

# Annual — Review

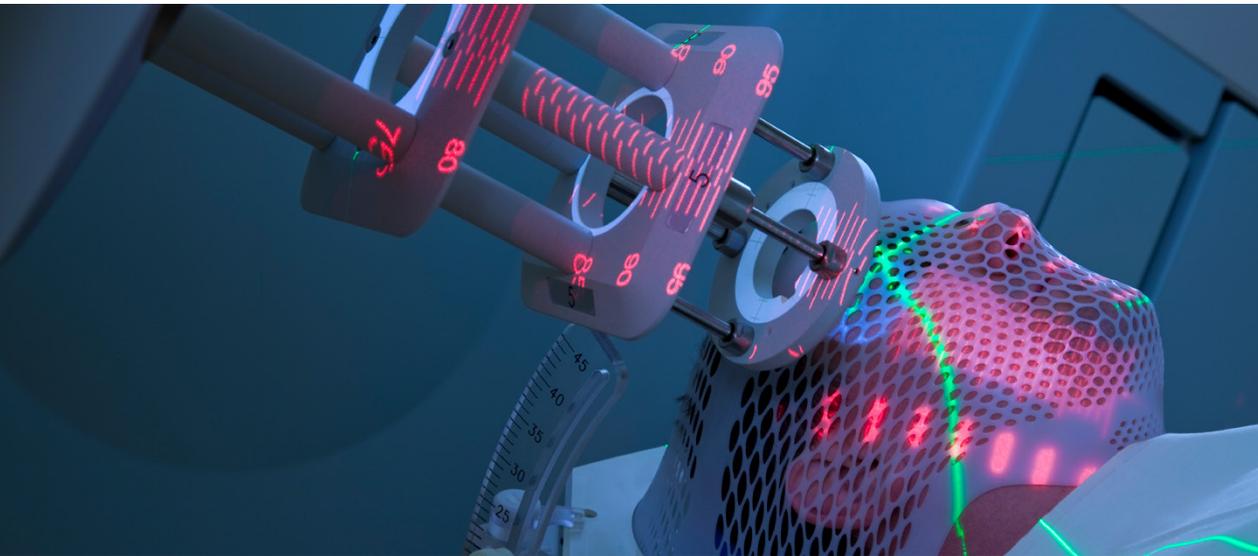
2022

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# President's Report





**As a charity, IPEM's objective is the advancement of physics and engineering applied to medicine and biology, and to advance public education in the field. In essence, our mission is to improve health through physics and engineering in medicine. As a membership body we promote professionalism, as a learned society we offer education, training and development resources, and we are an active voice on behalf of our members. Through the participation of IPEM members, we can generate the resources and opportunities that grow professionalism, drive knowledge-in-practice, deliver innovation and, ultimately, better healthcare.**

IPEM continues to change and adapt to the challenges faced by our members and by membership bodies across the STEM sector. Throughout 2022, we followed the strategy set out in "IPEM 2025", which was adopted in 2021 with the primary aim of reducing our dependence on income from journals.

Apart from the earliest weeks of 2022, the year saw the end of Covid restrictions in the general population, but as members will keenly remember, rules specifically restricting NHS staff from travelling and gathering remained. The impact on IPEM's activities eased and whereas since 2020, events and training had been entirely online, we were able to return to hosting and planning face-to-face meetings. This included rebranding our multi-day, cross discipline event MPEC as the Science, Technology and Engineering Forum, and aiming to host it in early 2023.

For a second year in a row, IPEM sought to invest, projecting to make a loss of £259,576 before investment gains. However, the actual outturn was a loss of £30,260. IPEM therefore ended the year ahead of budget by £229,316. Our aim is to continue to grow our impact, both in terms of the social value created by our work and our ability to drive the change our members want to see in public policy. We will also work to grow our community and our customer base by continually seeking to improve how we serve members and the quality and relevance of our education and training.



Through the participation of IPEM members, we can generate the resources and opportunities that grow professionalism, drive knowledge-in-practice, deliver innovation and, ultimately, better healthcare. //



Whilst the main aim of IPEM 2025 is to increase income from membership, training and events, it is only by being a thriving professional community that we can achieve this. Our Special Interest Groups, Task and Finish Groups, Committees and Councils all continued their valuable work. It was with the aim of better engaging and supporting our most committed and active members and enhancing their experience that IPEM started the journey to achieving the “Investing in Volunteers” certification in 2022. At the time of writing, IPEM has achieved this standard, and we can see through survey results that it is having an impact on volunteer experience. My sincere thanks go to all IPEM’s volunteers.

