Henning Arnor Ulfarsson

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Personal

Born 11/21/1981 in Reykjavik, Iceland. Citizen of Iceland. Married with three daughters

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Academic Positions

- Director of Graduate Program, School of Computer Science,
  Reykjavik University, Reykjavik, Iceland, (05/2016–09/2019)
- Assistant Professor, School of Computer Science,
  Reykjavik University, Reykjavik, Iceland, (Half-time: 12/2010–08/2013, Full-time: 08/2013–)
- Postdoctoral Researcher, School of Computer Science,
  Reykjavik University, Reykjavik, Iceland, (9/2009–6/2013)

Education

- **Brown University**, Providence, Rhode Island, USA (2004-2009)
  - Ph.D. in Mathematics, June 2009
    Thesis: *Extending Grothendieck topologies to diagram categories and Serre functors on diagram schemes*
  - M.Sc. in Mathematics, May 2006

- **University of Iceland,** Reykjavik, Iceland (2001-2004)
  - B.Sc. in Mathematics, June 2004

Research Interests

My main research area is in the intersection of combinatorics and the theory of algorithms. I focus on permutation patterns and algorithms to prove and conjecture results about them. I have also worked in algebraic geometry, mostly on Schubert varieties, and in ad-hoc wireless networks, especially on the SINR-model.

Publications and Preprints

Publications in preparation.

- M. Albert, C. Bean A. Claesson, J. Pantone and H. Ulfarsson. *Combinatorial Exploration: An Algorithmic Framework for Enumeration*
  In preparation 2019

Submitted Publications.

- C. Bean, E. Nadeau and H. Ulfarsson. *Enumeration of Permutation Classes and Weighted Labelled Independent Sets*
  Submitted 2019, https://arxiv.org/abs/1912.07503
- C. Bean, B. Gudmundsson, T. Magnusson and H. Ulfarsson. *Algorithmic coincidence classification of mesh patterns*
  Submitted 2019, https://arxiv.org/abs/1910.08127

Publications in Journals.

- C. Bean, M. Tannock and H. Ulfarsson. *Pattern avoiding permutations and independent sets in graphs*
  To appear in Journal of Combinatorics 2020, http://arxiv.org/abs/1512.08155
- J. Smith, and H. Ulfarsson. *The poset of mesh patterns*
  Discrete Mathematics, Volume 343, Issue 6, June 2020
  https://arxiv.org/abs/1802.08672
- M. Albert, B. Gudmundsson and H. Ulfarsson. *Collatz meets Fibonacci*
  To appear in MAA Mathematics Magazine 2020, http://arxiv.org/abs/1404.3054
- B. Kristinsson and H. Ulfarsson. *Occurrence graphs of patterns in permutations*
  Involve Volume 12 (2019), No. 6, 901-918
  https://arxiv.org/abs/1607.03018
- C. Bean, B. Gudmundsson, and H. Ulfarsson. *Automatic discovery of structural rules of permutation classes*
  Mathematics of Computation, Volume 88, Number 318, July 2019, Pages 1967–1990
  https://arxiv.org/pdf/1705.04109
- C. Bean, A. Claesson and H. Ulfarsson. *Enumerations of Permutations Simultaneously Avoiding a Vincular and a Covincular Pattern of Length 3*
  Journal of Integer Sequences Volume 20 (2017)
  https://arxiv.org/abs/1512.03226
- M. Tannock and H. Ulfarsson. *Equivalence classes of mesh patterns with a dominating pattern*
  Discrete Mathematics & Theoretical Computer Science, Vol. 19 no. 2, Permutation Patterns 2016
  https://arxiv.org/pdf/1704.07104
- A. Claesson, B. Tenner and H. Ulfarsson. *Coincidence among families of mesh patterns*
  The Australasian Journal of Combinatorics 2015, Volume 63 Part 1 (2015)
  http://arxiv.org/abs/1412.0703
- I. Hilmarsson, I. Jonsdottir, S. Sigurdardottir, L. Vidarsdottir and H. Ulfarsson. *Wilf-classification of mesh patterns of short length*
  Electronic Journal of Combinatorics, Volume 22 (2015)
  http://arxiv.org/abs/1409.3165
- H. Ulfarsson and A. Woo. *Which Schubert varieties are local complete intersections?*
  The Proceedings of the London Mathematical Society, Volume 107 (2013) Issue No. 5, 1004–1052
  http://arxiv.org/abs/1111.6146
- S. Kitaev, P. Salimov, C. Severs and H. Ulfarsson. *Restricted non-separable planar maps and some pattern avoiding permutations*
  in Discrete Applied Mathematics 161 (2013), pp. 2514–2526
  http://arxiv.org/abs/1202.1790
- H. Ulfarsson. *Describing West-3-stack-sortable permutations with permutation patterns*
  Séminaire Lotharingien de Combinatoire, Volume 67 (2012), Article B67d
  http://www.mat.univie.ac.at/~slc/wpapers/s67ulfarss.pdf
- J. Sack and H. Ulfarsson. *Refined inversion statistics on permutations*
  Electronic Journal of Combinatorics, Volume 19 (2012)
  http://arxiv.org/abs/1106.1995
- H. Ulfarsson. *A unification of permutation patterns related to Schubert varieties*
  Pure Mathematics and Applications Volume 22 (2011) Issue No. 2, 273–296
  http://arxiv.org/abs/1002.4361
- S. Kitaev, P. Salimov, C. Severs and H. Ulfarsson. *Word-representability of line graphs*
  Open Journal of Discrete Mathematics, Volume 1, Number 2 (2011), 96–101
  http://arxiv.org/abs/1102.3980
- Q. Chen, S. Marcus and H. Ulfarsson. *Very twisted stable maps*
  Communications in Analysis and Geometry, Volume 18, Number 4. (2010), 831–855
  http://arxiv.org/abs/0811.0035

