



network for excellence in
mathematics and statistics support

Issue 11: June 2016

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Collaboration and Partnerships

David Bowers – Chair, sigma Network

An important goal for the sigma Network during its three years of funding from HEFCE has been to achieve longer term sustainability. One measure of this is how well we can maintain and grow partnerships with other associations, projects and networks who share a commitment to mathematical skills support in particular and the student learning experience in general. I would like to highlight two recent developments in this respect.



In June, the North West & North Wales hub is running a workshop in partnership with the Q-Step Centre at Manchester Metropolitan University, on the theme of combatting maths anxiety. Q-Step is a £19.5million initiative bringing together 15 universities in a bid to improve the teaching and support of quantitative skills in social science disciplines (<http://www.nuffieldfoundation.org/q-step>). It recognises the need for specialist support for students who may not have been expecting to have to deal with mathematics and statistics in the increasingly quantitative social sciences.

In the autumn, plans are being made for the first professional networking event jointly organised by the sigma Network and the Association for Learning Development in Higher Education (<http://www.alдинhe.ac.uk>). As many universities are co-locating their maths support provision with wider academic skills support, a widening pool of practitioners are emerging who are not themselves mathematicians but who have a direct interest in the quality and scope of the mathematics and statistics support that is available to their students.

We welcome the opportunities that these new initiatives provide, alongside our existing excellent links with a range of professional bodies, to collaborate with an ever broader range of HE practitioners. As was pointed out by one of the respondents to the recent research report Senior Management Perspectives on Mathematics and Statistics Support in Higher Education (<http://www.sigma-network.ac.uk/wp-content/uploads/2015/05/sector-needs-analysis-report.pdf>): "The reputation and strengths of the sigma Network, in terms of its knowledge and understanding of how effective support for mathematics and statistics can be designed and delivered, means that it is in a good position to provide on-going advice and guidance to institutions across the sector."

If you have ideas for possible future partnerships or collaboration, please do contact me on chair@sigma-network.ac.uk.

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Joe Kyle's Corner: "I'm Scottish, and we don't do that sort of thing!"

Joe Kyle

These words will be my last set of jottings for the sigma newsletter. For me, it has been a privilege to be associated with all the good works that have taken place and the banner of sigma. It has also been a joy to work with so many dedicated and friendly colleagues. For my own part, I'm sure I am regarded by many as resembling the fictional giant Gargantua who (if we believe Balzac) had developed some very strange habits, but was forgiven and tolerated because of him being some seven hundred and four years old.



In an ideal world, of course, there should be no need for mathematics support nor for an organisation such as sigma to champion such support. The student “experience” (as it is now known) would be one seamless progression from admission to graduation. Alas, we are not there yet. News reaches me of colleagues who, desirous of regularising the use of some diagnostic device in the curriculum, discovered that their university regarded such things as not acceptable because they would introduce an unreasonable constriction into the smooth flow of student conversion journey! With such managerial madness around, there will be an ongoing and certain need for mathematics support for the foreseeable future.

But I refuse to end on a depressing note. Yesterday, in another part of my life, I was interviewing some mathematics undergraduates. They were jaw-droppingly multi-talented. You know the sort of thing – climbed Everest at 17, can play five instruments to Grade 8, have raised £100, 000 for the needy and deserving etc. etc. I felt quite inadequate, not to say guilty of a misspent youth! But they were refreshingly charming and normal – such a joy to meet that I felt like dispensing hugs and kisses all round – but I’m Scottish, and we don’t do that sort of thing. Still my heart was well and truly uplifted – maybe there is hope for the future after all.

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sigma Network Interim Steering Group

David Bowers – Chair, sigma Network

As you will know from the March newsletter, a lot of work has gone on “behind the scenes” to identify the best way forward in terms of providing a sustainable model for the Network, post-funding. Building on the subsequent feedback received and in conjunction with consultations with senior managers at hub institutions, in late April the sigma Directorate sought nominations for membership of an interim Steering Group to cover the period from June 2016 to the end of the academic year 2016/17. We are delighted to announce that the membership of the interim Steering Group has been agreed and is as follows:

- David Bowers [Chair]
- Noel-Ann Bradshaw (IMA)
- Emma Cliffe (University of Bath)
- Ruth Fairclough (University of Wolverhampton)
- Mark Hodds (Coventry University)
- Eugenie Hunsicker (Loughborough University)
- Tony Mann (University of Greenwich)
- Mohamed Mehbali (London South Bank University)
- Chetna Patel (De Montfort University) [Treasurer]
- Cheryl Voake-Jones (University of Bath)
- Rob Wilson (Cardiff University)

(Note: the position of Secretary has yet to be allocated.)

