burton, Eagle, Fox, Goldbring, Harrison-Trainor, McNicholl, and Thewmorakot.
- (77) A non-density aspect of the rationals, **submitted**, with Koh and Ng.
- (76) Computably totally disconnected locally compact groups, **submitted**, with Nies.
- (75) Computable classifications of continuous, transducer, and regular functions, **submitted**, with Franklin, Hölzl, Ng, and Turetsky.
- (74) Counterexamples in effective topology, **The Journal of Symbolic Logic**, accepted, with Koh and Ng.
- (73) Computably and punctually universal spaces, **Annals of Pure and Applied Logic**, 2025, 176(1), 103491 with Bagaviev, Batyrshin, Bazhenov, Bushtets, Dorzhieva, Koh, Kornev, Ng.
- (72) Punctually presented structures, II: comparing presentations, **Archive for Mathematical Logic**, published online 2024, with Dorzhieva, Downey, Hammatt, and Ng.
- (71) Every  $\Delta_2^0$  Polish space is computable topological, **Proceedings of the Amer. Math. Soc.**, 2024, 152(7), pp. 3123–3136, Bazhenov and Ng.
- (70) An arithmetic analysis of closed surfaces, **Transactions of the Amer. Math. Soc.**, 377 (2024), 1543-1596, with Harrison-Trainor.
- (69) Primitive recursive reverse mathematics, **Annals of Pure and Applied Logic**, 2024, 175(1), 103354, with Bazhenov, Fiori-Carones, and Liu.
- (68) Separating notions in computable topology, **International Journal of Algebra and Computation**, 2023, 33(8), pp. 1687–1711, with Ng.
- (67) Computable topological groups, **The Journal of Symbolic Logic**, Published online 2023: 1-33, with Koh and Ng.
- (66) Punctually presented structures, I: closure theorems, **Computability**, 2023, 12(4), pp. 323–337, with Dorzhieva.
- (65) Computably compact metric spaces, **The Bulletin of Symbolic Logic**, Vol. 29, No. 2 (June 2023), pp. 170-263 (94 pages), with Downey.
- (64) Computable Stone spaces, **Annals of Pure and Applied Logic**, 2023, 174(9), 103304, with Bazhenov and Harrison-Trainor.
- (63) Computable topological abelian groups, **Journal of Algebra**, Volume 615, Pages 278-327, with Nies and Lupini (2023).

- (62) Decomposability via computability, **Algebra and Logic**, 61(2), 153-159, with Khoussainov (2022).
- (61) New degree spectra of Polish spaces, **Siberian Math. J.**, volume 62, pages 882–894 (2021).
- (60) Punctual definability on structures, **Annals of Pure and Applied Logic**, Volume 172, Issue 8, 2021, 102987, with Kalimullin and Montalbán.
- (59) Non-density in punctual computability, **Annals of Pure and Applied Logic**, Volume 172, Issue 9, October–November 2021, 102985, with Harrison-Trainor, Greenberg, and Turetsky.
- (58) Punctual categoricity relative to a computable oracle, **Lobachevskii Journal of Mathematics**, 42, pages 735-742 (2021), with Kalimullin.
- (57) A note on computable distinguishing colorings, **Lobachevskii Journal of Mathematics**, 42, pages 693–700 (2021), with Bazhenov, Greenberg, Miller, and Ng.
- (56) Relativizing computable categoricity, **Proceedings of the Amer. Math. Soc.**, Volume 149, Number 9, September 2021, Pages 3999–4013, with Downey and Harrison-Trainor.
- (55) Foundations of online structure theory II: the operator approach, **Logical Methods in Computer Science**, July 21, 2021, Volume 17, Issue 3, with Downey and Ng.
- (54) Computability of Polish spaces up to homeomorphism, **The Journal of Symbolic Logic**, 2020, 85(4):1-25, with Harrison-Trainor and Ng.
- (53) Online presentations of finitely generated structures, **Theoretical Computer Science**, 2020, 12 Vol. 844, 195-216, with Bazhenov, Kalimullin, and Ng.
- (52) On the complexity of classifying Lebesgue spaces, **The Journal of Symbolic Logic**, 85(3): 1254-1288 (2020), with Brown and McNicholl.
- (51) Punctual categoricity and universality, **The Journal of Symbolic Logic**, 85(4): 1427-1466 (2020), with Downey, Greenberg, Ng, and Turetsky.
- (50) Enumerating abelian  $p$ -groups, **Journal of Algebra**, Volume 560, 15 October 2020, Pages 745-790, with Downey and Ng.
- (49) Computable analysis and classification problems. In: Anselmo M., Della Vedova G., Manea F., Pauly A. (eds) Beyond the Horizon of Computability. CiE 2020. **Lecture Notes in Computer Science**, vol 12098. Springer, Cham. With Downey.
- (48) Graphs are not universal for online computability, **Journal of Computer and System Sciences**, Volume 112, September 2020, Pages 1-12, with Downey, Harrison-Trainor, Kalimullin, and Turetsky.
- (47) A structure of punctual dimension two, **Proc. Amer. Math. Soc.**, 148 (2020), 3113-3128, with Ng.