IPEM is led by our Board of Trustees and Senior Leadership Team and 2022 saw the retirement of Kathryn Surtees, who had served as IPEM’s Head of Operations and Finance for more than a decade. She has my personal thanks and gratitude of all members for the thorough and precise way she carried out her role, which saw us through some difficult episodes. We are fortunate to have attracted Claire Sharpe as

her successor. Claire has a background in charity finance and is leading the implementation of a new Customer Relationship Management (CRM) platform, which will improve the member experience and represents a major investment. Such decisions are enabled through the diligence of staff working closely with volunteers, and I would like to pay tribute to my fellow Trustees, a brilliant group of members and independent volunteers who are committed to our objectives and willing and able to take strategic decisions about our future. As a Board, we can shape outcomes for the profession, something we approach with a keen sense of stewardship, and I would recommend the experience to any aspiring Trustees.

IPEM’s 2022 Annual General Meeting was held online for the third year in a row, facilitating the election of our President-Elect Dr Anna Barnes, who is on course to become IPEM’s first female President. I offer her my warmest congratulations and I look forward to continuing to work with her after I hand over in September 2023.



Dr Robert Farley,  
FIPEM

# Professional Development



The aim of this strand of the IPEM 2025 strategy is to provide excellent learning and development services that meet the needs of the professional community of physicists, engineers and technologists working in physics and engineering in medicine in hospitals, academia and industry.

As the shackles of the Covid-19 pandemic finally began to be shrugged off, scientific meetings, a tremendous source of learning and development for members, slowly returned to being held in person. The first IPEM event to be held in person since before the pandemic was the MR in Radiotherapy meeting in Manchester in May, with many delegates commenting on how great it was to be back meeting people.

While the new 'normal' has seen a rise in the number of meetings being held online, some seven events were still held in person on a variety of topics, from Robustness Planning in Radiotherapy to the Optical Radiation Update. In total, 26 events, webinars and public lectures were held throughout the year. In addition to the scientific events, the Annual General Meeting was held online in September, and overall, more than 1,500 members and non-members attended the scientific meetings and the AGM.

Planning for the inaugural Science, Technology and Engineering Forum (STEF) got underway in earnest during the year, with the organising committee putting together an ambitious programme, cutting across traditional specialism boundaries and bringing together a range of high-profile speakers for the event, which took place at the University of Strathclyde in Glasgow in February 2023.



## Training and courses

Training is a vital element of professional development and there were several new programmes launched during the year.

The Clinical Scientist Guided Training Scheme was developed and began to take shape, building on the Part II Training Scheme and adding new features to it, such as skills workshops supporting CPD, annual reviews with an external advisor, plus additional guidance and support in preparation for assessment by the Association of Clinical Scientists (ACS). By the end of 2022, the decision was taken to close applications to the Part II Training Scheme and the new Clinical Scientist Guided Training Scheme was officially launched at STEF.

/// In total, 26 events, webinars and public lectures were held throughout the year. ///



IPEM continued to accredit a range of new courses. The University of Oxford was awarded preliminary Masters Level Accreditation for the MSc in Medical Physics with Radiotherapy course, which begins in 2023. Imperial College London gained full accreditation for their Molecular Bioengineering programmes, which are part of their MEng and BEng courses. Swansea University and the University of Hull had their Engineering Accreditation Board courses re-accredited. There were five short courses approved or renewed during the year as well. Some 13 short courses were also approved, up from two the previous year.

The IPEM Clinical Technologist Training Scheme continued to have a strong reputation in the sector, offering a robust, externally validated education and training framework and ensuring a workforce fit to practice. Some 47 trainees enrolled on the scheme, up from 37 the previous year.

In March, the first recipients of the new IPEM Magnetic Resonance Safety Expert certification scheme in the UK were announced. The IPEM MRSE Certificate of Competence had taken several years to come to fruition and it was a

notable achievement to see the first six certificates being awarded to members by the end of the year.

New courses were added to the elearning programmes as part of the Health Education England elearning for healthcare partnership. Three new courses were also added to the MRI Safety programme to complement the existing two for those working in specific magnetic resonance safety roles.



### Gold Medals and awards

Gold Medals and Early Career awards were presented to IPEM members who had made outstanding contributions in their field of work. Many of them were presented in person for the first time since before the pandemic by Dr Robert Farley, IPEM's President, at STEF.

**Professor Adrian Crellin CBE**, NHS England's Clinical Lead for Proton Beam Therapy and Consultant Clinical Oncologist at the Leeds Institute of Oncology, was made an Honorary Fellow of IPEM.

The Innovation Gold Medal was presented to IPEM Fellow **Dr Bill Thomson**, former Clinical Director of the Physics and Nuclear Medicine and Radiopharmacy Directorate and Head of the Physics and Nuclear Medicine Department at Sandwell and West Birmingham Hospitals NHS Trust. He received the Innovation Gold Medal for 'A Novel Technique for accurate quantification of Planar NM Images and Activity Measurement Systems'.