Most of the Steering Group will be meeting up for the first time at an informal event on the 7th July 2016, with an inaugural AGM planned to take place at the CETL-MSOR 2016 conference in September. For further information, please contact David Bowers (chair@sigma-network.ac.uk)

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sigma prizes 2016

The sigma Network for Excellence in Mathematics and Statistics Support will award up to two prizes for outstanding contributions to mathematics and statistics support in Higher Education during the current academic year 2015/16.

Nominations are now open in the following categories:

- The sigma Prize for Outstanding Contributor 2016: £500 to an individual employed in a higher education institution (UK) who has made a sustained contribution to mathematics and/or statistics support.
- The sigma Student of the Year 2016: £250 to an undergraduate or postgraduate at a higher education institution (UK) who has made a significant difference to any aspect of mathematics/statistics support.

Full details of the criteria for each category and the nomination process can be found in the guidance notes found by following the link: <http://www.sigma-network.ac.uk/sigma-prizes-for-outstanding-contribution-call-for-nominations/>. In addition to the monetary award, each recipient will receive a Certificate of Award and one free place at the CETL-MSOR Conference 2016 (recipients will be expected to cover their own travel expenses). The prizes will be formally awarded at the Conference Dinner on the evening of Tuesday 6th September 2016.

Key dates:

- Call for nominations : Thursday 28th April 2016
- Closing date for nominations: Friday 3rd June 2016
- Announcement of prize winners : Thursday 29th June 2016
- Prize giving ceremony : Tuesday 6th September 2016

If you have any queries, please contact [Moiria Petrie](#).

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Bringing Maths Outdoors

Andrew Burrell, Jo McCready, Zainab Munshi and Davide Penazzi, University of Central Lancashire

Mathematics and the Outdoors are two fields of education that, traditionally, rarely cross paths. Lakes, gorges and rolling Welsh hills are a far cry from the confines of desks, pens and the computers that stereotype the modern mathematician. Our project aims to use a new tool to facilitate a fundamental shift in the thought processes and skill set often found in first year Mathematics Undergraduates.

Mathematics lecturing staff at the University of Central Lancashire acknowledged the very real (and common) problem of students starting university who lack basic skills to succeed on a mathematics degree. While existing support mechanisms are in place to aid academic development, some students struggle to engage with these and therefore struggle to develop an academic mind-set. The result is an all too common occurrence of students failing the Mathematics degree in the first year.

The aim of this project is to adapt an existing team work based Frontier Education course and use this as the tool to speed up the development of maths-specific fundamental skills in the first semester of university studies. Primary research drawn from successful third year students, staff and analysis of existing literature identified six key areas for development. These were: intrapersonal skills, communication, problem solving, perseverance, resilience and precision.

With these six key areas in mind, the existing Frontier Education package was adapted. Providing the students with an authentic outdoor experience and structured facilitation sessions remained a key objective throughout the planning process. A careful selection of a variety of existing team work and leadership tasks were analysed by the team, and tweaked to target key mathematical skills.

As with the planning of all outdoor pursuits, three key variables had to be assessed to ascertain the most appropriate activities for our Frontier Education course: location, weather and equipment. With one of the key skills identified in our primary research being independence, it was important to choose a location with a large open space so that students could gain a real distance from lecturers and outdoor provision staff. In order to

provide the students with a range of outdoor experiences, a location with rock, water and land based activities was also highly desirable. Therefore the decision was made that Llyn Geirionydd would be the setting in which our students would have their adventure. The equipment available and location allowed us to plan activities that included: canoeing, gorge scrambling, rafting, and orienteering as well as the adapted team work and leadership tasks mentioned before.

This culminated in the planning and delivery of the adapted programme that will be published alongside the findings of the research project in the coming months.

Observational data, participant feedback, pre and post course questionnaires and staff feedback have all been collected and are currently being analysed by the research team in order to gauge both the impact that the course had on the participants and its effectiveness in achieving the objectives set at the beginning of the project. Feedback from sigma has resulted in the upcoming publication of a booklet of adapted experiential learning games for use by sigma members at their own universities. These will all be deliverable in the classroom and is intended to equip mathematics lecturers and educators with a new, unique tool to engage students and encourage them to think outside the metaphorical box.

