

December 2020

Head of School summary

Welcome to our final newsletter of 2020. It has been an extraordinary start to the current academic year with colleagues putting an enormous amount of work in developing their taught modules for remote delivery and the challenges of providing support to our students at all levels. My thanks to every single member of the School for their contributions under very challenging circumstances, and for ensuring that our building remains a safe environment in the current pandemic.

We welcome many new colleagues, virtually in most cases from my perspective, but with the recent positive news about the development of useful vaccines for COVID-19 I hope to meet with you in person soon.

I was pleased to be able to attend the SEPnet on-line student Expo last month and to hear our undergraduate students Aayza Ahmad, Jordan Cohen, Emmett Connaire, Sofia Kalamantianou, Christopher Massandy, James Mitchell, Valentina Puddu, Klavs Riekstins and Aman Sapra present their summer placement work with a poster and a short video. Congratulations to Sofia Kalamantianou who was one of the IOP prize winners with her placement at the company Lumi Space. The title of her poster, in conjunction with two students from University of Surrey, was 'Live Satellite Tracking and Orbit Pass Prediction'. You can view the gallery of posters from all the students who attended the Expo here: <https://sway.office.com/tvy2DpRik7DMYeMc>

I would also like to congratulate the following colleagues who were successful in the most recent academic staff promotions round: Prof Adrian Bevan, Dr Marcella Bona, Dr Jan Mol, Dr Costis Papageorgakis and Dr Anthony Phillips.

I hope you will find all the news items that follow of interest, they demonstrate the excellence and the variety of work that takes place in our School of which I am proud to be the current Head. I wish all of you a safe and peaceful end to the year, a Happy Christmas and hope that in the new year we will gradually get back to a more normal and social environment within and outwith Queen Mary.

With very best wishes for 2021
Prof Peter Hobson

WELCOME

Lorna Ireland will be joining the School in mid-January 2021 as the new School Manager.

[Dr Giulia Ballabio](#) joined the Astronomy Unit (AU) on 1st October as a postdoctoral research associate working with Dr Thomas Haworth. She did her PhD at the University of Leicester, working on photoevaporation of planet forming discs by their parent stars. At QMUL she will, among other things, be extending her research to consider the effect of radiation from nearby stars on discs.

[Dr José Fonseca](#) joined the Astronomy Unit (AU) as a Postdoc research assistant into the cosmology group where he will work with Dr Chris Clarkson and Dr Phil Bull on large scale structure. Dr Fonseca was previously a postdoc in Padova, Italy, having previously held positions at the University of the Western Cape in Cape Town. He's an expert in synergies between optical and radio surveys and the detection of primordial non-Gaussianity.

[Dr Daniel Thomas](#) joined the Astronomy Unit (AU) in October, as a Post-Doctoral Research Associate in theoretical cosmology. Dr Thomas got his PhD in cosmology from Imperial, and has since worked at Portsmouth, Cyprus and Manchester Universities, before he joined QMUL. Dr Thomas will be working on constructing mathematical frameworks that can be used for testing gravity on cosmological scales

The Particle Physics Research Centre (PPRC) welcomed three new staff members in October. [Dr Zhidong Zhang](#) joined the department to work on the near Zero Mass support detector concept at the start of last month. This project aims to make cylindrical silicon detectors using ultra-thin silicon sensors. The work is being done in close collaboration with the Rutherford Appleton Laboratory and with Micron Semiconductor Ltd. [Dr Ian Dawson](#) joins the PPRC as a Senior Research Fellow to work on the ATLAS experiment, in particular the tracker upgrade (ITk), and on detector development. He brings with him decades of experience with simulating and testing of devices and instruments in hard radiation environments. [Dr Aashaq Shah](#) joins the group also to work on the ITk. Both Dr Dawson and Dr Shah join us as the ITk project moves from the R&D phase into the next exciting phase and will focusing on instrument construction. Our three newcomers bring with them an exciting and diverse set of skills and experiences to strengthen our newly formed detector development group.

The Centre for Research in String Theory (CRST) is delighted to welcome three new STFC funded Post Doctoral Research Assistants: [Dr Silvia Nagy](#), was an undergraduate at QMUL, completed her PhD at Imperial College and before returning to QMUL, she was postdoctoral researcher at Nottingham University. Her interests lie in formal aspects and cosmological applications of (super)gravity and has been working on the idea that gravity is a "square" of gauge theory. [Dr Jung-Wook Kim](#), recently finished his PhD at Seoul National University and he is working on applications of scattering amplitudes to (spinning) binary systems in general relativity and [Dr Hongliang Jiang](#), completed his PhD at the Hong Kong University of Science and Technology and, before joining QMUL, was a postdoctoral researcher at the University of Bern. He has been working on conformal field theories, on the AdS/CFT duality and on supergravity.

