LSE Department of
Mathematics

News Archive

September 2016 – August 2017

September 2016: the new academic year brings new members to the department

As the new academic year approaches, we are exceptionally pleased to welcome academics Paul Duetting and Johannes Ruf to the Department. Paul has previously worked with the department but we now welcome his return as an Assistant Professor of Game Theory, having spent time researching at ETH Zürich. We are also very happy to have Johannes join us from University College London as an Assistant Professor of Financial Mathematics.
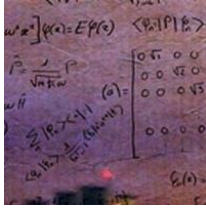
In addition, our Professional Services Team has grown in number, gaining a new Departmental Administrator, Enfale Farooq. Welcome, all of you!

September 2016: our Head of Department is listed as one of London's most influential people of 2016

On Wednesday 7 September, the Evening Standard announced The Progress 1000, a list of London's most influential people of 2016 as judged by a panel of editors, critics and experts. This is the tenth annual edition of the list, which "celebrates 'progress makers'– people who are helping shape the city for the future". In noting that Mathematics "underpins many of our industries here, from finance and technology to engineering and architecture," the newspaper included a special category on Mathematics, and listed fourteen mathematicians within The Progress 1000, alongside those in other categories: legacy makers, equality champions, business brains, literati, screen stars and a whole remit of other contributors to London's global opportunities.

Among those mathematicians is LSE's Professor Martin Anthony, who is cited for being head of "LSE's world-leading mathematics department". Martin, whose research concerns the mathematical underpinning of machine learning and the theory of Boolean functions, has been at LSE since 1990.

September 2016: 5 minutes with Marc Renault

Marc Renault is currently a CNRS postdoc at the Institut de Recherche en Informatique Fondamentale (IRIF; formerly LIAFA), Université Paris Diderot – Paris 7. He visited our Department during the summer to speak at our Seminar on Combinatorics, Games and Optimisation about "The Bijective Ratio of Online Algorithms". Whilst he was in London, Tom Lidbetter took the opportunity to discover more about Marc's interests, both in his research and beyond. Read the full interview here.

September 2016: Philanthropic Scholarship support enables LSE students to realise their potential

210 students received support provided though over 100 named philanthropic scholarships during the last academic year (2015-16). The Department was especially pleased to see one of our BSc in Mathematics and Economics students interviewed in the latest edition of LSE Advancement's Impact magazine, written for supporters of the LSE. Dane Jones was awarded the James Jeal Scholarship, providing him with the safety net he needed to "dedicate (his) focus to (his) academic performance" and he has already seen an improvement in his results. He also found the award gave him "a psychological boost of confidence, knowing that somebody has placed their faith in (him)". Dane wants to make his donor proud and, all the while, he's making his Department proud too!
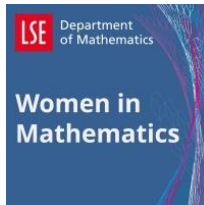
September 2016: Macmillan Coffee Morning

The Department took part in the World's Biggest Coffee Morning to raise funds for Macmillan. Lots of staff got their bake on, with sweet treats including mocha bourbon cake, lemon and blueberry loaf and toffee, ginger and fudge cupcakes, and savoury delights such as lemon and courgette tarts. It was a great opportunity to share elevenses and raise money for a fantastic cause.

October 2016: New degree programme for 2017 entry!

We are pleased to announce our new undergraduate degree programme: BSc Financial Mathematics and Statistics. The programme is now open for 2017 entry and will provide graduates with a very strong mathematical and statistical background, combined with knowledge of economics and finance, and training in coding and computation in addition to the other, broader, elements of an LSE education. Click here for more information

October 2016: Boat Trip

On Monday 3rd October, the MSc Applicable Mathematics, MSc Financial Mathematics, and PhD students and staff got together for a boat trip on the River Thames. It was a glorious evening and we were able to enjoy spotting some of London's many well-known landmarks such as the Houses of Parliament, London Eye, Chelsea Bridge, Canary Wharf, and the Thames Barrier. What a great start to the new term!