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Using mobile apps in maths support: a Periscope Pilot

Emma Collins-Jones

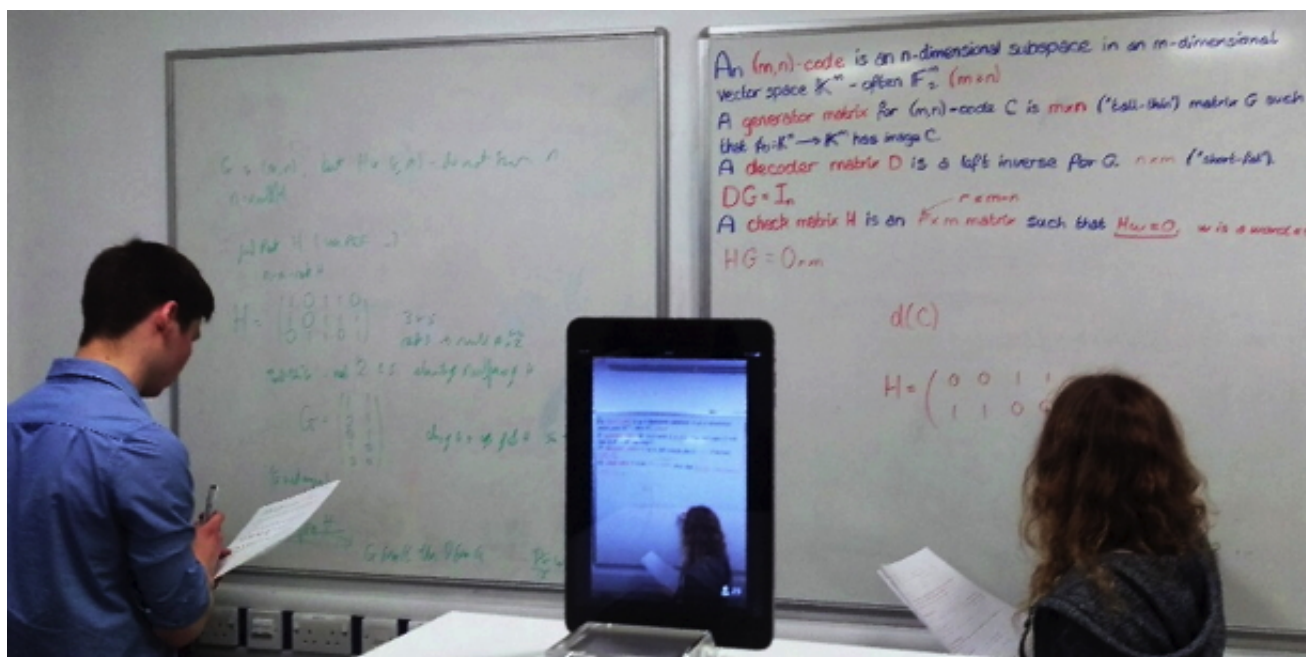
According to the Ofcom 2015 Communications Market Report, smartphones have now overtaken laptops as the most popular device for getting online, with 90% of 16–24 year olds owning one. On trend, one million users signed up to Periscope, a live streaming smartphone application now owned by Twitter, within the first ten days of its launch in 2015. Periscope allows users to view and broadcast live video. It is free, easy to use, and in the last month educators have used Periscope to stream lectures, Q&A sessions, prize giving ceremonies and campus tours!

At the University of Bath, the Mathematics Resource Centre (MASH) piloted Periscope for peer tutor learning during exam revision week. Richard Burgess and Hannah Crosby, second year students from the Department of Mathematical Sciences, delivered a short lecture on coding theory. The lecture was for Year 1 students and content was decided based upon queries at MASH drop-ins. The lecture was filmed using an iPad Mini, and a spare board was kept out of shot for preparation of material. The broadcast was a success with 66 live viewers, 55 replays and 127 hearts (hearts are used to show appreciation, similar to a “Like” on Facebook or Twitter).

Further to that, MASH received lots of positive feedback and a group of four students had even arranged to get together to watch the “scope”. As well as providing remote support (which may be particularly useful for universities operating over different campuses), the broadcast served as a promotional tool for MASH, building trust and visibility.

Periscope has also been piloted to live stream sigma training events, enabling virtual attendance and a convenient way to “replay” anything that was missed. On Wednesday 11th May 2016, Manchester Metropolitan University hosted a Social Media Workshop which was live streamed on Periscope with a total of 273 live viewers. All sessions are available to watch on periscope.tv/sigmahubs.

For more information, sigma has produced A Guide to Periscope. For any other questions email [Emma Collins-Jones](#).



Using Periscope to live-stream a sigma event

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sigma Special Interest Groups

David Bowers – Chair, sigma Network

In recent years, a number of themes have emerged that are of interest to a wide range of maths support practitioners, and that impact on the work of maths support centres. Therefore the sigma Network is piloting three Special Interest Groups (SIGs) that can allow people to collaborate and share experiences and resources within that particular aspect of maths support.