[Mary Thomas](#), who has joined the School as SAGEX Project Manager on 12th October to cover the maternity leave of Jenna Lane.

Congratulations

Congratulations to Lei Tan who passed her online PhD viva on Friday 30th October. Her thesis was entitled "*Studies of stability in nanoparticle and bulk phases*", it was a very nice mixture of novel experimental results and new types of computation. Lei will now take up a post-doctoral position at Wuhan University of Technology

Congratulations

The School is pleased to announce that Prof Kostya Trachenko has recently been awarded the Collaborative Computational Project (CCP5) prize for his outstanding contribution to modelling and theory in condensed matter. His contributions to modelling includes the development of DL_POLY, the UK flagship molecular dynamics simulation software, to simulate and analyse very large systems and highly non-equilibrium processes. These processes are important in predicting performance of materials used in highly radioactive processes such as nuclear waste encapsulation. His theoretical contribution is related to theory of liquid and supercritical states of matter including fundamental bounds of system properties. The announcement of the prize, and invited lecture, was made at a recent CCP5 meeting: <https://www.ccp5.ac.uk/prizes>

Prof Adrian Bevan has recently been invited to join the Science and Technology Facilities Council (STFC) Particle Physics Advisory Panel and a newly formed Particle Physics Technology Advisory Panel. These panels allow for community input to develop the scientific roadmaps, both for the fundamental physics goals of the UK community, and a technology roadmap. This work will highlight scientific opportunities based on the core strengths of the UK particle physics community within the context of the broader European and global programmes.

Student Consultancy Project (SCP)

Applications now open for the Student Consultancy Project (SCP).

The SCP is open to UG students and it is an employability programme based on experiential learning. Three SPA students are taking part in the current term and we are hoping to recruit as many, or more, in the next round!

Application and programme info can be found [here](#).

PsiStar - The Physics and Astronomy Society update

To hear more about PsiStar's upcoming events and exciting opportunities email gmpsistar@gmail.com to be added to the mailing list or apply to join our Facebook group via the link <https://www.facebook.com/groups/PsiStar>

Queen Mary spinout Chromosol wins Royal Society of Chemistry competition

[Chromosol](#), a Queen Mary spinout company, has been announced as a winner of the [Royal Society of Chemistry's Emerging Technologies Competition](#). The company won the 'Enabling Technologies' category, beating four other finalists to the prestigious award. As a winner, Chromosol receives a £20k prize, as well as a year of one-on-one support from a specially assigned Royal Society of Chemistry mentor. [Read more.](#)

Modelling the development of a COVID-19 vaccine

Our colleague (and former Head of School) Emeritus Professor Steve Lloyd has been putting his computing skills to good use in this policy paper from the Centre for Global Development which was released on 1st October 2020. The authors of this report collected publicly available information, interviewed experts, and used their diverse range of expertise to analyse and model the COVID-19 vaccine portfolio. They also modelled how long it would take to manufacture COVID-19 vaccines once they are approved. Their modelling suggests that it will probably take more than a year to produce enough vaccines to inoculate the world's 50 million medical staff, and that it could be September 2023 before we have enough doses for the whole world.

This is an excellent example of how the modelling and coding skills of an experimental particle physicist, and founding member of the STFC funded GridPP distributed computing project, can be applied to a highly topical and important issue in public health. The full policy paper is available here:

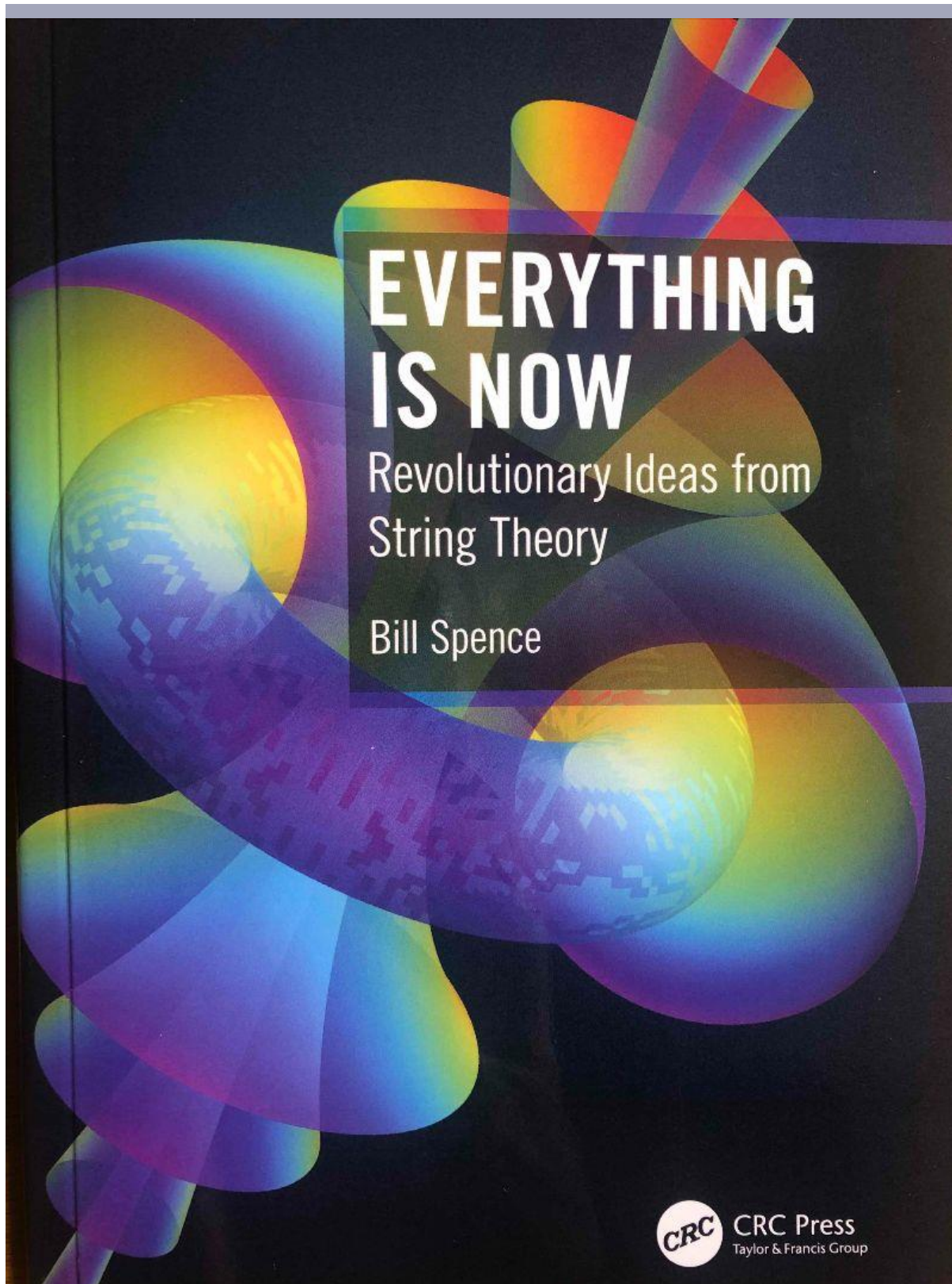
["COVID-19 Vaccine Predictions: Using Mathematical Modelling and Expert Opinions to Estimate Timelines and Probabilities of Success of COVID-19 Vaccines"](#)

"Everything is Now: Revolutionary Ideas from String Theory" - Book

Colleagues/friends/family ask you what string theory is all about? Here is an answer - Prof Bill Spence has written a succinct paperback review, aimed at a general audience. "Everything is Now: Revolutionary Ideas from String Theory" is published by Taylor and Francis on 28th October. See www.billspence.org for more information.

Our own Prof Michael Green says:

"This unusual book provides a concise description of some of the most exciting developments in theories of fundamental particles and their forces that have emerged from the study of string theory. The underlying ideas involve a mix of subtle physical insights and sophisticated mathematics, which are difficult to convey to a non-specialist audience, However, in eleven short chapters Bill Spence manages to describe the essence of the subject with great clarity."



