



### IN BRIEF

Read about the Brexit science summit [here](#) and our Brexit round-up [here](#)

Volunteer to help revise the photon dosimetry code of practice [here](#)

Join the [fundraising committee](#) for the 'Little Linac' project [here](#)

Apply for a range of opportunities with EFOMP [here](#)

### President's Update



It is great the evenings are now getting lighter and the days are getting longer - we just need the weather to be a bit warmer! I have been to some very interesting events recently. The CSO conference started the month, which included the [awards ceremony](#) and some excellent talks and of course, our community did exceptionally well. This year Princess Anne gave the awards and I was privileged to talk to her about IPEM and our work. One thing that was mentioned by many speakers was Artificial Intelligence and the importance of machine learning. It is important that we are involved with this, especially in areas such as imaging. There is the first major summit on this in May, at the Wellcome Trust. Another event I attended was at Cambridge University, on innovation through convergence. I gave a talk to their bioengineers about how IPEM can be very valuable to them, as we have strong networks and can bridge the gaps between the NHS, academia and industry, as we have members who work in, and understand, all these sectors. One IPEM initiative (in collaboration with the IMechE and IET) is the new [Peter Wells Memorial Lecture](#), to celebrate our first President. This will be given by [Professor Alison Noble](#), of Oxford University, on Wednesday 23 May at the IET, on her ultrasound work. May I wish you all a very happy Easter break.

### Members sweep the board at CSO Awards!

Huge congratulations go to IPEM members who swept the board at the annual Chief Scientific Officer's [Healthcare Science Awards](#) earlier this month.

**Dr Keith Ison OBE**, a former IPEM President, was presented with a Lifetime Achievement Award.

**Dr Ranald Mackay**, an IPEM Fellow and Director of Medical Physics and Clinical Engineering at the Christie NHS Foundation Trust in Manchester, was named as the Healthcare Scientist of the Year.

**Professor Paul White**, an IPEM Fellow and Head of Clinical Engineering at Cambridge University Hospitals NHS Foundation Trust, won the Excellence in Research award.

**Dr Jonathan Ashmore**, of Raigmore Hospital in Inverness, and **Dr Cormac McGrath**, lead MRI Clinical Scientist for the Northern Ireland Regional Medical Physics Service, won the Innovation in Healthcare Delivery award.



### IPEM LATEST

[Membership survey results](#)

[Governance and committee review](#)

### Trainee News

[Diary of a trainee](#)

[Choosing a MSc project](#)

[Voice of Young Science workshop in Manchester](#)

### Conferences

[Adaptive Approaches and Online Monitoring of Radiotherapy Treatment, 25 April in Manchester](#)

[RWA update, 22 May in Manchester](#)

[RPA update, 23 May in Manchester](#)

[more 2018 conferences](#)

### External events &

**Dr Keith Langmack**, a Fellow of the Institute and Head of Radiotherapy Physics at Nottingham University Hospitals NHS Trust, won the Equality and Diversity in Leadership award.

**Dr Daniel Clark**, who is Head of Clinical Engineering at Nottingham University Hospitals NHS Trust, was presented with the Developing Partnerships to Improve Outcomes award.

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## How IPEM is working for you

### Science and innovation Brexit summit

President Mark Tooley attended the Brexit summit on science and innovation, organised by the House of Commons Science and Technology Committee - more [here](#). Read an update on the Brexit activity the Institute has been involved in [here](#), one year on from when Article 50 was triggered.

### Fundraising for fun

Could you help IPEM raise money for the 'Little Linac' project? Do you have experience of fundraising, marketing or just good ideas for getting people interested in a good cause? We are looking for a new member of the IPEM fundraising committee, which is aiming to raise money for the project to provide every child undergoing radiotherapy with a model brick kit for play therapy. The committee is also working on getting sponsorship for the IPEM members' concert at MPEC. The role description is [here](#) and contact [marie@ipem.ac.uk](mailto:marie@ipem.ac.uk) for more details.

### International Women in Engineering Day

To celebrate International Women in Engineering Day (23 June) the Women's Engineering Society (WES) has launched another "Top 50 Women" campaign. This year's theme is Returners or Transferrers and WES is looking for nominations of women who either returned after a break of at least 18 months or transferred to engineering from another sector. To nominate a colleague contact [eva@ipem.ac.uk](mailto:eva@ipem.ac.uk).

### Volunteer to help revise the photon dosimetry code of practice

As the 1990 MV code of practice for megavoltage photon dosimetry approaches its 30th year, a working party is looking to update the code. Two/three IPEM members are therefore being sought to join the working party for this – more [here](#).