- (46) Decompositions of decidable abelian groups, **International Journal of Algebra and Computation**, Vol. 30, No. 01, pp. 49-90 (2020), with Bazhenov and Goncharov.
- (45) Turing reducibility in the fine hierarchy, **Annals of Pure and Applied Logic**, Volume 171, Issue 7, July 2020, 102766. With Selivanov and Yamaleev.
- (44) A Note on Realization of Index Sets in  $\Pi_1^0$  Classes, **Algebra Logika**, 58:5 (2019), 659–663, with Downey,
- (43) Foundations of online structure theory, **The Bulletin of Symbolic Logic**, 25 (2019), no. 2, 141–181, with Bazhenov, Downey, and Kalimullin.
- (42) Random subgroups of the rationals, **Proceedings of MFCS 2019**; (the 44th International Symposium on Mathematical Foundations of Computer Science), Leibniz International Proceedings in Informatics, Art. No. 25, 14 pp., LIPIcs. Leibniz Int. Proc. Inform., 138, Schloss Dagstuhl. Leibniz-Zent. Inform., Wadern, 2019, with Ziyuan Gao, Sanjay Jain, Bakhadyr Khoussainov, Wei Li, Karen Seidel, and Frank Stephan.
- (41) Punctual copies of algebraic structures (in Russian), **Siberian Math. J.**, 2019, Volume 60, Number 6, Pages 1271-1285, with Frolov, Kalimullin, and Zubkov.
- (40) Categorical linearly ordered structures, **Annals of Pure and Applied Logic**, 170 (2019), no. 10, 1243–1255, with Downey and Ng.
- (39) Automatic and polynomial-time algebraic structures, **The Journal of Symbolic Logic**, 84 (2019), no. 4, 1630-1669, 2019, with Bazhenov, Harrison-Trainor, Kalimullin, and Ng.
- (38) The back-and-forth method and computability without delay, **Israel J.Math**, October 2019, Volume 234, Issue 2, pp 959–1000, with Ng.
- (37) Uniform procedures in uncountable structures, **The Journal of Symbolic Logic**, 83 (2018), no. 2, 529-550, with Greenberg, Knight and Turetsky.
- (36) Computable Polish group actions, **The Journal of Symbolic Logic**, 83 (2018), no. 2, 443-460, with Montalbán.
- (35) Effectively closed subgroups of the infinite symmetric group, **Proceedings of the Amer. Math. Soc.**, 146 (2018), no. 12, 5421-5435, with Greenberg, Nies, and Turetsky.
- (34) Computable topological groups and Pontryagin duality, **Trans. of the Amer. Math. Soc.**, 370 (2018), no. 12, 8709–8737.
- (33) Computable torsion abelian groups, **Advances in Mathematics**, 325 (2018), 864–907, with Ng.
- (32) On a question of Kalimullin, **Proceedings of the Amer. Math. Soc.**, 146 (2018), no. 8, 3553–3563, with Downey and Iguza.
- (31) Computable distributive lattices, **Sib. Math. J.**, November 2017, Volume 58, Issue 6, pp 959–970, with Bazhenov, Frolov, and Kalimullin.