October 2016: Women in Mathematics Seminars - Launch seminar 26 October

The Department of Mathematics is pleased to launch an academic, professional and personal development seminar series presented by leading female mathematicians to offer support, encouragement and advice to staff and students interested in a career in mathematics.
To launch the series, Visiting Professor June Barrow-Green [spoke about her journey from art gallery assistant to professor](#)via investment banking, and about her research which includes the origins of chaos theory and the mathematics of the First World War.

October 2016: two new courses launched for 2017/18 entry
We are very pleased to annouce the launch of the following two courses, reflecting some of the ways in which our Department is developing:
- [BSc Financial Mathematics and Statistics](#)
- [MSc Operations Research & Analytics](#)

October 2016: British Society for the History of Mathematics Undergraduate Essay Prize awarded to LSE Department of Mathematics student

The [British Society for the History of Mathematics (BSHM) Undergraduate Essay Prize](#) is awarded annually for an essay by an undergraduate student on any topic in the history of mathematics. One of this year's two prizes has been awarded to Michael Seal (LSE Department of Mathematics, BSc Mathematics with Economics) for his essay entitled "Was there a Revolution in Analysis in the Early 19th Century?" Michael was a student on MA318: History of Mathematics in Finance and Economics, taught by Professors [June Barrow-Green](#), [Norman Biggs](#) and [Robin Wilson](#). Read more about the award, MA318 and Michael [here](#).

October 2016: Mathematics Careers Evening

On 27th October, all mathematics final year undergraduates and postgraduates we invited to attend our annual Mathematics Careers Evening. This provided the perfect opportunity for students to discover just what they can do with their Mathematics degree. The event gave

students the opportunity to speak with recent graduates and learn more about what it's like working in IB, banking, asset management, energy, consultancy and government by meeting those working for organisations including EY, Shell, BNP Paribas, Fidelity, Jefferies, Blackrock, Cambridge Associates, National Grid, HSBC, HM Treasury, Teach First, Santander and IBM. Possibilities for further academic progress were also highlighted by our current PhD students. The event was truly motivational and we all left feeling inspired. We're extremely proud of everything our alumni have achieved and we're happy that they are still able to find the time to stay in touch with the Department. We're also grateful to our colleagues in LSE Careers who organised the event.

October 2016: LSE BSc Mathematics & Economics graduate Ashish Patel wins the Team London volunteering award

On 31 October Ashish Patel, BSc in Mathematics and Economics 2016, won the the Under 25's category for Mentoring and Coaching in the [Team London volunteering awards](#) at City Hall for his work with [IntoUniversity](#).   We're extremely proud - congratulations Ashish! Read all about the work Ashish undertook and his award [here](#).

November 2016: Congratulations to Dr Ahmad Abu-Khazneh!

Well done, [Dr Ahmad Abu-Khazneh](#), and welcome to the department of Mathematics' alumni family! We're so happy for you to have been awarded your PhD in Mathematics. Congratulations, also, to your supervisor, Prof. Bernhard von Stengel.
For details of Ahmad's thesis and to view the ever-growing list of PhD alumni of the department, please view our PhD "[Roll of Honour](#)".

November 2016: [5 minutes with Hal Kierstead](#)

[Hal Kierstead](#) is a Professor at the School of Mathematical and Statistical Sciences in Arizona State University. He visited our Department in September to work with [Jan van den Heuvel](#) and [Daniel Quiroz](#). He also spoke at our Seminar on Combinatorics, Games and Optimisation about the history and applications of generalised colouring numbers, a notion which arose from an idea of [Chen and Schelp](#) for using well-chosen vertex orderings to find good bounds on colourings of graphs. Whilst he was with us, Jan took the opportunity to discover more about Hal's reserach, career route and interests. Read the full interview [here](#).

December 2016: New Visiting Professor appointment: Dr Tim Roughgarden

We are delighted to announce that Dr Tim Roughgarden(Stanford) joins the Department of Mathematics as a Visiting Professor. Tim is an Associate professor in the Computer Science and (by courtesy) the Management Science and Engineering Departments at Stanford University. He is a leading researcher in discrete mathematics, theoretical computer science and game theory.

December 2016: LSE Maths Public Lectures at The Alan Turing Institute

The Discrete Mathematics team hosted a workshop on open problems to contribute to a better understanding of the general area of large-scale structures in random graphs. The majority of the workshop was private but two Public Lectures were open to all on **13 December 2016**:
10:30 - 11:30 Robert Morris (IMPA) - The sharp threshold for making squares
11:40 - 12:40 Stefanie Gerke (RHUL) - Matchings in random bipartite graphs
For further information, please visit our mini-site.

