



PGI Conference 2019

We are excited to announce that we have a great line-up of Keynote Speakers already confirmed: Prof. Elisa Morgera, Strathclyde Centre for Environmental Law and Governance, Professor Graeme Reid, UCL and Fred Wilson, GlaxoSmithKline. We are also delighted to announce that we also have a number of confirmed exhibitors, including: Institute of Physics, National Instruments, Anatune and MSolv, who will kindly join us for the conference.

The two-day event will illustrate how the work we do can impact on our future prosperity and quality of life. You will also get a chance to hear from some of our partners and funders on how measurement science is making a difference in industries and more broadly on society. Some great professional development workshops are also being organised with our partners, SEPnet and IOP.

Abstract submission is now closed. Further details of the event can be found at www.npl.co.uk/pgi/pgi-conference-2019.

Welcome Debbie and Alice!

We would like to introduce to you two new members of the PGI team.

Debbie Meikle is the new recruitment officer for the PGI, and Alice Drinkwater is our new ambassador for digital media. Both are settling in and already helping the PGI to continue to run smoothly.

Upcoming events

- PGI Scotland meet-up
2 Sep, Strathclyde
- Getting the most out of conferences
3 Sep, Teddington & via livestream
- LabVIEW training
9 Sep, Teddington
- Dimensional metrology and the metre
25 Sep, Teddington & via livestream
- PGI lunchtime seminars
TBC, Teddington & via livestream
- How to give effective presentations
TBC, Teddington
- SEPnet and PGI workshop: Turning science into business
2–3 Dec, Teddington

To register for any of the above events, please email pgi@npl.co.uk

In this issue

- Advanced Radiotherapy Impact Sandpit
- GRADNet Summer School
- Digital media revamp
- PGI Picnic
- PGI Recognition Awards
- Science in pixels

Director's message

Richard Burguete *NPL*

On reading the draft issue of GradPost it appears that PGI members have very busy over the summer, getting new research funding, supporting the GRADnet summer school and organising PGI events. This is a great way to develop interesting and diverse experiences that will enrich your time as a postgraduate researcher. Although it is recompense in itself to do all these additional activities, the PGI would like to do more to recognise where our students have done that little bit extra by creating our own recognition awards – please nominate anyone who you think deserves an extra mention for the effort that they make to create a more interesting and engaging PGI.

Even though many of you seem to have been very active, I hope that you have had a great summer and have been able to take some time to relax and recharge your batteries; I look forward to seeing you at the PGI Conference (which is nearly at full capacity) and some of the other events that are planned in the coming months.

The Global Challenge Network+ in Advanced Radiotherapy Impact Sandpit: 'Dragons' Den style'

Hannah Cook *University College London*

On 6 and 7 of June 2019, Sam Flynn and Tony Price went to the Advanced Radiotherapy Impact Sandpit in Manchester to represent a collaboration consisting of the University of Birmingham, University Hospitals Birmingham, and the National Physical Laboratory. The event was based on the popular television show "Dragons' Den", where many participants would pitch a novel or innovative idea to 'Dragons' (represented by experts and non-experts in radiotherapy) for a share of a £100,000 pot.

The pair were successfully awarded £15,000 to develop an adjustable microbeam collimator for the University of Birmingham's 40 MeV proton cyclotron. Microbeam radiotherapy (consisting of narrow beams of radiation $< \varnothing 0.1$ mm) has shown a lot of promise for treating hard to treat tumours based on cellular and veterinary studies, but a significant amount of research is still required before human trials can be performed. The developed collimator will enable domestic and international researchers to conduct many types of cellular investigations, with a key objective of developing a series of metrological recommendations for accurate dosimetry.

The project was praised by the 'Dragons' for having a strong collaborative team with a high chance of succeeding. Further information about this can be found by contacting Sam Flynn, Tony Price, Ileana Silvestre Patallo or Anna Subiel.



Tony and Sam at the Advanced Radiotherapy Impact Sandpit

NPL host GRADnet Summer School for SEPnet

Cristobel Soares-Smith *Graduate Network Manager, SEPnet*

On behalf of GRADnet, I would like to thank NPL for kindly hosting our SEPnet (South East Physics Network) Summer School this year on 1–4 July in Teddington. 40 postgraduate researchers signed up to this year's event to explore the wide-ranging opportunities physicists have outside academia and to interact with employers from a variety of organisations.

Six employer-led workshops provided PhD students the chance to see first-hand how industry values and uses the skills and knowledge they have acquired. Thank you to Dr Ben Russell, and current and past PGI students Dr Elsie va Es, Dr Hibaaq Mohamud, Emma Braysher and Ben Webster, who kindly ran the NPL workshop: '*Going nuclear: the importance of measurement and how we measure radioactivity*'. The workshop gave students an introduction to the importance of metrology and why measurement institutes exist. Other workshops were delivered by GSK, RBA Acoustics, Santander, UKAEA and Ultra Electronics.

A parallel strand was the consultancy challenges where students took on the role of a consultant and had to propose a solution to a 'real world' challenge facing an employer. The challenges this year were provided by Adaptix Ltd, BlueOptima and Rutheford Appleton Laboratory. The programme also included talks on Intellectual Property Rights, Future Careers and Networking, and an insight into teaching with IOP Teaching. Thank you to Dr Laura Kent at NPL for running the Science Communication session and for organising the pub quiz.

Thank you to all the NPL staff behind the scenes for making this a successful event once again and for organising brilliant weather for the water rockets and BBQ on the final evening. I look forward to coming back in 2021!