IPEM Fellow **Professor John Woodcock OBE**, of the Cardiff and Vale University Health Board, received the Academic Gold Medal for 'Ultrasound Imaging and in studies of the systemic circulation using Doppler Ultrasound'.

/// Three IPPEM members were recipients of the President's Gold Medal for Exceptional Service. ///

The Healthcare Early Career award was presented to **Dr Georgios Ntentas**, a Senior Medical Physicist at Guy's and St Thomas' NHS Foundation Trust in London, for initiating and leading multiple research projects, including treatment-related cardiotoxicity and its prevention in lymphoma patients, collaborating with other clinicians and fostering links with other institutions, such as the University of Oxford and the Prague Proton Therapy Centre.

**Dr Henry Lancashire**, a lecturer in Active Implantable Medical Devices (AIMD) at University College London (UCL), and manager of the UCL Implanted Devices Group cleanroom facility, was the recipient of the Academic Early Career award for his expertise in the development and testing of AIMD, in collaboration with clinicians and patients to ensure relevance and clinical applicability.

Three members were recipients of the President's Gold Medal for Exceptional Service. They were:

**Dr Elizabeth Parvin**, an Honorary Associate in the School of Physical Sciences for the Open University, for her work on Course Accreditation, outreach and outstanding service as an IPPEM volunteer.

**Professor Richard Lerski**, an IPPEM Fellow and a retired Chief Scientific Officer at Ninewells Hospital and Medical School in Dundee, for his work on Course Accreditation, his work with the ACS, and outstanding service as an IPPEM volunteer.

IPPEM Fellow **Robin McDade**, an Advanced Specialist Clinical Technologist in the Nuclear Cardiology Department at Glasgow Royal Infirmary, in recognition of his outstanding service as an IPPEM volunteer and his leadership in clinical technology.



Professor Adrian Crellin CBE



Dr Bill Thomson



Professor John Woodcock OBE



Dr Georgios Ntentas



Dr Elizabeth Parvin



Professor Richard Lerski



Robin McDade



Dr Henry Lancashire



Dr Ben Oldfrey



Dr Jungwook Shin



David Stell

 **Journal awards**

**Dr Ben Oldfrey** was presented with the Jack Perkins Prize for best paper in Medical Engineering and Physics for a collaborative paper entitled ‘Additive manufacturing techniques for smart prosthetic liners’.

**Dr Jungwook Shin** collected the Roberts Prize for best paper in Physics in Medicine and Biology for a collaborative paper entitled ‘HODOS – a computational tool to assess radiation dose to circulating blood cells during external beam radiotherapy based on whole-body blood flow simulations’.

Finally, the winner of the 2022 IPEM/Worshipful Company of Scientific Instrument Makers Early Career Essay Prize was **Dr Gamalendra Shivapatham** for his essay entitled ‘Significant impacts on healthcare through Biomedical Engineering in the next five to 15 years’.

 **Innovation grants**

Four Innovation Grants were awarded during 2022, including:

A study towards an improved understanding of changes in the biomechanical properties of red blood cells in diabetic patients saw **Dr Adesola Ademiloye**, an IPEM member and senior lecturer at the Zienkiewicz Centre for Computational Engineering at Swansea University, awarded a grant to aid research to characterise the relationship between red blood cell (RBC) membrane deformability and alterations in its metabolic and biomechanical properties in Type 2 diabetes (T2DM) patients, by developing and using a novel computational framework.

**Dr Mohammad Sanami**, an IPEM member and programme leader of Biomedical Engineering at the University of Bolton, was awarded a grant to help his research into the optimisation of flow controlled artificial vascular graft. The project’s aim is to develop an optimised, consistent and reliable vascular graft for small-diameter vascular grafts with internal flow control profiles.

 **PhD in Work bursary**

David Stell became the second recipient of the IPEM PhD in Work bursary, which was introduced in 2021. The bursary is to help students wanting to undertake a part-time PhD in an IPEM-related field of interest at a UK university or research institute.

David is a Senior Clinical Engineer/Clinical Scientist at Guy’s and St Thomas’ NHS Foundation Trust in London and his project is to investigate a very common problem faced by clinical engineers, that of the need to prioritise one medical device over another for purchase, for maintenance or for other kinds of resource allocation.

His research aims to develop analytical ways of determining the relative clinical values offered by different medical devices using datasets available to clinical engineers working at NHS trusts.

There were also 10 winners of the IPEM Student Prize for the best project on an IPEM-accredited MSc course, who each received £250 and a certificate.