The three current SIGs are themed around:

- The particular needs of statistics support
- Accessibility
- Employability

We intend that the SIGs will complement the existing regional hub networking structure, and provide a platform for theme-based collaboration nationally and internationally.

A “kick off” meeting for the new SIGs was held in Loughborough on 12th May 2016. This highly productive day, which brought together around twenty people from within and outside the sigma Network with particular interests and expertise, resulted in short and medium term action plans for each SIG. Work in progress will be presented at the CETL–MSOR Conference in September.

Anyone who would like to join one of these SIGs, or simply find out more, should contact [Moira Petrie](#).



The SIG kick-off event on May 12th 2016

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Anyone can build a Massive Open Online Course! But should they?

Brian Mulligan, Institute of Technology Sligo

There is no way that Massive Open Online Courses (MOOCs) can be sustainable when they are that expensive to build! But does it have to be that expensive? And what if it wasn't, could anyone build a MOOC? And if they could, should they? Through the Erasmus+ LoCoMoTion project, a group of educators in Europe want to prove that if you can teach at all, then you can also teach thousands of participants online. This group from Germany, Ireland, the Netherlands, Spain and the UK have got together to show how it can be done.

On the 17th of May, 2016, they launched their open online course titled "Making MOOCs on a Budget" to show how one can build an open online courses with very little money and even with limited time. "Despite recent scepticism about MOOCs it is really too early to tell where and how they might prove to be very useful" said Brian Mulligan, the project leader. "Lowering the cost of production widens the application of this idea to topics with much lower expected enrollment levels. As part of the project I hope to put a small group together to test the idea of using MOOCs for final year secondary school students preparing for their higher mathematics examinations in Ireland. These open courses could be used as additional learning materials for students or support teachers or by students working on their own." The MOOC will cover how to quickly create video content and how to source other free content on the web, how to engage learners and how to assess progress. "This course will be useful to those who are just curious, those who wish to learn new techniques and those who wish to actually build a MOOC", said Brian. The course will stay open for four months so that participants can access their peers and tutors as they build their courses. You can sign up at <http://moocs4all.eu>.

The LoCoMotion project is funded by the Erasmus+ Strategic Partnerships Fund.



moocs4all.eu project team

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Desmos graphing calculator

Damien Raftery, Institute of Technology Carlow

Desmos (<https://www.desmos.com/>) is a free online graphing calculator. Students can use the free app (Android and iOS) on their phone or a browser on any device to check their computational work and deepen their understanding through visual insight. Watch a three minute video introduction

<https://media.heanet.ie/page/d07ef5d8d28ed19f0e6b482d6185e92c>.

I recently started using it in class to help visualize simple functions including finding maximum and minimum values as a complement to differentiation (view graph

<https://www.desmos.com/calculator/xycw7lsagf>)



Graphs can be saved and shared. Desmos can also be used to develop conceptual understanding in statistics – for example, getting students to interact with a scatter diagram to move points around to explore the impact on a correlation coefficient (view graph <https://www.desmos.com/calculator/txr2erwl1u>).

The developers of Desmos have created a range of interactive lessons and you can make your own with their Activity Builder. As a teacher you can monitor the progress of your learners through the lessons.

I discovered Desmos via Dan Meyer who gave a link to a post on billsmathblog

<https://billsmathblog.wordpress.com/2015/08/26/teach-them-to-fish/>. In the post, Bill gives a calculus problem, asking students to build the model themselves in Desmos. His answer is linked to in the blog but if you have time to solve the problem you can learn to use Desmos whilst creating the model.

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Understanding the UK Mathematics Curriculum Pre-Higher Education – A Guide for Academic Members of Staff

This guide has been written for those within the HE sector, to outline what students with given prior qualifications in mathematics are likely to know and be able to do. It updates the previous guide published in 2012. Note it does not incorporate ‘other’ qualifications which may include elements of mathematics and/or statistics within them. It can be accessed online via <http://bit.ly/Pre-Uni-Guide-2016>.

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Social Media Guide: Using social media to connect with your students, and beyond

As part of their student intern project, the University of Bath has produced a guide to inform staff on how to connect with students using social media. This guide can be accessed online via <http://www.sigma-network.ac.uk/wp-content/uploads/2016/05/Social-Media-Guide.pdf>.

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Periscope Guide: Using live video streaming in maths support

Working with University of Bath, a recent graduate Emma Collins-Jones was commissioned to produce this guide which demonstrated how to use a specific live streaming app, Periscope. This guide can be accessed online via <http://www.sigma-network.ac.uk/wp-content/uploads/2016/05/Periscope-Guide-FINAL-.pdf>.

