

Christian Bean

POSTDOCTORAL STUDENT AND RESEARCH ASSISTANT

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Education

Reykjavík University

Reykjavík, Iceland

PHD IN COMPUTER SCIENCE

Aug. 2014 - Jun. 2018 (expected)

- Supervisor: Prof Henning Ulfarsson
- Thesis: "Finding structure in sets of permutations" - *The main goal is to develop an algorithm which will aid researchers in finding structures in sets of permutations and use those structures to find generating functions to enumerate the set. My assignment is primarily the development of the theory of permutation patterns relating to the new algorithm as well as implementation of the algorithm.*

Universtiy of St Andrews

Fife, Scotland

MMATH (HONS) IN MATHEMATICS (1ST CLASS)

Sep. 2010 - Jun. 2014

- Project Supervisor: Dr Martyn Quick
- Dissertation: "Powerful p -Groups"

Skills

Programming Languages Python, LaTeX, Java, C++, Matlab, Maple
English (native), French (basic), Icelandic (basic)

Publications

Automatic discovery of structural rules of permutation classes

Mathematics of Computation

JOINT WORK WITH B. GUDMUNDSSON, H. ULFARSSON

To appear in 2018

- <https://arxiv.org/abs/1705.04109>

Pattern avoiding permutations and independent sets in graphs

Journal of Combinatorics

JOINT WORK WITH M. TANNOCK AND H. ULFARSSON

To appear in 2018

- <http://arxiv.org/abs/1512.08155>

Simultaneous avoidance of a vincular and a covincular pattern of length 3

Journal of Integer Sequences

JOINT WORK WITH A. CLAESSON AND H. ULFARSSON

2017

- <http://arxiv.org/abs/1512.03226>

Cognitive workload classification using cardiovascular measures and dynamic features

IEEE 8th International Conference
on Cognitive Infocommunications

JOINT WORK WITH E. H. MAGNUSDOTTIR, K R. JOHANNSDOTTIR, B. OLAFSSON AND J. GUDNASON

2017

Presentations and conferences

ICE-TCS Theory Day

Reykjavik, Iceland

PRESENTED "Combinatorial exploration"

Aug. 2018

Algorithmic and Enumerative Combinatorics Summer School 2018

Hagenberg, Austria

PRESENTED "Combinatorial exploration"

Jul. 2018

Permutation Patterns

Dartmouth, USA

PRESENTED "Combinatorial exploration of permutation classes"

Jul. 2018

British Combinatorial Conference

Glasgow, Scotland

PRESENTED "Creating a virtual combinatorist"

Jul. 2017

Permutation Patterns

Reykjavík, Iceland

PRESENTED "Automatic enumeration of restricted permutations"

Jun. 2017

ICE-TCS Seminar

Reykjavík, Iceland

PRESENTED "Creating a virtual combinatorist"

Apr. 2017

Young Researchers in Mathematics	St Andrews, Scotland
PRESENTED “Struct: Finding structure in permutation sets”	Aug. 2016
Permutation Patterns	Washington, D.C, USA
PRESENTED “Struct: Finding structure in permutation sets”	Jun. 2016
ICE-TCS Seminar	Reykjavík, Iceland
PRESENTED “Struct: Finding structure in permutation sets”	May. 2016
Scottish Combinatorics Meeting	Glasgow, Scotland
PRESENTED “Struct: Finding structure in permutation sets”	Apr. 2016
British Combinatorial Conference	Warwick, England
PRESENTED “Avoiding a pair of vincular and covincular patterns”	Jul. 2015
Permutation Patterns	London, England
PRESENTED “Avoiding a pair of vincular and covincular patterns”	Jun. 2015
Postgraduate Combinatorial Conference	London, England
PRESENTED “Avoiding a pair of vincular and covincular patterns”	Apr. 2015
ICE-TCS Seminar	Reykjavík, Iceland
PRESENTED “Avoiding a pair of vincular and covincular patterns”	Feb. 2015

Teaching experience

Lecturer for:

Programming (T-111-PROG)	Reykjavík University, Iceland
<i>This course was for B.Sc. students in computer science</i>	Aug. 2018 - Nov. 2018
Cryptography and Number Theory (T-513-CRNU)	Reykjavík University, Iceland
<i>This course was for B.Sc. students in discrete mathematics and computer science</i>	Aug. 2018 - Nov. 2018
Algebra and Combinatorics (T-218-ALCO)	Reykjavík University, Iceland
<i>This course was for B.Sc. students in discrete mathematics and computer science</i>	Jan. 2018 - Apr. 2018
Cryptography and Number Theory (T-513-CRNU)	Reykjavík University, Iceland
<i>This course was for B.Sc. students in discrete mathematics and computer science</i>	Aug. 2017 - Nov. 2017
Game Theory (E-409-LEIK)	Reykjavík University, Iceland
<i>This course was for B.Sc. students in discrete mathematics and computer science</i>	Apr. 2017 - May. 2017
Cryptography and Number Theory (T-513-CRNU)	Reykjavík University, Iceland
<i>This course was for B.Sc. students in discrete mathematics and computer science</i>	Aug. 2016 - Nov. 2016

Teaching assistant for:

Algebra and Combinatorics (T-218-ALCO)	Reykjavík University, Iceland
<i>This course was for B.Sc. students in discrete mathematics and computer science</i>	Jan. 2016 - Apr. 2016
Cryptography and Number Theory (T-513-CRNU)	Reykjavík University, Iceland
<i>This course was for B.Sc. students in discrete mathematics and computer science</i>	Aug. 2015 - Nov. 2015
Algebra and Combinatorics (T-218-ALCO)	Reykjavík University, Iceland
<i>This course was for B.Sc. students in discrete mathematics and computer science</i>	Jan. 2015 - Apr. 2015

Other duties

SUPERVISING

- Aiding with the supervision of four MSc students Ragnar Árdal, Arnar Bjarni Arnarson, Tomas Ken Magnússon and Unnar Freyr Erlendsson on their projects related to permutation patterns.
- Supervisor for BSc project "*Identifying structure in Motzkin paths*" by Kolbeinn Erlingsson and Kristmundur Jónsson (2018).
- Supervisor for BSc project "*Identifying structures in set partitions*" by James Robb and Sigurður Helgason (2018).
- Co-supervisor for BSc project "*Implementation of a planarity testing method using PQ-Trees*" by Alex William Cregten and Hannes Kristján Hannesson (2017).
- Co-supervisor for BSc project "*PermPAL - Permutation Pattern Avoidance Library*" by Arnar Bjarni Arnarson, Álfur Birkir Bjarnason, Sigurjón Freyr Viktorsson and Unnar Freyr Erlendsson (2017).
- Co-supervisor for BSc project "*Generalized star polygons and star polygrams*" by Eiður Sveinn Gunnarsson and Karl Þorláksson (2016)."

ORGANISATION OF CONFERENCES

- I was a member of the organising committee for Permutation Patterns 2017 held at Reykjavik University. (<https://pp2017.github.io>)

REFeree WORK FOR JOURNALS

- Discrete Mathematics and Theoretical Computer Science: Special Issue for Permutation Patterns 2015

REVIEW WORK

- MathSciNet

References

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HENNING ULFARSSON

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