IPEM's four international peer-reviewed journals are a great benefit to members, with Full Members and Fellows enjoying free access.

 Journals

**1 Physics in Medicine & Biology**

Submissions:	1,498
Publications:	454
Issues:	24
Impact Factor:	3.5
Downloads:	1,085,356
Ranking:	
>	51/96 (Q3) Engineering, Biomedical
>	38/135 (Q2) Radiology, Nuclear Medicine & Medical Imaging

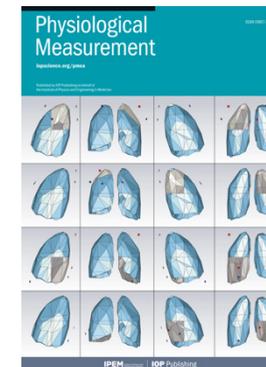
Physics in Medicine & Biology enjoyed another healthy year of submissions, fuelled by the growing number of submissions to the Focus Collections and Topical Reviews. Some 31 Topical Reviews were published, the highest number to date, and 27 Focus Collections papers were accepted. These tend to attract the best authors and also tend to be more highly cited. They also contributed to the higher number of downloads that the journal received. The year also saw an even greater geographic diversity of publications.



**2 Physiological Measurement**

Submissions:	501
Publications:	130
Issues:	12
Impact Factor:	3.2
Downloads:	323,448
Ranking:	
>	29/79 (Q2) Physiology
>	29/70 (Q2) Biophysics
>	56/96 (Q3) Engineering, Biomedical

Physiological Measurement saw another big increase in its Impact Factor, for the third year in a row and the first time it has gone above 3 – a 19% increase. It also moved up rankings into quartile 2 in two categories. Submissions remained stable and there was a healthy number of submissions received for the Focus Collections and Topical Reviews, with the highest number of Topical Reviews published to date (11).



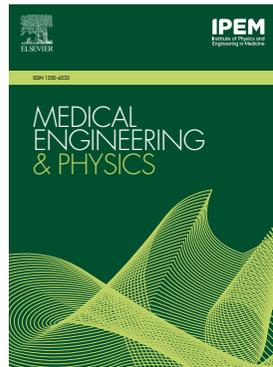
/// 31 Topical Reviews were published for Medical Engineering in Physics, the highest number to date. ///

### 3 Medical Engineering and Physics

Submissions:	821
Published Articles: (Reviews and Original Research)	165
Published Articles: (Technical Notes and Short Commentaries)	20
Issues:	12
Impact Factor (2019):	2.2
Downloads:	390,275

Ranking:  
> 71/96 Engineering, Biomedical

Medical Engineering & Physics, edited by Stephen Payne, continued to provide a forum for the publication of the latest developments in biomedical engineering and reflects the essential multidisciplinary nature of the subject. It aims to keep both engineers and clinicians abreast of the latest applications of technology to healthcare through the publication of full length original research and review articles, Special Issues around themed topics, and Technical Notes and Short Communications.



### 4 IPEM-Translation

Submissions:	26
Publications:	11
Issues:	4
Downloads:	4,571

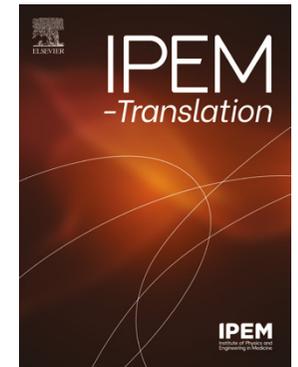
IPEM-Translation launched in November 2020 and provides a forum for the publication and sharing of best practice among all those involved in the research and development of technologies for use in the diagnosis and treatment of disease and the rehabilitation of patients.

In addition to traditional clinical engineering, biomedical computing, instrumentation, medical imaging technology and rehabilitation practice, its scope extends to more translational research and development leading to the adoption of new medical devices and procedures, including potentially disruptive technology and the implications that their introduction may have for healthcare service provision.

The journal is a fully gold open access journal so all papers published are immediately available for all to read. Currently, and until the end of 2023, all authors benefit from a 100% waiver on the Article Processing Charge – if their work is accepted for publication, it will therefore be made openly available at no cost to the author.

Articles can be submitted via Editorial Manager®

The journal will soon publish its first Special Issue entitled Tackling Challenges Together: Collaboration, Innovation and Acceleration guest-edited by Professor Andrew Reilly. This will build on the key themes addressed at the inaugural Science, Technology and Engineering Forum.



# Community





**Growing and nurturing a vibrant community of practice through our membership, with high professional standards at its core, outstanding volunteer engagement and a real commitment to equality, diversity, and inclusion, is the second strand of IPEM's 2025 strategy.**



National quality mark from liV

## Volunteer help and support

Volunteers are the heartbeat of IPEM in helping deliver its charitable objectives and steps to improve how volunteers are engaged with and supported continued to take giant strides forward during 2022.