### IPEM brokerage scheme

IPEM is piloting a brokerage scheme, matching members who can offer work experience, departmental visits, project work or other opportunities, with people seeking such opportunities. These are often young people interested in relevant careers, or people considering a move from industry to the NHS or vice versa. If you can offer such an experience, however long or short, and wherever you currently work, please email [sean@ipem.ac.uk](mailto:sean@ipem.ac.uk) to discuss and add your details to our database.

### Scope call for submissions

Scope is your magazine and to ensure it is filled with interesting, informative and valuable material, it relies on submissions by members. Each edition will now have a theme:

- September 2018: 'Clinical & Biomedical Engineering', covering also physiological measurements, rehabilitation, medical equipment maintenance, design and manufacture
  - December 2018: International / Developing Countries
  - March 2019: Medical Physics, covering diagnostic radiology, radiotherapy, MRI, nuclear medicine, ultrasound and optics
  - June 2019: Applied Academia & Clinical Computing.
- For more details and submission deadlines click [here](#).
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## activities

[CaSE policy review on Brexit](#)

[Sense About Science workshop in Manchester](#)

[Chief Scientific Officer's WISE Fellowship](#)

[Migration Advisory Committee interim report on EEA workers in the UK labour market](#)

[CRUK research opportunities in early detection and diagnosis](#)

[EUTEMPE modules for diagnostic and interventional radiology physicists](#)

[NHS England Clinical Entrepreneur Programme](#)

[Spring edition of EMP News](#)

[Apply to become an HRA Radiation Assurance reviewer](#)

[CSO's Knowledge Transfer Partnership](#)

[Science and Technology Committee publishes Brexit report](#)

[EFOMP Examination Board](#)

[Health and Social Care Select Committee report on medical devices](#)

## IPEM Journals Pick of the month

[Physics in Medicine and Biology](#)

[Validation and uncertainty analysis of a pre-treatment 2D dose prediction model](#)

[Physiological Measurement](#)

[Detection rate of fetal distress using contraction-dependent fetal heart rate variability analysis](#)

### Small ultrasound scanner needed for our outreach activities

We are looking for a small ultrasound scanner that is no longer in clinical use to scan our baby phantom [Rupert](#) during outreach activities at schools and science fairs. Can you maybe donate one or know of a second hand one to purchase? If you can help or have any more questions please contact [eva@ipem.ac.uk](mailto:eva@ipem.ac.uk).

### 2018 is the Year of Engineering

Download a copy of our poster [here](#).

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### Workforce Intelligence Unit

A Diagnostic Radiology and Radiation Protection survey: to capture WTE and vacancies in the DR&RP workforce is now open, and has been sent to all heads of section/department in the UK. If you haven't received a survey invitation and think you should have, please contact [Jemimah@ipem.ac.uk](mailto:Jemimah@ipem.ac.uk). We've had a great response already, with over 50% responses so far.

Radiotherapy census data is now available on the [WIU webpages](#).

Summary of the workforce data is that there is a:

- 8.0% vacancy rate in the CS workforce
- 6% vacancy rate in the physics technologist workforce
- 6.5% vacancy rate in the engineering technologist workforce.

For Clinical Scientists, while the percentage of vacant posts has dropped since 2015, the number of vacancies is as predicted by the 2015 forecast, which also predicts vacancies to increase significantly over the next 3 -5 years, so we should not be lulled into a false sense of security.

The physics technologist vacancy rate is markedly improved from 2015, when it was 9.2%. This was not predicted by the forecast, the model for which was built on training places and anticipated establishment expansion. Thus this is either significant additional recruitment from overseas or from the radiographer workforce. Initial discussions suggest radiographers; the WIU would be interested in hearing your thoughts around this, as either recruitment method is likely to be affected in the short-term.

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### And finally...

Congratulations go to the following Full Members who have now become Fellows of IPEM:

- Dr Niall MacDougall, Head of Clinical Dosimetry at Barts Health NHS Trust in London
- Jim Thurston, Head of Radiation Protection and Dosimetry Service at the Royal Marsden Hospital in London.



For more information, see [www.ipem.ac.uk](http://www.ipem.ac.uk) or telephone 01904 610821 or email: [office@ipem.ac.uk](mailto:office@ipem.ac.uk)

### Medical Engineering and Physics

[Numerical validation of a subject-specific parameter identification approach of a quadriceps femoris EMG-driven model](#)