December 2016: Student Christmas Party

Our end of term Christmas party was so much fun - a great chance for our UG and PG students to catch up and celebrate their Michaelmas term achievements. Thank you to everyone who joined us and a special shout out to DJ Vino V for his mix!

December 2016: Departmental Christmas party

As we come to the end of Michaelmas Term 2016, all staff and PhD students joined together at our Christmas party to celebrate another busy and exciting year.

December 2016: Winter Graduation Day

LSE Graduation is always one of the best times of the year and 2016 has been no exception. We had a wonderful time celebrating with our graduates and sharing their special day with their friends and families. We're extremely proud of all our students and wish them well in their future careers. Please do stay in touch with us via the LSE Alumni community and our LinkedIn MSc and MPhil/PhD group.

December 2016: PhD Christmas competition: origami decorations
For the last few years, the Department has run a Christmas competition for our PhD students. For 2016, we asked them to craft Christmas-themed origami creations. Our winning entrants were Nóra Frankl and Jose Pasos who teamed up to make this fantastic Christmassy version of a wobbling wall of nine cubes - thank you to both of them for this amazing feat of paper craft! They were awarded an Amazon voucher and a copy of "The Indisputable Existence of Santa Claus" by Hannah Fry and Thomas Oléron Evans. Here is a video of the wobbling wall in action.

December 2016: Haya Freedman Prize for Best Dissertations

Congratulations to Jessica Ryan and Rafael Veiel, joint winners of the Haya Freedman Prize for Best Dissertations 2015/16 on the MSc Applicable Mathematics programme. Find out more about the Prize.

December 2016: 5 minutes with Milan Vojnovic

Professor Milan Vojnovic is a Chair in Data Science in the Department of Statistics, London School and Economics & Political Science. With the publication of *Contest Theory*, we took the opportunity to interview the author to find out more about his book and how it relates to his career. Read the full interview here.
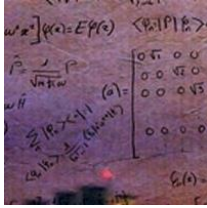
December 2016: Miklós Schweitzer Memorial Competition in Mathematics

Between 24 October and 2 November 2016, one of our PhD students, Nóra Frankl, took part in the Miklós Schweitzer Memorial Competition in Mathematics. This is an annual Hungarian competition for university students up to 1st year of PhD. 10 questions are posed throughout 10 days and the competition is open book. We are pleased to learn that Nóra received 3rd Prize, shared with two other recipients. All prize-winners are listed here.

January 2017: Taking Time Out

Having made it through January, we treated our MSc students to some well-earned downtime with coffee and cakes. As the great Hungarian mathematician Paul Erdős said, "Mathematicians are machines for turning coffee into theorems" so we know that a little bit of what you fancy does you good! Thanks to all our students for joining us.

February 2017: New Blog Post: Report of the Large-Scale Structures in Random Graphs Workshop

Peter Allen, Julia Böttcher and Jozef Skokan are in the discrete mathematics group of the Department of Mathematics at the London School of Economics and Political Science. They organised a workshop on "Large-scale structures in random graphs" in December 2016 which was hosted at Alan Turing Institute and generously jointly funded by the Heilbronn Institute and the Alan Turing Institute. Their write up of the event is produced on our research blog.

February 2017: Alumni Reception

On 28 February 2017 the department hosted our annual reception for alumni. Students and staff, both past and present, joined together for a lovely evening, reconnecting and building networks, catching up with familiar faces and meeting new LSE faculty and students.
We also took time to honour and remember John Ying Wah Gibson, a BSc Mathematics and Economics graduate from the class of 2009 who passed away whilst running the Singapore Marathon in December 2016. We were pleased to be joined by John's family and close friends.