Publications in Conference Proceedings.

- R. Ardal, Y. Bjornsson, H. Ulfarsson. *Automated Enumeration of Combinatorial Classes with Proof-Number Search*
  Submitted 2019
- A. Claesson and H. Ulfarsson. *Sorting and preimages of pattern classes*
  The 24th International Conference on Formal Power Series & Algebraic Combinatorics, Nagoya, Japan, 2012 Discrete Math. Theor. Comput. Sci. Proc. AR (2012), 595–606
  http://arxiv.org/abs/1203.2437

- H. Ulfarsson and A. Woo. *Which Schubert varieties are local complete intersections? Extended abstract*
  The 24th International Conference on Formal Power Series & Algebraic Combinatorics, Nagoya, Japan, 2012. Discrete Math. Theor. Comput. Sci. Proc. AR (2012), 753–764
- S. Kitaev, P. Salimov, C. Severs and H. Ulfarsson. *On the representability of line graphs*
  The 15th Conference on Developments in Language Theory, Milan, Italy, 2011. G. Mauri and A. Leporati (Eds.): DLT 2011, LNCS 6795, pp. 478–479. Springer, Heidelberg (2011)
  `http://arxiv.org/abs/1102.3980`
- H. Ulfarsson. *A unification of permutation patterns related to Schubert varieties. Extended abstract*
  The 22nd International Conference on Formal Power Series & Algebraic Combinatorics, San Francisco, 2010. Discrete Math. Theor. Comput. Sci. Proc. AN (2010) 1057–1068
  `http://arxiv.org/abs/1002.4361v2`

Preprints.

- E. Asgeirsson, J. Foley, H. Gudmundsdottir, M. Halldorsson, G. Järvelä, H. Ulfarsson and Y. Vigfusson. *Measurement Based Interference Models for Wireless Scheduling Algorithms*
  Preprint 2014, `http://arxiv.org/abs/1401.1723v1`
- H. Magnusson and H. Ulfarsson. *Algorithms for discovering and proving theorems about permutation patterns*
  Preprint 2013, `http://arxiv.org/abs/1211.7110`
- H. Ulfarsson. *Pattern avoiding equivalence classes*
  Preprint 2010, `http://arxiv.org/abs/1005.5419`

STUDENTS AND POSTDOCS

Postdoctoral researchers.

- Christian Bean, spring 2018 – fall 2019

Ph.D. students.

- Emilé Nadeau, spring 2019 –
- Christian Bean, fall 2014 – spring 2018

M.Sc. students.

- Bjarni Jens Kristinsson, fall 2018 – fall 2019
- Arnar Bjarni Arnarsson, fall 2017 – spring 2019
- Unnar Freyr Erlendsson, fall 2017 – spring 2019
- Ragnar Pall Ardal, fall 2016 – fall 2019
- Tomas Ken Magnusson, fall 2015 – fall 2018
- Bjarki Agust Gudmundsson, fall 2015 – spring 2017
- Murray Tannock, spring 2015 – spring 2016
- Hjalti Magnússon, spring 2012 – spring 2013
- Sigríður Viðarsdóttir, fall 2012 – fall 2015

Final Projects of B.Sc. students.