- (30) Torsion-free abelian groups with optimal Scott families, **Journal of Mathematical Logic**, 18 (2018), no. 1, 1850002, 47 pp.
- (29) A Friedberg enumeration of equivalence structures, **Journal of Mathematical Logic**, 17 (2017), no. 2, 1750008, 28 pp., with Downey and Ng.
- (28) Eliminating unbounded search in computable algebra, **Lecture Notes in Computer Science** book series, volume 10307, Conference on Computability in Europe CiE 2017: Unveiling Dynamics and Complexity, pp 77-87 .
- (27) Different versions of categoricity without delay, **Algebra and Logic**, May 2017, Volume 56, Issue 2, pp 171-177, with Kalimullin and Ng.
- (26) Structures computable without delay, **Theoretical Computer Science**, 674 (2017), 73-98, with Kalimullin and Ng.
- (25) On computable field embeddings and difference closed fields, **Canadian Journal of Mathematics**, 69 (2017), no. 6, 1338–1363, with Miller and Harrison-Trainor.
- (24) Proper divisibility in computable rings, **Journal of Algebra**, 474 (2017), 180-212, with Noam Greenberg.
- (23) Abelian groups and the halting problem, **Annals of Pure and Applied Logic**, Volume 167, Issue 11, November 2016, Pages 1123-1138, with Rod Downey and Keng Meng Ng.
- (22) New Degree Spectra of Abelian Groups, **Notre Dame Journal of Formal Logic**, 58 (2017), no. 4, 507–525.
- (21) Computable functors and effective interpretability, **The Journal of Symbolic Logic**, 82 (1) (2017), 77-97, with Harrison-Trainor, R.Miller, and Montalbán.
- (20) Comparing classes of finite sums, **Algebra and Logic**, January 2016, Volume 54, Issue 6, pp 489-501, with Uri Andrews, Dmitriy Dushenin, Cameron Hill, and Julia Knight.
- (19) On  $\Delta_2^0$ -categoricity of equivalence relations, **Annals of Pure and Applied Logic** 2015, 166(9), pp. 851-880, with Rod Downey and Keng Meng Ng.
- (18) Independence in effective algebra, **Journal of Algebra**, 443 (2015), 441-468, with Harrison-Trainor and Montalbán.
- (17) Computable structures and operations on the space of continuous functions, **Fundamenta Mathematicae**, 233(2):1-41 (2015), with Keng Meng Ng.
- (16) Iterated effective embeddings of abelian p-groups, **International Journal of Algebra and Computation** 24, 1055 (2014), with Rod Downey and Keng Meng Ng.
- (15) Computable abelian groups, **The Bulletin of Symbolic Logic**, Vol. 20, No. 3 (2014), pp. 315-356.
- (14) Computable completely decomposable groups, **Transactions of the American Mathematical Society**, Volume 366, Number 8, August 2014, Pages 4243 –4266, with Rod Downey.



