Jakub Sliačan

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Education

Ph.D. Mathematics, The Open University	2015 – 2018
M.Phil. Mathematics, University of Warwick	2015
M.Sc. Applicable Mathematics, London School of Economics	2012
B.Sc. Mathematics, Jacobs University Bremen	2011

Publications

O. Pikhurko, J. Sliačan, K. Tyros. **Strong forms of stability from flag algebra calculations**, *to appear in Journal of Combinatorial Theory, Series B.* [arxiv:1706.02612]

J. Sliačan, W. Stromquist. **Improved bounds on 4-point permutation packing densities**, *Discrete Mathematics and Theoretical Computer Science – Permutation Patterns 2016*, 19(2), 2018. [arxiv:1704.02959]

R. Brignall, J. Sliačan. **Juxtaposing Catalan permutation classes with monotone ones**, *Electronic Journal of Combinatorics.* 24(2), 2017. [arxiv:1611.05370]

K. Bringmann, B. Doerr, A. Neumann, J. Sliačan. **Online checkpointing with improved worst-case guarantees**. *Automata, Languages, and Programming – 40th International Colloquium, ICALP 2013, Proceedings, Part I,* 255–266, 2013. [arxiv:1302.4216]

Employment, positions, visits

Quality Engineer, Red Hat, Brno, Czech Republic	Mar 2019 – present
Postdoc, Umeå University, Sweden	Mar 2018 – Mar 2019
Visiting researcher, Umeå University, Sweden	Sep – Oct 2017
Assistant Engineer, Samsung Electronics, Suwon, South Korea *Set up a Kerberos based single sign-on environment for testing smart card authentication. Wrote a demo application for Samsung business printers that allows card authentication (proximity and smart cards) into the SSO environment.*	2013
Visiting researcher, Max-Planck Institut für Informatik, Saarbrücken, Germany	2012
Engineering Intern, Samsung Electronics, Suwon, South Korea	2012
Research assistant, Logistics Department, Jacobs University, Germany	2010 – 2012
Summer intern, Max-Planck Institut für Mathematik, Bonn, Germany	2010

Summer research student, Center for Research into Ecological and Environmental Modelling, University of St Andrews, UK 2010

Teaching assistant to Prof. Oswald, Dr. Mallahi-Karai, Prof. Pfander, Jacobs University ..... 2010 – 2011

Research assistant to Dr. De Santis, Dr. Jeken, Jacobs University ..... 2010 – 2011

Programming

Flagmatica, `https://bitbucket.org/jsliacan/flagmatica/src`, adaptive flag algebras demo (access on request) 2017

Permpack, `jsliacan.github.io/permpack`, flag algebras for permutations 2016

Flagmatic, `jsliacan.github.io/flagmatic`, added functionality ..... 2013 – 2015

Smart card authentication demo, printer application for smart card authentication 2013

Autonomous production simulation, autonomous production processes in MATLAB ..... 2010 – 2011

Capture-recapture method simulation, R simulation for abundance estimation method 2010

Modified concept-shifting task (mCST) implementation, psychological test in MATLAB 2010

Talks

Well-behaved $1 \times k$ permuation grid classes, Seminar 18541, Schloss Dagstuhl, Germany 2018

Some $1 \times k$ grid classes have algebraic generating functions, Permutation Patterns, Hanover NH, US 2018

Packing densities of small permutations, Discrete Maths Seminar, Umeå, Sweden 2017

Catalan permutation classes next to monotone ones, 26th BCC, Glasgow, UK 2017

Juxtaposing Catalan classes with monotone ones, Permutation Patterns, Reykjavík, Iceland 2017

Permutation packing densities, Permutation Patterns, Washington DC, US 2016

Flagmatic and Turán densities, 25th BCC, Warwick, UK 2015

Subgraph densities and Flag Algebras, Postgraduate Combinatorial Conference, London, UK 2015

Flagmatic package, Short graduate student talk, University of Warwick, UK 2014

Residual-based Gauss-Seidel methods, Mittagseminar, Max-Planck Institut für Informatik, Germany 2012

Residual-based Gauss-Seidel methods, Graduate student talk, London Mathematical Society meeting, UK 2011

Patterns in coefficient magnitudes in selected classes of cyclotomic polynomials, Student talk, Jacobs University Bremen, Germany 2011

Skills

Languages: Slovak (mother tongue), English (fluent), French (basic).

Other languages: Python (proficient), SageMath (proficient), C (proficient), MATLAB/Octave (proficient), Java (prior experience), Mathematica (prior experience), R (prior experience), LaTeX (proficient).

Awards, scholarships

Ph.D. studentship	2015 – 2018
ERC and EPSRC studentships for M.Phil. studies	2013 – 2015
Prize for 'Best graduate student talk', London Math. Soc.	2011
Scholarship, Jacobs University	2008 – 2011
President's list for top 5% of the class, Jacobs University	2011
Summer research studentship, CREEM University of St Andrews	2010
Honorable mention, The Mathematical Contest in Modelling	2010
3rd prize, Slovak national debating competition	2008

Conferences, seminars

Permutation Patterns, Hanover NH, US	7/2018
26th British Combinatorics Conference, Glasgow, UK	Jul 2017
Permutation Patterns, Reykjavík, Iceland	Jun 2017
Permutation Patterns, Washington DC, US	Jun 2016
25th British Combinatorics Conference, Warwick, UK	Jun 2015
Regularity and Analytic Methods in Combinatorics, LMS-CMI Research School, UK	Jul 2015
Postgraduate Combinatorics Conference, QMUL, London, UK	Apr 2015
ICMS workshop in extremal combinatorics, Edinburgh, UK	Jul 2014
Graph limits workshop, Budapest, Hungary	Jun 2014
Summer school: Graph limits, groups, and stochastic processes, Budapest, Hungary	Jul 2014
QMUL-Warwick combinatorics workshop, London, UK	Apr 2014
Winter school on algorithm design, Beroun, Czech Republic	Dec 2013
Workshop on Cycles and Colorings, Nový Smokovec, Slovakia	Sep2013

Teaching

Mathematics undergraduate supervisions, University of Warwick, UK	Spring 2015
CS137 Discrete Mathematics and its Applications 2 (seminar), University of Warwick, UK	Spring 2015
CS245 Automata and Formal Languages (seminar), University of Warwick, UK	Spring 2015
CS260 Algorithms (seminar), University of Warwick, UK	Fall 2014
110111 Symbolic Software Lab, Jacobs University, Germany	Fall 2010
Math Support Center, Jacobs University, Germany	2010 – 2011