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statstutor and mathcentre Community Resources

If you have developed resources, either for students or staff, that you are willing to share with the mathematics and statistics support, that you are willing to share with the mathematics and statistics support community, please contact [Moirá Petrie](#). It may be possible to host any legacy resources on Loughborough University servers thus enabling them to continue to be accessible to the sector in the future.

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HELM Workbooks

HELM – Helping Engineering Learn Mathematics – was a major curriculum development project undertaken by a consortium of five English universities – Loughborough, Hull, Reading, Sunderland and Manchester – led by Loughborough, and funded by the Higher Education Funding Council for England (HEFCE) for the period October 2002 – September 2006. The project produced 50 high quality HELM Workbooks covering the basic engineering mathematics and statistics teaching for first and second year students in a typical UK undergraduate engineering degree course. A significant effort was made to ensure that the Workbooks are student focussed and contain examples of engineering applications of the mathematics and statistics.

- Workbooks 1 – 34 contain mathematics material for engineering undergraduates.
- Workbooks 35 – 46 contain probability and statistics material for engineering undergraduates.
- Workbook 47 contains a miscellany of Mathematics and Physics related problems, including dimensional analysis.
- Workbook 48 contains 20 in depth Engineering Case Studies.
- Workbook 49 is a Student's Guide.
- Workbook 50 is a Tutor's Guide.

Over the past 18 months, sigma has funded the work undertaken to update these 50 workbooks. The updated workbooks are now available via <http://www.lboro.ac.uk/departments/mec/activities/helm/>. If you wish to become a HELM user, please go to <http://www.lboro.ac.uk/departments/mec/activities/helm/becoming-user> to complete the required form.

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Tutor Training Resources

Following on from the successful series of tutor training workshops held over the past two years, Tony Croft and Michael Grove have pulled together a set of resources to support the on-going training requirements of mathematics and statistics support provisions. These resources will support the training of tutors new to offering mathematics and statistics support as well as refresher training for more experienced staff. Click on the link below to access the resources: <http://www.sigma-network.ac.uk/resources/tutor-training-resources/>.

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sigma NE Hub Event – Technology Enhanced Learning – 8th June

The next sigma meeting organised by the North East Hub is taking place on Wednesday 8th June 2016 from 10:30–3:30pm at the University of Newcastle. The focus is on Technology Enhanced Learning.

This one day event will concentrate on getting started with various software/systems to facilitate and enhance teaching and learning of maths in Higher Education. The day will start with an introduction to maths support at Newcastle University by the host David McGeeney, followed by some interactive workshops introducing participants to the software and demonstrating how they can be used to support the learning of mathematics and statistics. The workshops will be ideal for people who have not used the software before.

Location: School of Mathematics & Statistics Herschel Building (3rd floor) Newcastle University Newcastle upon Tyne NE1 7RU

Speakers:

- Tom Button (MEI): Demonstration of the free software GeoGebra (<https://www.geogebra.org/>).
- Christian Perfect (University of Newcastle): An introduction to the e-assessment tool Numbas (<http://www.numbas.org.uk/>)

Book a place at the event: <https://www.eventbrite.co.uk/e/sigma-ne-event-technology-enhanced-learning-tickets-25483681377>

Draft programme:

- 10.30 – 11:00 Welcome and coffee
- 11:00 – 11.30 Maths Support at Newcastle University (David McGeeney)
- 11.30 – 12.15 Christian Lawson Perfect – Using Numbas for assessment
- 12–15 – 12.45 Vijay Teeluck – Sumaze the App discussion (<http://www.mei.org.uk/sumaze>)

- 12.45 – 1.30 Lunch
- 1.30 – 3.30 Tom Button – Geogebra workshop
- 3.30 End

For more information on the event, email one of the North East hub coordinators [Vijay Teeluck](#) or [Ellen Marshall](#) For more information on Newcastle University, please email the host [David McGeeney](#)

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sigma South East: Statistics Support: Ideas, Resources and Advice – 1st July 2016

The next sigma meeting organised by the South East Hub is taking place on Friday 1 July 2016 from 10:30–3:00pm at Royal Holloway, University of London. The focus is on Statistics Support.

Venue: QB170 (Queen's Building), Royal Holloway, University of London (note: room change)

Directions: <https://www.royalholloway.ac.uk/aboutus/ourcampus/location/findus.aspx>

Travel: If you are planning to drive please email [Kinga Zaczek](#) requesting a parking place and giving her the following information about your car: vehicle registration number, make and model, colour.