## Investing in Volunteers

A process which began at the end of 2021 continued throughout the year as IPEM began the process of applying for Investing in Volunteers (liV) status, the UK quality standard for good practice in volunteer management.

National Office staff undertook initial training as the first step towards gaining the standard, a key part of IPEM's commitment to demonstrating just how valued our outstanding volunteers are. The work continued throughout 2022, involving many volunteers taking part in several interviews and assessments.

IPEM was assessed against six quality areas and excelled in all aspects of working with its volunteers. These were: vision for volunteering, planning for volunteers, volunteer inclusion, recruiting and welcoming volunteers, supporting volunteers, and valuing and developing volunteers.

We were delighted to receive the national quality mark from liV, which was awarded to IPEM in early 2023.

The Volunteer Forums, a new venture introduced the previous year, continued to prove to be an invaluable way of keeping our valued volunteers up-to-date with what's happening in IPEM, hear about new exciting developments and raise any questions directly with the President, CEO and the National Office team. Dr Robert Farley, IPEM's President, hosted three Forums throughout the year.

## IPEM website

A brand-new look for IPEM came in the spring of 2022, with the launch of an entirely new website designed to support members as well as inform and engage stakeholders, partners and the wider public.

A modern, responsive platform, [www.ipem.ac.uk](http://www.ipem.ac.uk) is now serving the needs of users much more effectively, and is helping to underpin growth in membership, offering professional development opportunities for members, a sense of community and a place to demonstrate leadership and advocacy on the key issues impacting healthcare science.

The project began in 2021 with the launch of the IPEM 2025 strategy and the clear need to overhaul the existing website with a platform which could address the needs of a respected, diverse and international membership organisation, with a mission to improve health through physics and engineering in medicine.

The website was delivered on time, and whilst it is still developing and evolving, it addresses many of the needs identified as key by IPEM members.





Dr Robert Farley

 **Equity, Diversity and Inclusion (EDI)**

Inclusiveness is one of our three key strategic values and we want it to be part of everything we do and every decision we take.

As signatories to the Royal Academy of Engineering’s Diversity Concordat and the Science Council’s diversity declaration, we agreed to achieve a number of objectives. We have, however, gone much further, with our own EDI policy and an extensive EDI action plan covering all areas of IPEM.

In 2023, Dr Robert Farley, IPEM’s President, signed a new Science Council EDI declaration, with the key change being a focus on ‘equity’ rather than ‘equality’. As signatories we committed to creating greater opportunities for people from under-represented and minority backgrounds to fulfil their scientific potential by challenging inequities and creating more inclusive practices.

 **Outreach and public engagement**

We supported outreach and public engagement events throughout 2022 across the UK, with IPEM volunteers hosting hospital open days, school visits and science fairs.

Two members were also awarded prizes and awards for their outreach work.

Dr Ejay Nsugbe, an independent researcher in upper-limb prosthesis control, was awarded IPEM’s Spiers’ Prize for Outreach. He has been active in outreach for a number of years. In 2019 he won the “I’m an Engineer Get Me Out of Here” competition and was able to show his work on upper-limb prosthesis control to schoolchildren, showcasing how

clinical engineering can bridge the gap between the limits of medical capabilities and patients’ needs.

In 2020, he represented the Institute of Engineering and Technology on a project, which included the Royal Academy of Engineering, the Association of Female Women Engineers Nigeria, and University of West of Scotland, aimed at training 200 women teachers in sub-Saharan Africa towards the effective delivery of STEM content to students.

Elizabeth Davies, a medical physicist at University Hospitals of Leicester NHS Trust, won the Roy Ellis Patient Benefit Award for her work in supporting the provision of better quality and more consistent information on radiation risk to patients.

She carried out a survey of the public and the results led to the development of [www.informed-scan.com](http://www.informed-scan.com), a website about medical imaging and radiation risks, to educate both patients and the healthcare professionals that look after them.

A series of webinars were held in conjunction with City, University of London. These included ‘Empowering Healthcare with AI’, ‘Digital/technological interventions’ and ‘Technological innovations in optometry’.



Dr Ejay Nsugbe



// IPEM became the headquarters for a community of more than 150,000 medical physicists and biomedical engineers across the world. //

The latest in 'The Science & The Scientists' leaflet and poster series was published, on lasers in medicine. The leaflets and posters in the series continue to be used extensively by members and volunteers for a variety of outreach activities.

 **World headquarters**

IPEM became the headquarters for a community of more than 150,000 medical physicists and biomedical engineers across the world working on the physical and engineering science of medicine.