- *Occurrence graphs of patterns in permutations* (spring 2015)
  Supervised a B.Sc. student at UI, Bjarni Jens Kristinsson, on a final project in mathematics. His thesis is available here: `http://hdl.handle.net/1946/22017`
- *A responsive web site for the smart market for study-room allocation at Reykjavik University* (fall 2012)
  Co-supervised two B.Sc. students at RU, Gudrun Sif Hilmarsdottir and Patrekur Patrekson, on a final project.
- *A smart market for study-room allocation at Reykjavik University* (fall 2011)
  Co-supervised two B.Sc. students at RU, Anna Sigga Lúðvíksdóttir and Sævar Jónasson, on a final project.
- *Wilf-classification of mesh patterns and marked mesh patterns* (spring 2011)
  Supervised four B.Sc. students at RU, Ingibjörg Jónsdóttir, Ísak Hilmarsson, Sigríður Viðarsdóttir and Steinunn Sigurðardóttir, on a final project, which was accepted for a talk at the conference Permutation Patterns 2011. `http://web.mac.com/hemsa/Ulfarsson/Research_files/Allt.pdf`

Smaller projects.

- *UROP: A Haskell implementation of BiSC* (fall 2012)
  Supervised a B.Sc. student at RU, Helgi Kristvin Sigurbjarnarson, on the porting of the BiSC pattern mining algorithm to Haskell

- *Game theory and pattern avoidance* (fall 2010)
  Supervised an M.Sc. student at RU, Hjalti Magnússon, on a small project related to the course Game Theory, RU fall 2010. `http://web.mac.com/hemsa/Ulfarsson/Students_files/PatternGame.pdf`

Selected Talks, Presentations and Posters

- Permutation Patterns 2020, plenary talk.
  Algorithmic solutions to problems in permutation patterns
- University of Iceland Mathematics Colloquium, October 2019.
  Pattern avoidance in various domains
- 100th anniversary of the mathematics department at Reykjavik Junior College, October 2019.
  A historical walk through combinatorics
- Brown University Mathematics Colloquium, Providence, RI, September 2019.
  Combinatorial Exploration: Guided by humans, proven by computer. Joint work with M. Albert, A. Arnarsson, R. Ardal, C. Bean, A. Claesson, U. Erlendsson, T. Magnusson, E. Nadeau, J. Pantone.
- Reykjavik University Lecture Marathon, Iceland, April 2018
  Understanding complicated things by dividing them into easier pieces
- Dartmouth Combinatorics Seminar, Boston, MA, November 2016.
  Enumeration of permutation classes by conjectured structures. Joint work with M. Albert, C. Bean, A. Claesson, B. Gudmundsson.
- Permutation Patterns, Washington DC, USA, June 2016
  - *Struct: Finding structure in permutation sets*. Joint work with M. Albert, C. Bean (presented), A. Claesson and B. Gudmundsson.
  - *Algorithmic coincidence classification of mesh patterns* Joint work with B. Gudmundsson (presented) and T. Magnusson.
  - *Equivalence classes of mesh patterns with a dominating pattern* Joint work with M. Tannock (presented).
- MIT Combinatorics Seminar, Boston, MA, October 2015.
  Pattern avoiding permutations and non-crossing subgraphs of polygons. Joint work with C. Bean and M. Tannock.
- Permutation Patterns, London, UK, June 2015
  - Software Demonstration: *Struct: automatic discovery of structure in permutation sets*. Joint work with M. Albert, C. Bean, A. Claesson and B. Gudmundsson.
  - *Avoiding a pair of vincular and covincular patterns* Joint work with C. Bean (presented) and A. Claesson.
  - *Pattern avoidance and non-crossing subgraphs of polygons* Joint work with C. Bean and M. Tannock (presented).
- Department of Mathematics Colloquium, University of Hawaii at Manoa, Hawaii, USA, April 2015
  Pattern avoiding permutations and non-crossing subgraphs of polygons. Joint work with C. Bean and M. Tannock.
- A three day seminar series, Brown University, RI, USA, March, 2015
  Pattern avoiding permutations.
- New York Combinatorics Seminar, City University New York, USA, March 2015
  Pattern avoiding permutations and non-crossing subgraphs of polygons. Joint work with C. Bean and M. Tannock.
- Rutgers Experimental Mathematics Seminar, Rutgers University, New Brunswick, USA, March 2015
  Experimenting with permutations: The tale of two algorithms. Joint work with M. Albert, C. Bean, A. Claesson and B. Gudmundsson.
- Special Session on Enumerative Combinatorics at the 2015 Joint Mathematics Meetings, San Antonio, TX, January 2015
  Struct: An algorithm for guessing the structure and enumeration of permutation sets (Preliminary Report).
  Joint work with M. Albert, C. Bean, A. Claesson, and B. Gudmundsson
- ICE-TCS Seminar, Reykjavik University, Iceland, November 2014
  Struct: An algorithm for guessing the structure and enumeration of permutation sets. Joint work with M. Albert, C. Bean, A. Claesson, and B. Gudmundsson
- New York Combinatorics Seminar, City University New York, USA, June 2014
  Guessing and proving theorems for permutation patterns. Joint work with A. Claesson and H. Magnusson.
- Permutation Patterns, East Tennessee State University, USA, July 2014
  Poster: *Collatz meets Fibonacci*. Joint work with M. Albert, who presented, and B. Gudmundsson.
- The 26th International Conference on Formal Power Series & Algebraic Combinatorics,
  Chicago, USA July 2014
  Software demonstration: *Algorithms for discovering and proving theorems involving permutation patterns*.