- (13) The classification problem for compact computable metric spaces. In Paola Bonizzoni, Vasco Brattka, and Benedikt Löwe, editors, *CiE*, volume 7921 of **Lecture Notes in Computer Science**, pages 320–328. Springer, 2013, with André Nies.
- (12) Computably isometric spaces, **The Journal of Symbolic Logic**, Volume 78, Issue 4 (2013), 1025-1346.
- (11) Effectively categorical abelian groups, **Journal of Algebra**, Volume 373, 1 January 2013, Pages 223–248, with Rod Downey.
- (10) Limitwise monotonic sequences and degree spectra of structures, **Proc. Amer. Math. Soc.** 141 (2013), 3275-3289, with Iskander Kalimullin and Bakhadyr Khoussainov.
- (9) Randomness and  $K$ -triviality in computable metric spaces, **Proc. Amer. Math. Soc.** 141 (2013), 2885-2899, with Andre Nies.
- (8) Jump degrees of torsion-free abelian groups, **The Journal of Symbolic Logic**, Volume 77, Issue 4 (2012), 1067-1100, with Brooke Andersen, Asher Kach and D. Reed Solomon.
- (7) Classes of Ulm type, and relations between the class of rank-homogeneous trees and other classes, **The Journal of Symbolic Logic**, Volume 76, Number 3, September 2011, 846-849, with Ekaterina Fokina, Julia F. Knight, C. Maher, and Sara Quinn.
- (6) Decidability and computability of certain torsion-free abelian groups, **Notre Dame Journal of Formal Logic**, vol 51, number 1, (2010), with Rod Downey, Sergei S. Goncharov, Asher Kach, Julia F. Knight, Oleg V. Kudinov, and Daniel Turetsky.
- (5) Transforming trees into abelian groups, **New Zealand Journal of Mathematics**, Vol. 41, (2011), Pages 75-81.
- (4) Computable ordered abelian groups and fields, in: Programs, Proofs, Processes, **Lecture Notes in Computer Science**, 2010, Volume 6158/2010, 321-330.
- (3) Enumerations and completely decomposable torsion-free abelian groups, **Theory Comput. Syst.** 45(4): 897-916 (2009).
- (2)  $0''$ -Categorical completely decomposable torsion-free abelian groups. Mathematical Theory and Computational Practice, **Lecture Notes in Computer Science**, Springer, Vol. 5635, 362-371 (2009).
- (1) Enumerations and torsion free abelian groups. Computation and Logic in the Real World, **Lecture Notes in Computer Science**, Springer, Vol. 4497, 566-574, (2007).

5. INVITED TALKS AND INVITATIONS TO WORKSHOPS

- (53) Continuity, Computability, Constructivity 2023, From Logic to Algorithms Kyoto, Japan, September 25 - 29, 2023, invited plenary talk.
- (52) Asian Logic Conference, October 9-13, 2023, in Tianjin, China., Invited plenary talk.
- (51) From Omega to omega, IMS (NUS), Singapore. Invited plenary talk. 12 June -7 July 2023.

- (50) Fifth Workshop on Digitalisation in Computable Models, 01-07 October 2023, invited talk.
- (49) A Convergence of Computable Structure Theory, Analysis, and Randomness, International workshop at the Banff International Research Station, Vancouver, Canada, 19-24 March 2023. Invited plenary lecture (hybrid).
- (48) Computing in topological structures, Sirius, Sirius Mathematics Center, Sochi, Russia, June 27 – July 1, 2022. Invited talk (hybrid).
- (47) Logic Colloquium 2022 Reykjavik, Iceland, 27 June - 1 July, 2022. Invited plenary talk (hybrid).
- (46) Leeds Computability Days, Leeds (UK) 30May - 1 June, 2022. Invited talk (hybrid).
- (45) Nineteenth International Conference on Computability and Complexity in Analysis May 23-26, 2022, Glenside, PA, USA (hybrid), invited plenary talk.
- (44) Computability Theory and Applications international online seminar, 12 Apr 2022. Invited talk (50m), title: Primitive recursive mathematics.
- (43) Dagstuhl Seminar “Descriptive Set Theory and Computable Topology” (20161), Schloss Dagstuhl in Germany, November 14 – 19, 2021 (hybrid).
- (42) Oberwolfach Workshop 2117 - Computability Theory, to be held in Mathematisches Forschungsinstitut Oberwolfach, 25 April - 1 May 2021.
- (41) NZMRI Summer Meeting 2021, Napier, 10-16 January 2021, a tutorial (2\*1hr).
- (40) Online dimension of algebraic structures, workshop/research summer school for post-graduate students, Novosibirsk, 13- 19 July 2020. Invited tutorial (via Zoom, 3\*1hr+10 tutorials).
- (39) Computability in Europe, Italy, Solerno, June 29th – July 2nd, 2020. Invited talk (via Zoom, 30m).
- (38) Victoria University of Wellington Logic Seminar, May 20th (via Zoom, 50m).
- (37) A plenary lecture at Maltsev Meeting 2019, August 2019 (50m).
- (36) Modern analysis and geometry, Auckland. (January 24–25, 2019) (30m).
- (35) Almaty workshop “Computable numberings” (3-10 Aug 2018) (50m)
- (34) Oberwolfach workshop “Research in Pairs” (13 -18 January 2018).
- (33) Oberwolfach workshop “Computability Theory” (7 - 13 January 2018).
- (32) A plenary lecture at Maltsev Meeting, November 2017 (50m).
- (31) Aspects of Computation, Singapore (24 Aug -15 September 2017) (50m).
- (30) A special session talk at Computability in Europe 2017 (June 12-16 in Turku, Finland) (30m).