The strong force and simplicity in a game of hide-and-seek

Dr Lorenzo Bianchi, former Postdoctoral Research assistant who worked with Prof Gabriele Travaglini on his Marie Curie IF grant was interviewed by the EU staff. CORDIS have now published this on their website, for more information please [click here](#)

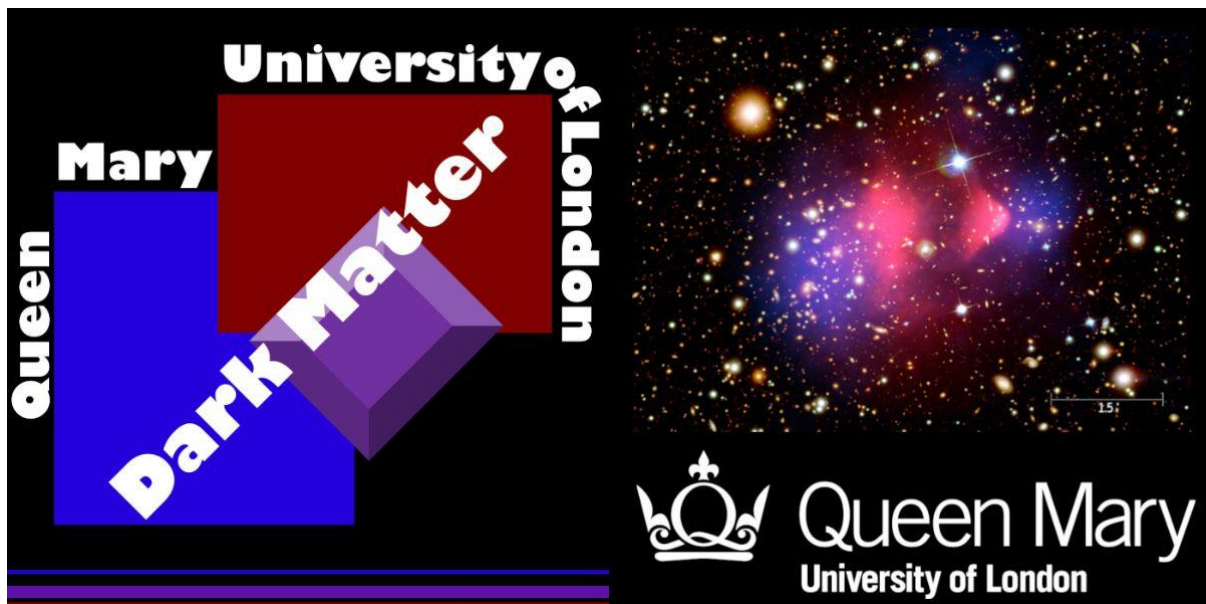
Speed of sound from fundamental physical constants

QMUL physicists are involved in a recent collaboration showing that the Speed of sound in condensed matter phases has an upper bound in terms of fundamental physical constants. For more information on paper, please read here - [Sciences Advances](#), [The Economist](#), [Physics World](#) and [Science News](#)

Queen Mary University of London Dark Matter day

The Particle Physics Research Centre (PPRC) have put on a virtual outreach event called Queen Mary University of London Dark Matter Day. This was part of a global outreach project called Dark Matter Day that happens once a year around Halloween. They had four people from the group Dr Marcella Bona, Dr Alison Elliot, Lorna Nolan, and Joe Davies who gave talks about dark matter and how it is related to their research. They had 75 participants on zoom, and they were really engaged, asking dozens of questions!

For more information please [read here](#)



Staff update - training

New T4 training for staff

For all staff who use T4 or would like to use T4 - new online training is now available on QMplus - whether you are starting out or would like to refresh your knowledge head to QMplus now.

All staff can self-enrol on this course - <https://qmplus.qmul.ac.uk/enrol/index.php?id=13226>
Staff who are new to T4 need to email websupport@qmul.ac.uk to set up their T4 accounts before they start the QMplus training.

If you're creating T4 content regularly the web team have created a useful directory full of hints and tips to get your pages and profiles looking fantastic- <https://www.qmul.ac.uk/t4-support/content-type-directory/>

Submit your project proposal for Queen Mary's new CDT in Data Centric Engineering

The [Centre for Doctoral Training \(CDT\) in Data-Centric Engineering](#), which launches in January 2021, is currently seeking project proposals from supervisors working in areas

related to data science and engineering. They will fund doctoral scholars on a four-year professional doctorate. The programme forms part of the UKRI's Doctoral Mobility Pilot, which aims to increase mobility across industry and academic sectors, and enhance research skills of individuals from industry and other non-academic backgrounds. [Find out how to submit your project proposal.](#)

Equality Diversity and Inclusion (EDI) committee updates

EDI is looking for a Professional Staff representative. If interested, Please contact Prof Peter Hobson. For a full list of EDI members please see [here](#)

International Day of Disabled People 2020: celebrating our disabled community at Queen Mary

Thursday 3rd December is the International Day of Disabled People (IDoDP, or [International Day of People with Disabilities](#)).