The International Union for Physical and Engineering Sciences in Medicine (IUPESM) was incorporated as a company in the UK, with its registered office as Fairmount House in York, the home of IPEM.

IUPESM was created in 1980 as a union of the International Organization for Medical Physics (IOMP) and the International Federation of Medical and Biological Engineering, with the aim of gaining visibility and global recognition of the professions of medical physicists and biomedical engineers. IOMP has had Fairmount House as its registered office as a company in the UK since 2018.

IPEM Fellow Dr Slavik Tabakov, Emeritus President of IUPESM, and Dr Robert Farley, IPEM's President, unveiled the company plaque at Fairmount House.



# Leadership



Championing the importance of professional knowledge and innovation, identifying and raising awareness of the key challenges that lie ahead for physics and engineering in medicine and being a trusted and effective voice for the profession is the final strand of IPEM's 2025 strategy.



Dr Anna Barnes

 **New President-Elect**

A defining moment in the history of IPEM was achieved during the year as the first woman to become President-Elect was appointed.

Dr Anna Barnes, an IPEM Fellow, will become the Institute's first female President this September after her appointment was confirmed at the Annual General Meeting.

Dr Barnes said: 'My aim is not to be the first and only female President this decade and I feel really privileged to take on this role at this exciting time for IPEM.'

A Clinical Scientist in the School of Biomedical Engineering and Imaging Sciences at King's College London, and a Director of the King's Technology Evaluation Centre at KCL, Dr Barnes has been involved as a volunteer with IPEM throughout her career, including senior roles as Vice President External and Vice President Academic.

We look forward to Dr Barnes' ideas for taking IPEM and the medical physics and clinical engineering professions forward when she becomes President.

As a footnote, Dr Barnes will be the first woman President of IPEM in its current iteration. IPEM Fellow Dr Penelope Allisy-Roberts OBE was President of the Institute of Physical Sciences in Medicine between 1990-92, a forerunner of what became IPEM in 1997. Christine Segasby was President of the Association of Medical Technologies between 1992-94, another forerunner of IPEM.

**// I'm really looking forward to my presidency and to pushing forward on important matters like equity of opportunity, diversity of thinking and inclusion across academia, industry and public healthcare. //**



Radionuclide Supply in the UK



Science Leadership Strategy



### Science Leadership Strategy

A key part of the new overall IPEM strategy was the development of a Science Leadership Strategy to build a ‘Futures’ agenda for physics and engineering in medicine, which encompasses horizon scanning, identifying the key challenges and drivers of change, and the development of professional knowledge and innovation.

The strategy was officially unveiled at the Annual General Meeting and is built around grand challenges, emerging trends and actions. It identifies six topics encompassing science and technology trends in healthcare, environmental and societal shifts and considers broader social and professional factors such as NHS transformation relating to digital and achieving net zero.

It provides a base for IPEM’s broad membership to work together to shape best practice at the forefront of innovation and a sense of direction and focus as to where IPEM should concentrate our efforts.

The strategy also forms the basis for a special Science Leadership Day, with selected IPEM volunteers and members helping to produce a shared vision of the future for the professions IPEM represents and the Institute itself. It takes place on the same day in September as the Annual General Meeting at which Dr Barnes will be confirmed as President

### Campaigns

One of the key ways IPEM offers a trusted and effective voice is in the area of public policy and consultations. During the year, members shared their expertise and made valuable contributions to eight consultations.

### Radionuclides

The future supply of radionuclides in the UK for use in cancer diagnostics and therapeutics was discussed at a roundtable event convened by IPEM, together with the Royal College of Radiologists and the Society of Radiographers. It brought together a host of like-minded organisations, charities, academics, and nuclear and cancer experts to discuss the growing issue of radionuclide supply in the UK.

In recent years, the strength of the UK supply of radionuclides has been called into question for a variety of reasons, including the UK’s departure from the EU, the war in Ukraine, and the decommissioning of reactors in Europe.

The meeting discussed the challenges facing supply and the possibility of forming a coalition to campaign for the development and implementation of a domestic supply of radionuclides in the UK.

/// In 2021, IPEM pulled together a group of like-minded organisations to make the case for the statutory registration of clinical technologists. ///



Radiotherapy Workforce Census Summary Report

While the idea of a coalition did not gain any further traction, IPEM continued to take a stance on the issue. In February 2023 the matter was debated in the House of Commons, with IPEM members providing information and insights in order to raise the profile of this crucial issue.

IPEM worked with Liz Saville Roberts, Plaid Cymru MP for Dwyfor Meirionnydd and the party's Westminster Leader, to provide much of the information for the debate, and she publicly thanked the Institute for its help in drawing attention to the matter.