- (29) A special session talk at ASL North American Annual Meeting at Boise State University (March 20-23, 2017, Boise, Idaho) (30m).
- (28) An invited talk at Midwest Computability Seminar, The University of Chicago (March 16 2017, Chicago) (50m).
- (27) An invited special session talk at AMS Sectional Meeting in Charleston (US) March 11-12, 2017 (25m).
- (26) An invited talk at Computability Theory workshop in Dagstuhl (19 - 24 February 2017) (20m).
- (25) An invited address at the New Zealand Congress of Mathematics (Dec 2016) (50m).
- (24) A special session talk at Computability and Complexity, a conference dedicated to Downey's 60th birthday (5th and 8th of January 2017, Raunati) (40m).
- (23) A plenary talk at International Conference on Algebra, Analysis and Geometry, Kazan 2016 (50m).
- (22) Whiritoa research workshop on computability and applications, New Zealand, 2016 (50m).
- (21) The National University of Singapore invited seminar talk (2016) (50m).
- (20) A plenary talk at Mal'cev Meeting, Novosibirsk, Russia, May 1 -7 2015, (50m).
- (19) Berkeley Logic Seminar invited talk (2015), Berkeley, USA (50m)
- (18) Special session talk at The Canadian Mathematical Society Winter Meeting, Hamilton, Ontario, 5 - 8 December 2014 (30m).
- (17) UCLA logic seminar invited talk, LA, USA, 2014, (50m).
- (16) A plenary talk at Computability and Complexity in Analysis, Darmstadt, Germany 19-23 July 2014 (40m).
- (15) Association for Symbolic Logic 2014 North American Meeting (30 m).
- (14) Midwest Computability Seminar, Chicago, May 2014 (30 m).
- (13) Logic Colloquium, Berkeley, 28 February 2014 (40 m).
- (12) A plenary lecture at Mal'cev Meeting, Novosibirsk, November 2013 (1 hr).
- (11) Workshop on Computable Model Theory, Banff, Alberta, Canada 3-8 November 2013 (30 m).
- (10) Workshop "Buenos Aires Semester in Computability, Complexity and Randomness", Argentina, April, 2013, (1 hr).
- (9) Special session talk on computable structure theory and computable model theory at the 2013 North American ASL Meeting, Waterloo, May 8-May 13, 2013, (40 m).
- (8) Computable structures and definability 2012, Sobolev Institute of Mathematics, Novosibirsk, Russia. Two talks. (40m)(40m).

- (7) Computability and Complexity in Analysis 2012, Cambridge. (40m)
- (6) Semantics and Syntax: A Legacy of Alan Turing. Isaac Newton Institute for Mathematical Sciences, Cambridge, 2012 (30m).
- (5) Number Theory, Discrete Mathematics, and Their Applications. Tsinghua University, China, 2012 (20m).
- (4) Analysis and Randomness in Auckland, 2011. The University of Auckland, New Zealand, 2011 (30m).
- (3) A plenary talk, Mal'tsev Meeting 2011 in Novosibirsk (1hr).
- (2) Special session on effective algebra, Asian Logic Colloquium 2011 in Wellington (30m).
- (1) Workshop on Computable Structures. Sobolev Institute of Mathematics, Novosibirsk, 2009 (20m).

## 6. CONFERENCES ORGANISED

Computability and Complexity in Analysis, July 15-18, 2024, Swansea, UK.