- MIT Combinatorics Seminar, Boston, MA, October 2013.
  Permutations arising from the Collatz-conjecture and automatic discovery of patterns.
- Permutation Patterns, University Paris Diderot, Paris, France, July 2013
  The interaction between equivalence relations on the symmetric group and pattern avoidance. Joint work with A. Claesson.
- Permutation Patterns, University Paris Diderot, Paris, France, July 2013
  Bijective maps based on mesh patterns. Joint work with L. Vidarsdottir, who presented.
- Permutation Patterns, University Paris Diderot, Paris, France, July 2013
  Preimages of single-pass sorting operators. Joint work with H. Magnusson, who presented.
- The Pearls of Computer Science Colloquium, Reykjavik University, Iceland, May 2013
  Donald Knuth: The great inventor
- ICE-TCS Seminar, Reykjavik University, Iceland, March 2013
  Crazy bijections between planar maps, beta-trees and permutations. Joint work with S. Kitaev, P. Salimov and C. Severs
- 2013 Joint Mathematics Meetings, San Diego, CA, January 2013
  GRIM: An algorithm for the discovery of generalized permutation patterns.
  Joint work with A. Claesson
- The 24th International Conference on Formal Power Series & Algebraic Combinatorics,
  Nagoya, Japan, August 2012
  Sorting and preimages of pattern classes. Joint work with A. Claesson
- The 24th International Conference on Formal Power Series & Algebraic Combinatorics,
  Nagoya, Japan, August 2012
  Poster: *Which Schubert varieties are local complete intersections?*. Joint work with A. Woo
- Permutation Patterns, University of Strathclyde, Glasgow, UK, June 2012
  Automated discovery of permutation patterns. Joint work with A. Claesson.
- Reykjavik University Lecture Marathon, Iceland, March 2012
  Proof by Computer
- ICE-TCS Seminar, Reykjavik University, Iceland, February 2012
  Automatic discovery of permutation patterns. Joint work with A. Claesson
- 2012 Joint Mathematics Meetings, Boston, MA, January 2012
  Restricted rooted non-separable planar maps. Preliminary Report.
  Joint work with S. Kitaev, P. Salimov and C. Severs
- Mathematics in Iceland 2011, Conference of the Icelandic Mathematical Society, Reykholt, November 2011
  Maps, trees and patterns. Joint work with S. Kitaev, P. Salimov and C. Severs
- Computer and Information Sciences Seminar, University of Strathclyde, Glasgow, UK, October 2011
  Sorting algorithms and permutation patterns.
- ICE-TCS Seminar, Reykjavik University, Iceland, October 2011
  Patterns prohibiting sorting.
- University of Washington Combinatorics Seminar, WA, June 2011
  Generalized permutation patterns and their applications.
- Permutation Patterns, California Polytechnic State University, CA, June 2011
  Marked mesh patterns and local complete intersection Schubert varieties. Joint work with A. Woo.
- ICE-TCS Theory Day, Reykjavik University, Iceland, May 2011
  Marked mesh patterns and connections with geometry.
- Joint Mathematics Meetings, New Orleans, Louisiana, January 2011
  Local complete intersection Schubert varieties. Preliminary Report. Joint work with A. Woo who presented.
- Reykjavik University Lecture Marathon, Iceland, March 2010
  The Icesave dispute from the viewpoint of game theory. Joint work with Jón Thór Sturluson.
- Mathematics Colloquium, California State University, Long Beach, California, December 2010
  Counting special inversions in permutations. Joint work with Joshua Sack who presented.
- Permutation Patterns, Dartmouth College, NH, August 2010
  Detecting singularities of Schubert varieties with permutation patterns.
- Formal Power Series & Algebraic Combinatorics, San Francisco State University, CA, August 2010
  Poster: *A unification of permutation patterns related to Schubert varieties*.
- Summer Meeting of the Canadian Mathematical Society, University of New Brunswick, Fredericton, Canada, June 2010
  Equivalence relations on permutations and pattern avoidance.