Speakers:

- Alun Owen (University of Worcester) – Statistics support: Reflecting on the past work of sigma and the future of the new sigma Statistics Special Interest Group.
- Monica-Cristiana Hess (Brunel University London) – Teaching Statistics: A Perspective on Two Different Approaches.
- Cheryl Voake-Jones (University of Bath) – Integrating statistics teaching and support into a wide variety of departments.
- Paul Wilson (University of Wolverhampton) – Statistics first – SPSS later.

Please email [Noel-Ann Bradshaw](#) if you would like to register for this event including details of any dietary requirements.

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SWSW Hub event: Mathematical literacy – 12th July 2016

The sigma South West & South Wales Hub is hosting a meeting on 'Mathematical literacy' at the University of Exeter on Tuesday 12th July 2016 from 10:30 – 16:00.

The meeting is suitable for any member of staff or postgraduate tutor involved in mathematics or statistics teaching or support in higher education.

There is no charge for attending this event and refreshments and lunch will be provided. For further information about the meeting, including a full schedule of the day, and to register your attendance please see: <http://www.bath.ac.uk/study/sigma-sw/events/literacy-2016.htmlx>

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NWNW Hub event: Exploring Different Models of Maths Support within HE; Combatting Maths Anxiety – 1st June 2016

Manchester Metropolitan Q-Step Centre and sigma North West are hosting the first joint sigma-Q-Step event

exploring different models of mathematics and statistics support. The event will be held at Manchester Metropolitan University on Wednesday 1st June 2016.

The aims of the day are:

- Explore student attitudes to numbers as barriers to learning
- Showcase different models of maths support within the HE sector
- Share good practice in maths support within the HE sector
- Examine what works in relation to supporting students with Maths anxiety

VENUE: Manchester Metropolitan University, Room tbc.

Directions: <http://www2.mmu.ac.uk/travel/manchester/>

There is no charge for attending this event and refreshments and lunch will be provided. To book please complete the register at Eventbrite, any enquiries can be sent to [Ian Jarman](#) Dept. of Applied Mathematics, Liverpool John Moores University, Byrom Street, Liverpool, L3 3AF or [Natalie Simpson](#) Q-step, Manchester Metropolitan University.

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CETL–MSOR Conference 2016 – A Brave New World

The aim of this conference is to promote, explore and disseminate emerging good practice and research findings in Mathematics, Statistics and Operational Research (MSOR) teaching, learning, assessment and support. The conference will appeal to all those teaching Mathematics, Statistics, Operational Research or Numeracy, whether this is to specialist mathematics students or students studying components of mathematics within their degree programmes (such as bioscience, chemistry, computer science, economics, engineering, nursing, physics, psychology, social work, etc.).

This year's conference is entitled "A Brave New World" reflecting the changing financial landscape, including the completion of the current HEFCE-funded sigma project, as well as the Government's new focus on teaching excellence. The conference will explore ways in which learning and teaching in MSOR is developing to meet the challenges it faces.

The principal themes of the conference will be:

- Demonstrating and evidencing teaching excellence in the mathematical sciences
- Responding to the challenges of assessment and feedback.
- Teaching mathematics and statistics within the disciplines.
- The onward transition: Preparing students for the workplace or further study.
- Current developments in mathematics and statistics support.
- Supporting the specialist mathematician and more-able student.
- Engaging students with their learning of mathematics and statistics.

Interesting contributions from other areas of learning and teaching of MSOR will also be welcomed.

Keynote Speakers – We are delighted to announce our confirmed keynote speakers:

- Professor Chris Linton, President of the IMA
- Professor Mark Chaplin, Gregory Chair of Applied Mathematics, University of St Andrews

As with previous years, we also intend to have a student-led keynote session.

Call for Abstracts: Authors are invited to submit abstracts of no more than 500 words which explore the themes of the conference. Interesting reports on issues relating to the wider teaching and learning of mathematics and statistics that do not fit directly with the themes will also be considered. Abstract submission will be via an electronic form, which can be accessed via this link: <https://lboro.onlinesurveys.ac.uk/cetl->

[msor-2016-abstract-submission-form](#). Please ensure all details are provided accurately and in the appropriate format as this will be used to create the conference programme and abstract listings. All abstracts will be acknowledged. If you have any queries or experience any difficulties submitting your abstract please contact [Moira Petrie](#)

Key dates:

- Call for abstracts opens: Thursday 17th March 2016
- Deadline for submission: Friday 3rd June 2016
- Notification of acceptance: Thursday 7th July 2016

Delegate Registration:

Delegate registration is now open. Details of fees can be found at <http://www.sigma-network.ac.uk/cetl-msor-conference-2016/>. Bookings can be made via <http://store.lboro.ac.uk/browse/product.asp?compid=1&modid=2&catid=118>. Note that early bird registration is available until 15 July 2016. Registration will close on Friday 26 August 2016.