To mark this important day at Queen Mary, some of our wonderful disabled staff and students are creating [role model profiles](#), to share a bit about themselves, their experiences and what they want the Queen Mary community to know about disability and disabled people. You can find some of their brilliant profiles [here](#) (please note, there are more to come shortly, so watch this space!).

We hope that by sharing these role model profiles, we can help increase the visibility of our disabled staff and students and their diverse experiences and perspectives.

If you think you might be interested in becoming a disabled role model at Queen Mary, please get in touch with [Daisy Crowfoot](#), who works in the EDI Team.

The importance of role models and representation,

Visible representation of diverse disabled people across our institutions, in the media and across society matters: it can help other disabled people feel seen and valued. If you never see or hear people like yourself represented in wider society, you can feel invisible.

There is currently a lack of visible disabled role models at Queen Mary. In our 2019 Staff Survey, only 20% of disabled staff said there were visible, senior role models with whom they could identify, compared to the overall University score of 35%. This is something we want to address.

Visible role models can help us create a community that is representative of diverse experiences and lives. There is no single way to be visible or a role model, but all visibility matters. We hope these role model profiles are just one of the first steps.

Not all disabilities are visible

The theme for the International Day of Disabled People this year is: 'not all disabilities are visible'. This theme aims to spread awareness and understanding of disabilities that are not immediately apparent, such as mental health conditions, chronic pain or fatigue, diabetes, neurological, developmental or learning differences (like autism, ADHD, dyslexia), mobility, speech, visual or hearing impairments and brain injuries, among others.

In the UK, 1 in 5 people have a disability and it is estimated that between 70% and 80% of these people have a 'hidden' or 'invisible' disability.

One of our brilliant role models Samantha Osborne talks about the importance of being able to have open and honest conversations about hidden disabilities in her profile [here](#).

Further information and support

- If you are a staff member and consider yourself disabled and/or have a physical or mental health condition, you can [join the Staff Disability Network here](#) (we currently have informal gatherings on Teams every 6-8 weeks and look forward to meeting you!)
- If you would like to create your own role model profile, please contact [Daisy Crowfoot](#).
- If you would like to receive a 'hidden disabilities lanyard', you find out more [here](#).
- Staff can find further information, resources and support relating to disability, available at Queen Mary and externally [here](#).
- Students can access support through the [Disability and Dyslexia Service here](#).

· We will shortly be publishing guidance about how to offer support to people who experience a range of disabilities and conditions and respond inclusively to their individual needs.

You can find the Connected page with all this information on [here](#).

For students, the relevant news story is [here](#).

Industry Facing event update

The detector development group hosted an industry facing event in November, with 11 companies and members of the Science and Technology Facilities council in attendance. There were 32 attendees from industry and QMUL discussing issues and competencies in the area of radiation for science and society. The meeting has spawned a number of follow up discussions with both SME and large companies, some of which we hope will grow into new collaborations and to strengthen our existing industrial collaboration in this area. Based on early feedback from the event we are hopeful that this will also lead to opportunities for undergraduate internships for the Physics with Professional Experience programme. There were also excellent talks from AWE Plc on Nuclear Threat Reduction, and from Micron Semiconductor and Centronic. For people who are interested, the QMUL speaker presentations can be found on the [meeting webpage](#) (includes a video of the QMUL talks). Many thanks to all those involved in organising this event from the School, QMI and BDU.

Jobs

We are currently recruiting for a number of positions in the School. For more information please [click here](#).

If you have any news for the School newsletter. Please contact Sri
- s.kulandaivelu@qmul.ac.uk



Copyright © 2020 Queen Mary University of London, All rights reserved.

SPA Monthly newsletter

Our mailing address is:

Queen Mary University of London

GO Jones Building

327 Mile End Road

London, Lnd E1 4NS

United Kingdom

[Add us to your address book](#)

Want to change how you receive these emails?

You can [update your preferences](#) or [unsubscribe from this list](#).