March 2017: Green Impact Bake Off

The Department hosted a Green Impact-themed Bake Off, with all contributions being baked with sustainable ingredients. The event coincided with Fairtrade Fortnight and we also took the opportunity to raise funds for Red Nose Day, so lots of good things came out of the event. We gorged on delights such as Fairtrade chocolate brownies, spinach and tomato quiche made using home-reared chicken's eggs, home-grown rosemary-flavoured shortbread, Fairtrade chickpea and apple cake and the winning recipe: Fairtrade chocolate and nut brownies. It was a great opportunity to share elevenses, tips and recipes whilst raising money for a fantastic cause.

March 2017: Science Museum visit

A small group from the Department made their way to South Kensington to visit Mathematics: The Winton Gallery, a new permanent exhibition at the Science Museum. The gallery is set in a stunning space designed by the world-renowned Zaha Hadid Architects, which captures you the moment you walk in, drawing you to the largest object in the gallery - a Handley Page aircraft from 1929. The purpose of the gallery is to show how mathematics connects to every area of our lives and how it has shaped our world, from finance to medicine, from design to computers, from aviation to betting and everywhere in between. Best of all, we saw a MONIAC machine on loan from LSE, where it was made in 1952 by Bill Phillips, an engineer turned economist. We highly recommend a visit!

March 2017: Congratulations to Dr Tom Bates!

Well done, Tom and welcome to the department of Mathematics' alumni family! We're so happy for you to have been awarded your PhD in Mathematics. Congratulations, also, to your supervisor, Prof. Mihail Zervos.

For details of Tom's thesis and to view the ever-growing list of PhD alumni of the department, please view our PhD "Roll of Honour".

March 2017: Public Lecture: Mathematicians at War

Date: Thursday 9 March 2017
Speaker: Professor June Barrow-Green
Chair: Professor Martin Anthony
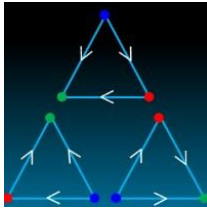
Professor June Barrow-Green is Professor of History of Mathematics at the Open University. She is also Visiting Professor of Mathematics at the London School of Economics. In this lecture, Professor Barrow-Green considered how Cambridge mathematicians responded to the First World War in a variety of ways. There were those who volunteered their mathematical skills for work at establishments such as the Royal Aircraft Factory, the National Physical Laboratory, or the Anti-Aircraft Experimental Section of the Ministry of Munitions, those who followed a military path, and those who, for reasons of conscience, refused to take an active part in the War. Professor Barrow-Green discussed the war-time activities of Cambridge mathematicians and examined the impact of the War on their careers as well as on mathematics itself.

The event was chaired by Professor Martin Anthony (@MartinHGAnthony), Professor of Mathematics and Head of Department of Mathematics at LSE. A video and podcast of this lecture are available here.

March 2017: EPSRC Grant Award - Dr Peter Allen

Dr Peter Allen, Associate Professor of Mathematics at LSE, has been awarded a grant from the Engineering and Physical Sciences Research Council (EPSRC) for a project entitled 'The Sparse Hypergraph Regularity Method'. Commenting on the award, Martin Anthony, Head of the Mathematics Department, said "We congratulate Peter on winning this grant. His work is characterised by its emphasis not only on solving important mathematical problems, but also on developing new insights and techniques that have deep and far-reaching consequences in many areas of mathematics. This grant will help him continue to make important advances in extremal combinatorics and related areas."

May 2017: Two One-Day Colloquia in Combinatorics

The 2017 Colloquia in Combinatorics took place on **10-11 May**, jointly hosted by the Mathematics Departments of LSE and Queen Mary, University of London. This annual event offers the opportunity to hear talks by both prominent and promising mathematicians from the UK and abroad, on a variety of topics within the broad field of combinatorics and related areas. Visit the Colloquia website for more information.

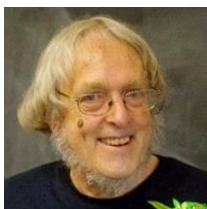**May 2017: Congratulations to Dr Pongphat Taptagaporn!**

We are very pleased and proud to announce that Pongphat has been awarded his PhD in Mathematics and joins our Department of Mathematics' alumni family! We're so happy for you to have been awarded your PhD and congratulations also go to your supervisor, Dr. Tugkan Batu.

For details of Pongphat's thesis and to view the ever-growing list of PhD alumni of the department, please view our PhD "Roll of Honour".