- 10th Nordic Combinatorial Conference, Reykjavik University, Iceland, May 2010
  Toric permutations and pattern avoidance.
- Mathematics Colloquium, University of Iceland, Reykjavik, Iceland, March 2010
  Patterns in algebraic geometry.
- Conference of the Icelandic Mathematical Society, Leirubakki, September 2009
  Young tableaux and patterns in permutations.
- Mathematics Colloquium, University of Iceland, Reykjavik, Iceland, March 2009
  Teaching mathematics with Sage.
- Graduate Conference in Algebra and Topology, SUNY Binghamton University, Binghamton, NY, November 2008
  Configuration schemes and their Serre functors. A subset of this work is joint with J. Wise.
- Graduate Student Presentation, PCMI Graduate Summer School on Analytic and Algebraic Geometry: Common Problems–Different Methods, Park City Mathematics Institute, Park City, UT, July 2008
  Configuration schemes and their Serre functors. A subset of this work is joint with J. Wise.
- Graduate Student Seminar, Brown University, Providence, RI, November 2007
  Sheaves on Configuration Schemes.
- Lecture, Commercial College of Iceland, Reykjavik, Iceland, April 2003
  Introduction to Metric Spaces.

Selected Teaching Experience

Reykjavik University, Iceland.

- Spring 2016: Organized a 12 week course, Algebra and Combinatorics (T-218-ALCO) for B.Sc. students in discrete mathematics and computer science
- Fall 2015: Organized a 12 week course, Cryptography and Number Theory (T-513-CRNU) for B.Sc. students in discrete mathematics and computer science
- Fall 2014: Organized a 12 week course, Cryptography and Number Theory (T-513-CRNU) for B.Sc. students in discrete mathematics and computer science
- Spring 2014: Organized a 12 week course, Game Theory (E-409-LEIK) for B.Sc. and M.Sc. students in computer science and mathematics
- Spring 2014: Organized a 12 week course, Topology (T-612-GRAND) for B.Sc. and M.Sc. for students in discrete mathematics and computer science
- Spring 2014: Organized a 12 week course, Algebra and Combinatorics (T-218-ALCO) for B.Sc. students in discrete mathematics and computer science
- Fall 2013: Organizing a 15 week course, Cryptography and Number Theory (T-513-CRNU) for B.Sc. students in discrete mathematics and computer science
- Spring 2013: Organized a 12 week course, Algebra and Combinatorics (T-218-ALCO) for B.Sc. students in discrete mathematics and computer science
- Fall 2012: Organized a 15 week course, Mathematical Programming (E-402-STFO) for B.Sc. students in computer science and mathematics
- Summer 2012: Organized a 6 week course, Functional Programming (T-209-FUPR) for B.Sc. students in computer science and mathematics
- Fall 2011: Organized a 15 week course, Topology with Application to Computer Science (T-635-TOAP) for B.Sc. students in computer science and mathematics
- Summer 2011: Organized two 4 week courses, Mathematics II (AT STÆ2003) for B.Sc. students in civil engineering and Calculus II (T-201-STA2) for B.Sc. students in engineering
- Spring 2011: Organized a 12 week course, Mathematical Programming (E-402-STFO) for B.Sc. students in computer science and mathematics
- Fall 2010: Organized a 13 week course, Game Theory (E-409-LEIK) for B.Sc. and M.Sc. students in computer science and mathematics
- Spring 2010: Organized a 13 week course, Statistics (T-217-STAT), for B.Sc. students in computer science
- Fall 2009: Organized a 12 week course, Complex Analysis (T-310-COAN), for B.Sc. students in mathematics
- Spring 2009: Organized a three week course, Introduction to Algebraic Geometry (E-312-IALR) for B.Sc. students in mathematics
- Fall 2008: Organized a 6 week reading course, Metric Spaces (E-514-FRID), for B.Sc. students in mathematics
- Fall 2008: Organized a 6 week reading course Topology (E-612-GRAN), for B.Sc. students in mathematics
- Fall 2008: Organized a 12 week course, Mathematical Analysis II (E-208-CALC), for B.Sc. students in mathematics

Brown University, Providence, Rhode Island, USA.