Equivalences, Numberings, Reducibilities. Astana, Kazakstan, 20-24 May 2024.

Computability in Europe 2024 Amsterdam, 8-12, July 2024.

16th International Conference on Computability, Complexity, and Randomness, July 10-14, 2023, Lake Kochel, Germany.

Algorithmic Presentations in Mathematics (Sirius Mathematics Center, Sochi, Russia) November 8-12, 2021 (blended format).

Computably universal spaces, workshop/research summer school for postgraduate students, Novosibirsk, July 2021 (virtual).

June 28-July 2, 2021: Third Workshop on Digitalization and Computable Models (WDCM-2021), Novosibirsk and Kazan, Russia (virtual).

Computability and complexity in randomness, Kochel, Germany from July 4 to July 8, 2022.

Second Workshop on Digitalization and Computable Models (WDCM-2020); July 20-24, 2020 Novosibirsk (virtual).

Online dimension of algebraic structures, workshop/research summer school for postgraduate students, Novosibirsk, 13- 19 July 2020 (virtual).

The First Workshop on Digitalization and Computable Models, Novosibirsk, December 2019.

Computability and Complexity in Analysis (South Korea, 2017)

Computability and Complexity Symposium (Raumati, New Zealand 2017).

## 7. EDITORIAL WORK

I served as an editor of:

2020- Lobachevskii Journal of Mathematics. This is a relatively new Russian general mathematical journal published by Springer (Scimago rank Q2); see also <https://www.springer.com/journal/12202>

2019- Scientific Notes of Kazan University. <https://kpfu.ru/uz-eng/phm>

I also referee papers submitted to various research journals including: Transactions of the AMS, Proceedings of the AMS, Journal of Mathematical Logic, Journal of Algebra, The Journal of Symbolic Logic, The International Journal of Algebra and Computation, Annals of Pure and Applied Logic, Algebra i Logika, and many other journals.

## 8. TEACHING AND SUPERVISION

8.1. **Ph.D. students supervised.**

- 2022 - present. Ellen Hammatt. Main advisor.
- 2020 - 2024. Marina Dorzhieva. Main advisor.
- 2016- 2019. Cong Yao. Co-supervisor.

8.2. **MSc. students supervised.**

- 2024 -present. Xavier Enright.
- 2024-present. Sapir Ben-Shahar.
- 2022 - 2024. Songqi Guo.

8.3. **Postdocs mentored.**

- 2023. Lu Liu. Jointly mentored with Downey.
- 2020-2021. Dr Harrison-Trainor (Ph.D. UC Berkeley).
- 2021-2023. Dr. Fiori Carones (Ph.D. Università degli Studi di Udine) Jointly mentored with Dr. Bazhenov.

8.4. **Courses taught.**

2023-2024: Agebra, Victoria University of Wellington (instructor).

2021, 2022: Mathematical logic, Victoria University of Wellington (instructor).

2020, 2018, 2017, 2016: Abstract Algebra, Massey (instructor).

2021, 2020, 2019, 2018, 2017, 2016, 2015: Linear algebra, Massey (instructor).

2018, 2016, 2015 Concepts in Mathematics, Massey (instructor and tutor).

2015, 2018: Advanced Algebra, Massey (instructor).

2014: Abstract Algebra, UC at Berkeley (instructor).

2013: Algebra (Math 311), Victoria University of Wellington (instructor and tutor).

2013: Computability and Complexity, Victoria University of Wellington (instructor and tutor).

2012: Calculus 1, Nanyang Technological University (instructor and tutor).

2011: Discrete Mathematics in Computer Science (CS225), The University of Auckland (tutor).

2010 - 2011: Software Engineering Theory (SE211), The University of Auckland (tutor).

2009- 2010: Discrete Mathematics in Computer Science (CS225), The University of Auckland (tutor).

2009: Discrete Mathematics in Computer Science (CS225), The University of Auckland (tutor).

2007-2008: Basics of Programming, Novosibirsk State University (tutor in a computer lab).