May 2017: And the winners are…

Summer Term is a time for celebration and we're very pleased to announce the following winners in 2017:

- **LSESU Teaching Excellence Award Winner in Inspirational Teaching:** Highly Commended: Dr Ioannis Kouletsis (Mathematics). Students from all over the LSE nominate their teachers for the LSESU Awards, and Ioannis is to be congratulated on this recognition.
- **LSE Class Teacher Awards**: Siri Kouletsis, Niccolo' Salvatori and Michael Yiasemides; Denis Schelling and Nicola Wittur have been Highly Commended. Well done to them all.
- **Departmental Prizes for New Class Teachers** (those in their first two years of teaching for us): Jan Corsten, Siri Kouletsis and Niccolo' Salvatori.Thank you to you all.

May 2017: Peter Cameron – Report of the London Combinatorics Colloquia 2017

Peter Cameron is an Emeritus Professor of Mathematics in the School of Mathematical Sciences at Queen Mary, University of London. He is also a half-time Professor of Mathematics and Statistics at the University of St Andrews. Peter writes a popular blog about things he "feel(s) strongly enough about" and he recently posted an entry about his observations at the 2017 London Combinatorics Colloquia, hosted by the Departments of Mathematics at Queen Mary, University of London and the London School of Economics and Political Science. Read the article here.

May 2017: [Topological Dynamics, Functional Equations, Infinite Combinatorics and Probability Conference](#)

This conference will take place on **12-14 June**. In July 2012, we hosted a [Mini-Conference on Infinite Combinatorics](#) aimed at bringing together mathematicians researching in fields where a common underpinning was seen to be a theorem of Steinhaus.
Following the success of this event, the Department of Mathematics is pleased to announce a sequel conference with a wider remit. See [here](#) for more information.

June 2017: New Blog Post: [Norman Biggs – History of Mathematics: The LSE Course](#)

[Norman Biggs](#) is Emeritus Professor of Mathematics at LSE. He is the author of 13 books and over 100 papers on Mathematics, and has also published in the fields of Numismatics and Metrology. He is also one of the founders of our History of Mathematics in Finance and Economics course (MA318). In his latest blog post, he writes about the course and how it came to be. We also feature commentary from Michael Seal, a recent student on the course and [winner](#) of the [British Society for the History of Mathematics (BSHM) Undergraduate Essay Prize](#). Read all about it [here](#).

July 2017: [Public Lecture: Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy](#)

[Cathy O'Neil](#) is a data scientist and author of the blog mathbabe.org. She earned a PhD in mathematics from Harvard and taught at Barnard College before moving to the private sector, where she worked for the hedge fund D. E. Shaw. She then worked as a data scientist at various start-ups, building models that predict people's purchases and clicks. O'Neil started the Lede Program in Data Journalism at Columbia and is the author of Doing Data Science. She appears weekly on the Slate Money podcast.
The event was chaired by [Professor Martin Anthony](#), Head of Department of Mathematics at LSE.
This event was hosted by the Department of Mathematics, in conjunction with [SEDS](#)**,** an interdisciplinary research unit established to foster the study of data science and new forms of data with a focus on its social, economic, and political aspects.

July 2017: British Society for the History of Mathematics Undergraduate Essay Prize: two LSE Department of Mathematics students highly commended

The [British Society for the History of Mathematics (BSHM) Undergraduate Essay Prize](#) is awarded annually for an essay by an

undergraduate student on any topic in the history of mathematics. This year, the judging panel highly commended entries by Siddhi Doshi (essay title: *The evolution of the game theory as a foundation in economic analysis*) and Stefan Kitic (essay title: *What is "money" and does its use require "mathematics"?*) from our Department.

Siddhi and Stefan were students on MA318: History of Mathematics in Finance and Economics, taught by Professors June Barrow-Green, Norman Biggs (pictured) and Robin Wilson. Congratulations to them both on this achievement.

Peter Cameron – Report of the Dynamics, Functional Equations, Infinite Combinatorics and Probability Conference 2017

Peter Cameron is an Emeritus Professor of Mathematics in the School of Mathematical Sciences at Queen Mary, University of London. He is also a half-time Professor of Mathematics and Statistics at the University of St Andrews. Peter writes a popular blog about things he "feel(s) strongly enough about" and he recently posted an entry about his observations at the Dynamics, Functional Equations, Infinite Combinatorics and Probability Conference 2017 (12-14 June), hosted by the Department of Mathematics, LSE. Read the article here.