- Fall 2007 - Spring 2008: Obtained the Sheridan Center Teaching Certificate #1. This certificate is attained after participating in the Sheridan Center teaching seminar and having one's teaching observed and critiqued by teaching consultants from the center
- Fall 2007: As a Teaching Fellow I was responsible for lectures for Advanced Placement Calculus (Math 0190), grading of exams and holding office hours
- Summer 2007: As a Course Instructor at the Brown University Summer School I organized the summer version of Introductory Calculus II (Math 0100)

University of Iceland.

- Fall 2003: Responsible for problem sessions for Calculus IB, for B.Sc students in engineering

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Professional Experience

- **Specialist**, Landsbanki Íslands (Bank in Iceland) 7/06-8/06
  Pricing of complex derivatives using, among other things, binomial trees. Involved considerable programming in MatLab
- Talnatök inc. (Educational company in Iceland) 6/05-8/05
  Preparation of course material for a preparatory course for students entering the Department of Engineering at the University of Iceland; served also as a substitute teacher
- **Research Assistant**, Dept. of Mathematics, University of Iceland 6/03-8/03,6/04-8/04
  Assisted Dr. Reynir Axelsson in preparing textbooks for publication, mainly by drawing figures and proofreading
- **Research Assistant**, Dept. of Physics, University of Iceland, 6/02-8/02
  Assisted Dr. Ari Ólafsson on the construction of a 70 ft. Focault pendulum and on a photoacoustic project
- **Programmer**, deCODE genetics, Reykjavik, Iceland, 6/01-8/01
  Debugging of software (Black–box debugging)

Computer Skills

LaTeX, Mathematica, MatLab, Python, Sage, Singular, basic HTML, basic JAVA and basic web design.

Selected Memberships and Administrative Duties

Membership in boards.

- President of the Icelandic Mathematical Society, 2011-2013
- Member of the board of the Icelandic Mathematical Society, 2010

Organization.

- One of the organizers of a new undergraduate degree, *Discrete Mathematics and Computer Science*, at Reykjavik University, which opened in fall 2012
- Member of the organizing committee of FPSAC 2011
- Chair of the organizing committee of the conference Mathematics in Iceland 2011
- Co-organizer of the Icelandic Postdoc and Graduate Student Seminar, 2010

Memberships.

- American Mathematical Society, 2004-
- Icelandic Mathematical Society, 2004-
- Icelandic Centre of Excellence in Theoretical Computer Science, 2008-
- European Association for Theoretical Computer Science 2014-
- Icelandic Academia of Science 2016-

Other.

- Referee work for journals: Algebraic Combinatorics, Journal of Combinatorial Theory – Series A, Discrete Mathematics, Journal of Integer Sequences, Discrete Applied Mathematics, Pure Mathematics and Applications, The Australasian Journal of Combinatorics, European Journal of Combinatorics, Journal of Combinatorics, The Electronic Journal of Combinatorics, Discrete Mathematics & Theoretical Computer Science: Special Issue for Permutation Patterns 2015, Graphs and Combinatorics

- Referee work for conferences: European Symposia on Algorithms 2011, Formal Power Series and Algebraic Combinatorics 2013, International Workshop on Combinatorial Algorithms 2015
- Review work for MathSciNet
- Other referee work: Grant applications to the NSA Mathematical Sciences Program
- Other referee work: Grant applications for the University of Iceland Research Fund
- External examiner for final projects of B.Sc. students at Reykjavik University:
  - Developing Game AI for the Real-Time Strategy Game Starcraft, spring 2011 (three students)
  - Arduino as a Random Number Generator, fall 2011 (one student)

Selected Awards and Grants

- Principal Investigator on a Infrastructure grant from the Icelandic Research Fund, awarded 2018
- Principal Investigator on a 3 year Project grant from the Icelandic Research Fund, awarded January 2014
- Scandinavia-Japan Sasakawa Foundation Grant to travel to Japan to attend FPSAC 2012
- Co-proposer on a 3 year grant of excellence from the Icelandic Research Fund, awarded December 2011
- Erasmus grant for visiting University of Strathclyde, Glasgow, UK, fall 2011
- George Irving Hopkins Fellowship, 2008-2009