### Clinical technologist registration

Back in 2021, IPEM pulled together a group of like-minded organisations to make the case for the statutory registration of clinical technologists. While the group initially held a lot of productive meetings, no further progress has been made on the issue, in part due to a lengthy delay in the government publishing a crucial consultation outcome.

Those meetings included MPs from both sides of the House of Commons, the Professional Standards Authority, Health Education England, officials from the Department of Health and Social Care, the Deputy Chief Scientific Officer for NHS England, and Scotland's Chief Professional Officer for Healthcare Scientists.

IPEM did submit a response on behalf of the group to a Department of Health and Social Care consultation on healthcare regulation, which highlighted a number of areas where it was felt a wholly inconsistent approach to statutory registration was being applied, for example, radiographers and clinical technologists working in nuclear medicine.

However, despite the consultation closing in March 2022, at the time of writing the Department had still not published its findings, which could potentially open the way for the statutory registration of clinical technologists.



### Workforce shortages

'Crisis point', barely 'adequate' staffing, a workforce 'on its knees', 'perfect storm', and 'sinking ship' are just some of the phrases which summed up a year of shocking reports on the state of the workforce shortages within the medical physics and clinical engineering (MPCE) community.

It was a constant and consistent message from IPEM as every new survey and report confirmed what the Institute has been saying for years about workforce shortages in MPCE – it is not just shortages of doctors and nurses putting patient safety at risk.

Staffing of radiotherapy centres was described as barely 'adequate', with little room for training new staff or implementing the latest treatment technologies to improve care, according to IPEM's Radiotherapy Workforce Census Summary Report.

Within months of that report's publication, a letter from 34 Heads of Radiotherapy Physics departments to the then Health and Social Care Secretary Sajid Javid talked about a 'crisis point' being reached by radiotherapy departments treating cancer patients due to a lack of investment, out-of-date equipment and a workforce 'on its knees'.

/// A snap survey by Radiotherapy UK, supported by IPEM, found a chronic and shocking underinvestment in workforce. ///

An investigation by BBC Newsnight and the Health Service Journal found the number of cancer patients waiting three months or longer for treatment following GP referral was more than 10,000 patients a month and referenced the letter from the Heads of Radiotherapy Physics departments as more evidence of a system in crisis.

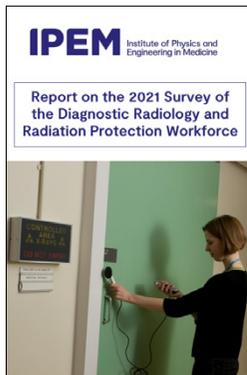
The Imaging and Oncology Forum, of which IPEM is a member, talked about the service pressure in diagnostic imaging, with imaging services being brought close to failure due to a range of pressure points. It also echoed IPEM's own Diagnostic Radiology and Radiation Protection Workforce Report findings that patients are facing longer waiting times for a range of diagnostic scans as the workforce is less than half the recommended level.

The threat to patient safety due to a lack of funding for Clinical Scientist training places in Scotland saw Dr Robert Farley, IPEM's President, write to Karen Reid, the Chief Executive Officer of NHS Education for Scotland (NES), about the issue. The response was, however, disappointing as NES said there would be no increase in funding.

A snap survey by Radiotherapy UK, supported by IPEM, found a chronic and shocking underinvestment in workforce, machinery, IT equipment and technology. The fourth survey of its kind in just two years, it showed a worrying trend that the situation in the service is getting worse.

The concerns and issues over the workforce shortfalls and recruitment outlook within MPCE prompted IPEM to issue a statement on the issues being faced, restating calls for urgent action to be taken to address the shortages.

Many hopes were then pinned on the long-awaited and delayed NHS England Long Term Workforce plan to address these concerns. When it was eventually published, however,



Diagnostic Radiology and Radiation Protection Workforce Report



just days before the 75th birthday of the NHS, there was virtually no mention of the MPCE community in it.



### Cancer services

As well supporting surveys by Radiotherapy UK on the workforce issues, IPEM also submitted responses to consultations on cancer services.

Two reports on these consultations said the Government was making 'inadequate' progress against its commitments on cancer services.

An evaluation by the House of Commons Health and Social Care Committee Expert Panel on Cancer Services rated Government progress as 'inadequate' against commitments made to improve cancer services.

/// IPEM responded to the Department of Health and Social Care 10-Year Cancer Plan to help inform the development of a plan for how the Government intends to improve cancer care. ///

And a second report published days later by the Health and Social Care Committee on Cancer services found the NHS in England was struggling to make progress on diagnosing three-quarters of cancer cases at an early stage due to staffing shortages following the Covid-19 pandemic.