July 2017: Mathematics student awarded the LSE Huw Wheldon Prize for Outstanding Performance

The LSE's School Board of Examiners' Chair has jointly awarded the Huw Wheldon prize for outstanding performance in final year exams to our BSc Mathematics with Economics student William Crawford.

Prizewinners 2017!
Cyril Offord Prize
Congratulations to William Crawford, a student on our BSc Mathematics with Economics programme, who has been awarded the annual Cyril Offord Prize for Outstanding Performance in Mathematics. To find out more about Professor Cyril Offord, the first Professor of Mathematics at the LSE, please read his obituary. Details of the Prize can be read here.

IMA Prize
Zakaria El Hjouji (BSc Maths and Economics) has been announced as this year's joint Winner of the IMA Prize for Outstanding Performance in the Final Year of an Institute of Mathematics and its Applications approved course. Our congratulations go to Zakaria!

Wynne-Roberts Prizes
The Wynne-Roberts Prize for best performance in first year mathematics courses by a student in the Department of Mathematics

is awarded to Ning Cui (BSc Maths and Economics) - congratulations Nina!

The joint winners of the Wynne-Roberts Prize for best performance in second year mathematics courses by a student in the Department of Mathematics are Weimin Wang (BSc Maths and Economics) and Tarek Chaarouli (BSc Maths with Economics). Very well done to both of you.

Joseph Abraham Prize
Congratulations to joint winners of the Joseph Abraham Prize for Outstanding Achievement on the MSc Financial Mathematics programme: Matic Kozuh (pictured) and Bart Van Der Vlugt. [Find out more about the Prize](#).

July 2017: Congratulations to Drs Matthew Jenssen and Junwei Xu!

We heartily congratulate Matthew and Junwei on their fantastic achievements and welcome them to the Department of Mathematics' alumni family! We're so happy for you to have been awarded your PhDs in Mathematics. For details of their thesis titles and to view the ever-growing list of PhD alumni of the department, please view our PhD "[Roll of Honour](#)".
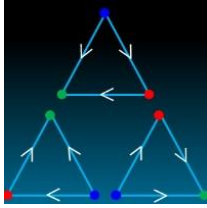
July 2017: EPSRC Grant Award - Dr Julia Böttcher

[Dr Julia Böttcher](#), Associate Professor of Mathematics at LSE, has been awarded a grant from the Engineering and Physical Sciences Research Council for a project entitled 'Packing large-scale graphs, and graceful labellings'. Commenting on the award, Martin Anthony, Head of the Mathematics Department, said "We congratulate Julia on winning this grant. This project will address fundamental questions in the important and hugely active area of graph theory (the mathematics that underpins the study of all types of networks). Julia has made very significant contributions already, using a variety of sophisticated approaches; this grant will enable her to make even more progress on solving key mathematical questions."

August 2017: Highlights from Cathy O'Neil's Public Lecture

[Cathy O'Neil](#) visited the Department of Mathematics, LSE in July 2017 to present a Public Lecture entitled "[Weapons of Math Destruction: how big data increases inequality and threatens democracy](#)", related to her book of the same name. Whilst visiting, she took the time to talk with [Martin Anthony](#) and [Andy Lewis-Pye](#) about how she came to be an author, her latest book, how to define these 'weapons' and what the future holds. Watch our vlog [here](#).

A podcast featuring highlights from Cathy O'Neil's Public Lecture is available here. The recording ends with a great selection of Q&As from a very enthusiastic, engaged audience.

August 2017: Combinatorics Colloquia 2017 report published

The write up from our Combinatorics Colloquia 2017 is available to read online. It provides a summary of all our speakers' presentations and some great photos which really capture the sense of the event. Thanks to everyone who made the event so special!

August 2017: New blog post: Five minutes with Nóra Frankl (PhD, Department of Mathematics)

Nóra Frankl is a PhD candidate who joined the Department of Mathematics in October 2016, having obtained an MSc in Mathematics from Loránd Eötvös University, Budapest. Her supervisor is Dr. Konrad Swanepoel and she works closely with a number of other PhD students within the Department. Read about her experience in discrete geometry and advice for prospective candidates on approaching research here.