

# Jessica Ryan

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## Research Interests

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My main research interests are in **algorithmic graph theory** and **computational complexity**, with a particular focus on parameterised complexity and problems with real-world applications. I am also interested in graph matching problems and graph theory more generally.

## Awards and Scholarships

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- Won the annual **Haya Freedman Prize for the best dissertation** produced by a student on the MSc in Applicable Mathematics at the London School of Economics from a cohort of 31 students.
- Awarded a **PhD Studentship** (£56244) by the Engineering and Physical Sciences Research Council (EPSRC).
- Successfully applied for a **Travel Scholarship** (\$900) from TCS Women to attend the 50th Annual ACM Symposium on the Theory of Computing (STOC 2018) in Los Angeles, California.
- Obtained **funding from the Sigma Network** (£2400) in 2015 to develop online mathematics revision resources for economics undergraduate students after proposing the idea to Newcastle University's E-Learning Unit.
- Secured a **Vacation Research Scholarship** (£1456) from Newcastle University to work on a mathematical modelling research project during the summer of 2014.

## Education

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### PhD in Computer Science

*University of Glasgow*

2017 – 2020

**Award:** EPSRC PhD Scholarship

**Thesis Title:** Parameterised Algorithms for Edge-Coloured Graphs

**Supervisors:** Dr Kitty Meeks and Prof. David Manlove

### MSc in Applicable Mathematics - *Graduated with Distinction*

*London School of Economics and Political Science*

2015 – 2016

**Award:** Haya Freedman Prize for the best dissertation in mathematics

**Thesis Title:** Covering Edge-Coloured Graphs by Monochromatic Paths and Cycles

### BSc (Hons) in Economics and Mathematics

*Newcastle University*

2012 – 2015

**Award:** Newcastle University Vacation Research Scholarship

## Technology Summary

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- **Coding:** Java, T-SQL
- **Environments:** Windows, Linux, Microsoft SQL Server

## Presentations

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<b>Random Graphs and Random Processes workshop</b> <i>Subgraph Counting in Practice</i>	<b>King's College London</b> 9th April 2019
<b>STOC 2018</b> <i>Subgraph Counting in Practice (Poster)</i>	<b>Los Angeles, California</b> 25 – 29 June 2018
<b>25th Postgraduate Combinatorial Conference</b> <i>Partitioning edge-coloured graphs into monochromatic subgraphs</i>	<b>London School of Economics</b> 4 – 6 June 2018
<b>2018 Colloquia in Combinatorics</b> <i>Counting Subgraphs Efficiently (Poster)</i>	<b>London</b> 8 – 9 May 2018
<b>FATA Research Seminar</b> <i>Counting Subgraphs Efficiently</i>	<b>University of Glasgow</b> 10th April 2018
<b>CETL-MSOR Conference 2015</b> <i>Online Maths Revision Resources for Economics Students</i>	<b>University of Greenwich, London</b> 8 – 9 September 2015

## Academic Events Attended

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- o AlgoUK Workshop, Liverpool University (September 2018)
- o One-Day Meeting in Combinatorics, University of Oxford (May 2018)
- o Glasgow Workshop on Mechanism Design and Behavioural Economics, University of Glasgow (May 2018)
- o Scottish Combinatorics Meeting 2018, University of Edinburgh (April 2018)
- o AlgoUK Workshop, King's College London (February 2018)
- o MATCH-UP 2017, Microsoft Research New England (April 2017)

## Employment

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<b>University of Glasgow</b> <i>Course Demonstrator</i>	<b>Glasgow, UK</b> January – May 2019
<ul style="list-style-type: none"><li>o Assist in lab demonstration classes for <b>Algorithms and Data Structures</b> master's degree course.</li></ul>	
<b>CoderDojo</b> <i>Coding Teacher</i>	<b>Glasgow, UK</b> October 2018 – present
<ul style="list-style-type: none"><li>o Inspire and encourage children to learn to code.</li><li>o Organise and teach coding sessions in Scratch, Java, Python and HTML.</li></ul>	
<b>Inform Information Systems Limited</b> <i>Software Developer</i>	<b>Maidenhead</b> February – October 2017
<ul style="list-style-type: none"><li>o Implemented multiple software systems from planning and design phase through to post go live with a strict deadline.</li><li>o Developed the company's first automated software test scripts.</li><li>o Taught colleagues how to write automated test scripts in Java.</li><li>o Created an automated email alert system for monitoring SQL Server job failures.</li></ul>	
<b>Newcastle University</b> <i>Mathematics and Statistics Summer Internship</i>	<b>Newcastle</b> June – September 2015
<ul style="list-style-type: none"><li>o Awarded funding to develop online mathematics revision resources for economics undergraduate students after proposing the idea to the university's E-Learning Unit.</li></ul>	
<b>Newcastle University</b> <i>Mathematics and Statistics Summer Research Internship</i>	<b>Newcastle</b> June – August 2014
<ul style="list-style-type: none"><li>o Obtained funding to work on a mathematical modelling research project.</li></ul>	