Digital Media Revamp

Alice Drinkwater *University of Edinburgh*

I'm Alice, a first-year PhD student with the PGI, currently based at the University of Edinburgh. I'm taking the role of Digital Media Ambassador for the PGI, which means reinvigorating our social media presence. Social media can be a really useful tool to engage with the wider scientific community and spread the word about all the wonderful work that is going on within the PGI. Our social media channels are not widely used at the moment, and we want that to change. We're looking to post more regularly by working with PGI students, so if you have stories from your work that you want to share, or ideas for content, then please do get in touch – feel free to contact me on alice.drinkwater@ed.ac.uk

Below are our handles on social media – if you post about your work, be sure to tag us and we'll like and re-tweet you!

Twitter: @PGImetrology

Instagram: @PGImetrology

LinkedIn: Postgraduate Institute for Measurement Science (group)

PGI Picnic

Emma Braysher *University of Surrey*

Rounders, snacks and good fun in the sun were in store for the PGI picnic.

With temperatures reaching 29 degrees in Teddington, we made our way out to Bushy Park with our picnic rugs and lunch. Linden's delicious shortbread and several bags of ice cubes gave us the energy for a game of rounders in the heat, followed by a rather competitive frisbee session.

The picnic gave us further opportunity to realise how lucky we are to have Bushy Park on our doorstep at NPL Teddington, as we made our way back into work (and the air-conditioned labs). Join us for our next PGI social event by keeping an eye out for PGI emails and in GradPost.



PGI Recognition Awards

The PGI wants to recognise and celebrate our students, either as individuals or teams, who are contributing to the vision of the PGI through outstanding behaviour and achievements. This has led to the beginning of the PGI Recognition Awards.

Anyone can nominate any student at any time by sending a brief email (no more than 250 words) stating the name of the student and why you are nominating them; all nominations should be sent to the PGI email address. The panel will meet three times a year to select the winners (March, July and November).

You may consider the following reasons when nominating a colleague:

- Successfully partnered or managed an area of the PGI which resulted in significant impact
- Received external recognition for something they delivered or introduced with direct mention or link to the PGI
- Supporting other members of the PGI community by being inclusive and supporting diversity

Awards are £50 for an outstanding contribution to science and the profile of the PGI, and £25 for supporting the PGI community. Nominations are open now, so do get in contact if you would like someone to receive recognition for their work.

'Science in Pixels' competition now open

We want to invite you to get creative with your research and communicate the impact of your work through the images, inspired by our Strategic Partner (University of Strathclyde) images of research annual competition.

It is said that an image can speak a thousand words and can be a powerful tool to showcase the importance of your work to fellow researchers and to industry. Anyone with a link to the PGI can enter, so PGI students and their supervisors (based at universities or at NPL) can all submit images of their research. If that wasn't enough reason to get creative, a panel of judges will make the final decision on the most engaging image and the winner will be awarded a prize of £200. The winner will be announced at the Annual PGI Conference on 7 November 2019.

What to submit

To take part, send your image and text description, together with this [form](#) to pgiconference@npl.co.uk.

Image

- PNG, JPG or TIFF file types only
- High resolution images must be provided – a minimum of 300 dpi (dots per inch) at A3 size.

Text

- Title (2-5 words)
- Three/four sentence story that describes your image, the importance of your work and the challenges you may face (50–80 words)

For more examples, go to: <https://www.imagesofresearch.strath.ac.uk/newindex.htm>

Share your image with us on [Instagram](#) or [Twitter](#)

To give you a taste of the PGI Conference 2019 line-up, here are some bios for a few of our keynote speakers...

Elisa Morgera is Professor of Global Environmental Law and Co-Director of Strathclyde Centre for Environmental Law and Governance. She specialises in international, European and comparative environmental law, with a particular focus on the interaction between biodiversity law and human rights (particularly those of indigenous peoples and local communities), equity and sustainability in natural resource development, oceans governance, and corporate accountability. Elisa has also researched the environmental dimensions of the external relations of the European Union (EU).

Professor Graeme Reid is a specialist advisor to the House of Lords Science and Technology Committee for their work on science and is a trustee of the Association of Medical Research Charities. Graeme worked at the National Engineering Laboratory before moving to Central Government for positions in the Treasury, the Cabinet Office, and the DTI before the formation of BIS in 2009.

Fred Wilson is a specialist in Medical Imaging and Physiological Measurement Biomarkers with over 15 years' experience encompassing the pharmaceutical industry, UK National Health Service and industrial R&D. He has a track record in strategy development and directing successful collaborations between academia and industry. Areas of interest include medical imaging, physiological measurements (including EEG), applying imaging/ physiological measurement biomarkers to decision-making in drug development.

Contact us

Editors:

Emma Braysher
emma.braysher@npl.co.uk

Rhiann Canavan
rhiann.canavan@npl.co.uk

Ben Webster
ben.webster@npl.co.uk

PGI team:

Richard Burguete, *Director*
richard.burguete@npl.co.uk

Leah Chapman, *Operations Manager*
leah.chapman@npl.co.uk

Linden Fradet, *University Liaison Manager (North)*
linden.fradet@npl.co.uk


Debbie Meikle, *Recruitment officer*
debbie.meikle@npl.co.uk

Rebecca Deller, *Temporary Administrator*
rebecca.deller@npl.co.uk

Other contacts:

PGI Ambassadors
pgiambassadors@npl.co.uk

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