For further information, please contact Moira Petrie (M.G.Petrie@lboro.ac.uk).

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sigma Eastern England Hub Event: Promoting and Evaluating your Maths Support Service – 25 April 2016

[Hansa Bissoondeal](#), sigma Eastern England Hub

A sigma Eastern England Hub networking meeting, 'Promoting and Evaluating your Maths Support Service' was held on 25th April 2016 at the University of Essex. The event was attended by 27 participants representing the following universities: Brunel University London, King's College London, London South Bank University, Manchester Metropolitan University, Royal Holloway University of London, University of East Anglia, University of Bath, University of Essex, University of Leicester and University of Nottingham.



The event started with a tour of the Silberrad Student Centre that won The Royal Institute of British Architects (RIBA) East Building of the Year Award 2016. Participants also visited the Talent Development Helpdesk which delivers academic skills, English language support and mathematics and statistics support at the University of Essex.

After lunch, the 'Show and Tell' session consisted of presentations for participants to showcase their promotion and evaluation strategies. We had a chance to look at social networking sites, a range of promotional merchandise, leaflets and posters used by various support centres.

Dr Cheryl Voake-Jones delivered an inspiring presentation reporting on sigma-funded projects that involved collaboration with students to create promotional material as well as to use social media effectively at MASH at University of Bath.

David Bowers led the 'Exchange' session of the event for delegates to identify colleagues to follow up with and share knowledge and experience. The presentations and attendance list have been made available to delegates to ensure that this networking process continues.

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sigma Midlands Hub Event: Introduction to LaTeX day – 21st March 2016

Paul Wilson, sigma Midland Hub

A one day “Introduction to Latex” course was held at the University of Wolverhampton on 21st March 2016. LaTeX is a document preparation system that is especially suited to Mathematics. The principal intention was that those taking part would get a good foundation in the basics of LaTeX from which they could further develop their skills, and all sixteen participants felt that this objective was achieved. Whilst the focus was on the basics, poster and presentation preparation was also covered. The days was enjoyed by both the presenters and the participants, and the event may well be repeated at a later date.



The Four Musketeers: Sam Jones, Paul Wilson, Liam Naughton and Andrew Gascoyne

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Hashtags and Hootsuite: social media in maths support.

Cheryl Voake-Jones, University of Bath

Workshops on using social media in maths support were held at the University of Greenwich on 10th May and Manchester Metropolitan University on 11th May 2016, with a total of 17 attendees. The workshops were delivered by Emma Collins-Jones and myself; Emma is a University of Bath graduate who has undertaken a project for sigma on social media, and I am the Mathematics Resources Centre (/MASH: Mathematics & Statistics Help) Coordinator at Bath.

Over the academic year 2015–16, MASH has significantly expanded its online presence via Facebook and Twitter. The workshop began with an overview of how this was done, what we learnt and how we now use

social media to interact with our students. We use social media in several ways; to promote our service, to share interesting articles relating to the university or maths, to report on professional activities such as workshops and conferences, and of course not forgetting our weekly maths joke on a Friday. As a result, we have vastly increased our visibility across the university and have much better student engagement with our service.

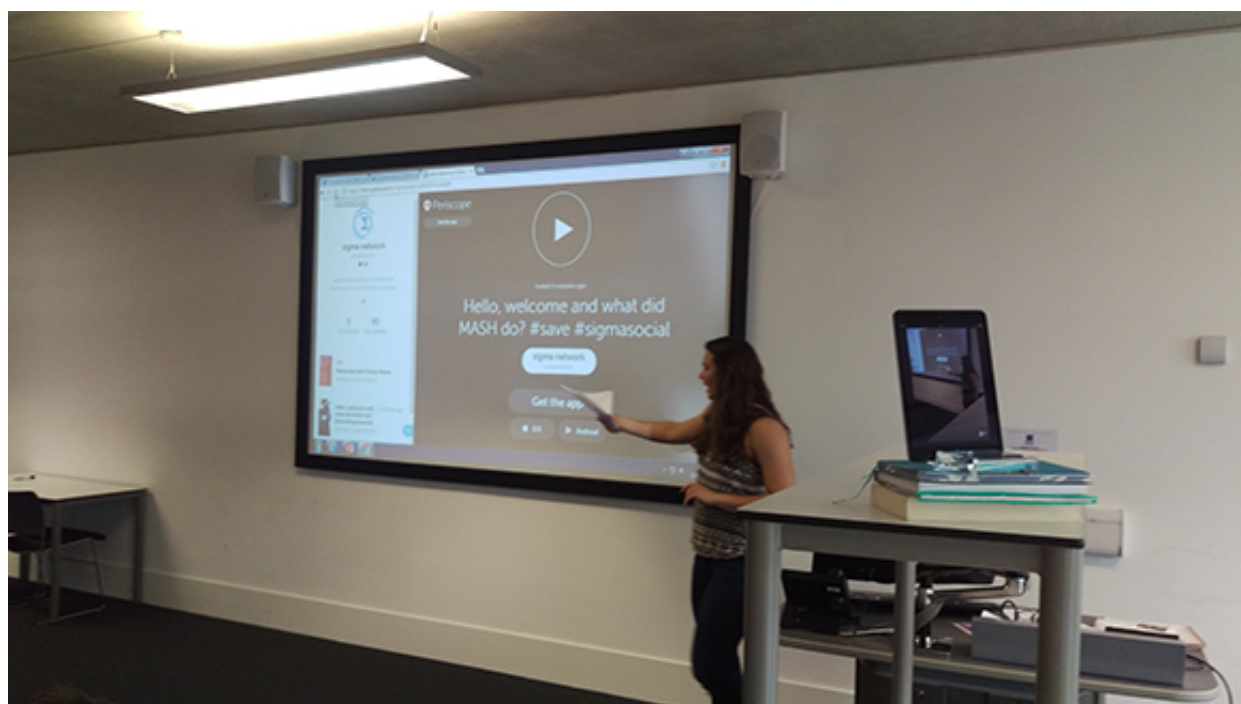
Detailed information on three social media platforms was given via live demonstrations. First up was Periscope, a live-streaming platform, recently trialled by MASH and sigma. This was followed by Twitter and then Facebook. Guided tours of each platform, including lesser-known features, provided attendees with the required information to get started within their own institution. The workshops ended with tools and tips for effective management of social media.

Each attendee received two printed guides; a guide for using social media to connect with students, including instructions for Facebook and Twitter ([Social Media Guide.pdf](#)), and a guide to using Periscope ([Periscope Guide.pdf](#)).

It was great to have so much interaction online and in the room throughout the workshops; after all, social media is meant to be social! It was really pleasing to see colleagues from across the network buy into and start using social media as a way to engage with students. We look forward to seeing other maths/general support centres online soon!

The sessions at MMU were live streamed, and you can watch again here: <https://www.periscope.tv/sigmahubs>. Sound and picture quality is better on a smartphone or tablet, compared to a PC or laptop.

Thank you to Noel-Ann Bradshaw, Tony Mann, Natalie Simpson and Simon Massey for hosting and making arrangements locally. Thanks to all of the attendees for their enthusiasm and input. Please get in touch if you'd like to learn more about this project or need helping getting started with social media. Email [Cheryl Voake-Jones](#) or connect with us online: <https://twitter.com/BathMASH>, <https://www.facebook.com/mash.bath> and <https://www.facebook.com/BathMASH>.



Emma Collins-Jones at the sigma social media event

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sigma Network Mailing list (SIGMA-NETWORK@JISCMail.AC.UK)

The sigma Network uses the sigma Network mailing list (SIGMA-NETWORK@JISCMail.AC.UK) to promote events and announce funding calls. The mailing list is also used by mathematics and statistics support practitioners to seek information and discuss items of mutual interest. Archives of previous posts are accessible from the SIGMA-NETWORK JISCMail [home page](#).

Please encourage your mathematics and statistics support colleagues and tutors to sign up to the mailing list. It is possible to opt to receive a digest weekly instead of ad-hoc email communications.

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Recent reports and research publications

This regular column lists recent publications relevant to mathematics and statistics support practitioners. If you are aware of any publications that may be of interest to this community, please will you send them to M.G.Petrie@lboro.ac.uk. It is our intention to compile a bibliography which will be available from the [sigma Network](#) and [mathcentre](#) websites.

Reports

No reports were submitted for this issue.

Journal and Conference Publications

No publications were submitted for this issue.

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The sigma e-Newsletter is a quarterly community publication and the views expressed do not necessarily constitute recommendations from the sigma Directorate.

We welcome contributions on any topic that may be of interest to practitioners and academics supporting higher education students in their learning of mathematics and statistics. Please contact [Moira Petrie \(M.G.Petrie@lboro.ac.uk\)](mailto:Moira.Petrie@lboro.ac.uk).

The deadline for contributions for the next edition (September 2016) is 16 August 2016.

For more information, visit <http://www.sigma-network.ac.uk>

or contact enquiries@sigma-network.ac.uk

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