IPEM also responded to the Department of Health and Social Care 10-Year Cancer Plan to help inform the development of a plan for how the Government intends to improve cancer care.

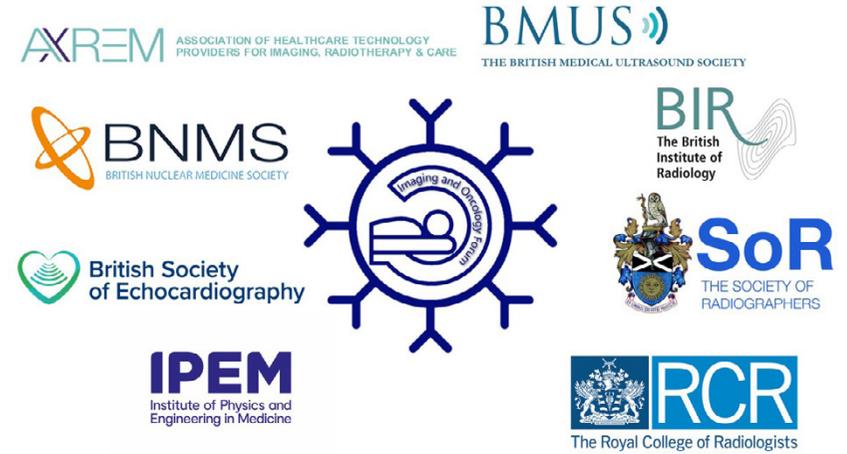
Several IPEM Special Interest Groups and the Radiotherapy Professional Standards Panel provided input to these consultation responses.



### Policy and position statements

During the year an IPEM expert working group produced an updated second edition of the best-practice guidance for the in-house manufacture of medical devices and non-medical devices, including software in both cases, for use within the same health institution.

The Radiotherapy Board, of which IPEM is a member, produced a position statement on Climate Change and Environmental Sustainability, outlining ways radiotherapy can play its part to safeguard the environment.



Imaging and Oncology Forum Members

# Finance



The Group's cumulative surplus stood at £4,204,557 on 31 December 2022. Of this £372,099 is restricted; £3,832,458 is unrestricted, of which £485,285 is currently financing fixed assets and £1,666,231 is designated, leaving free reserves of £1,680,942, comfortably in excess of the target operating reserve of £750,000. We entered 2023 with a robust balance sheet and are confident in our ability to withstand any financial uncertainties and challenges over the medium-term.

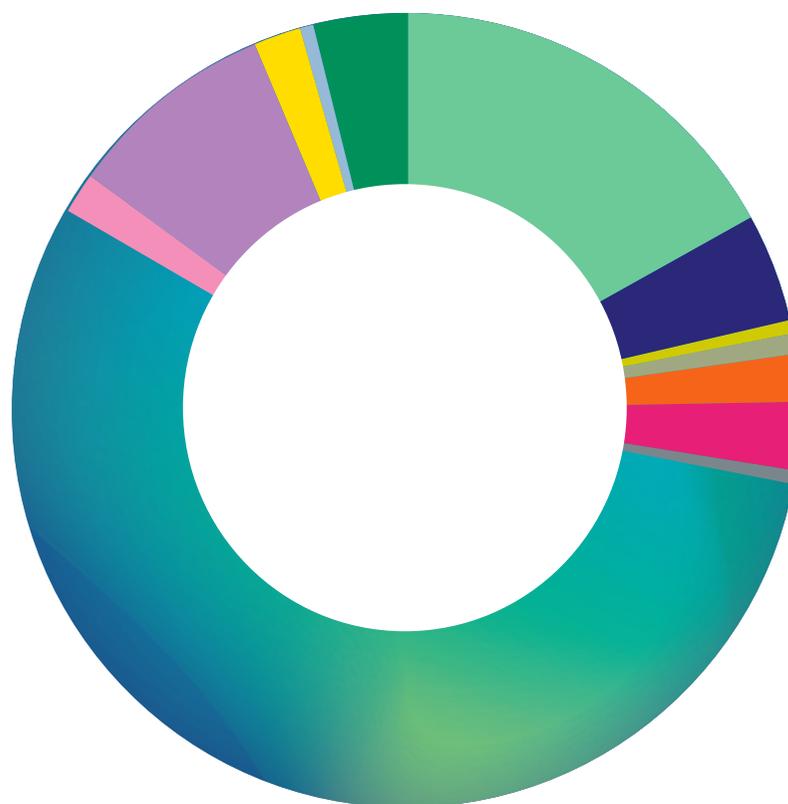


### Journals

Journal income fell as predicted in 2022 with the move to open access publishing, a decrease of 6.91% compared with 2021 income.

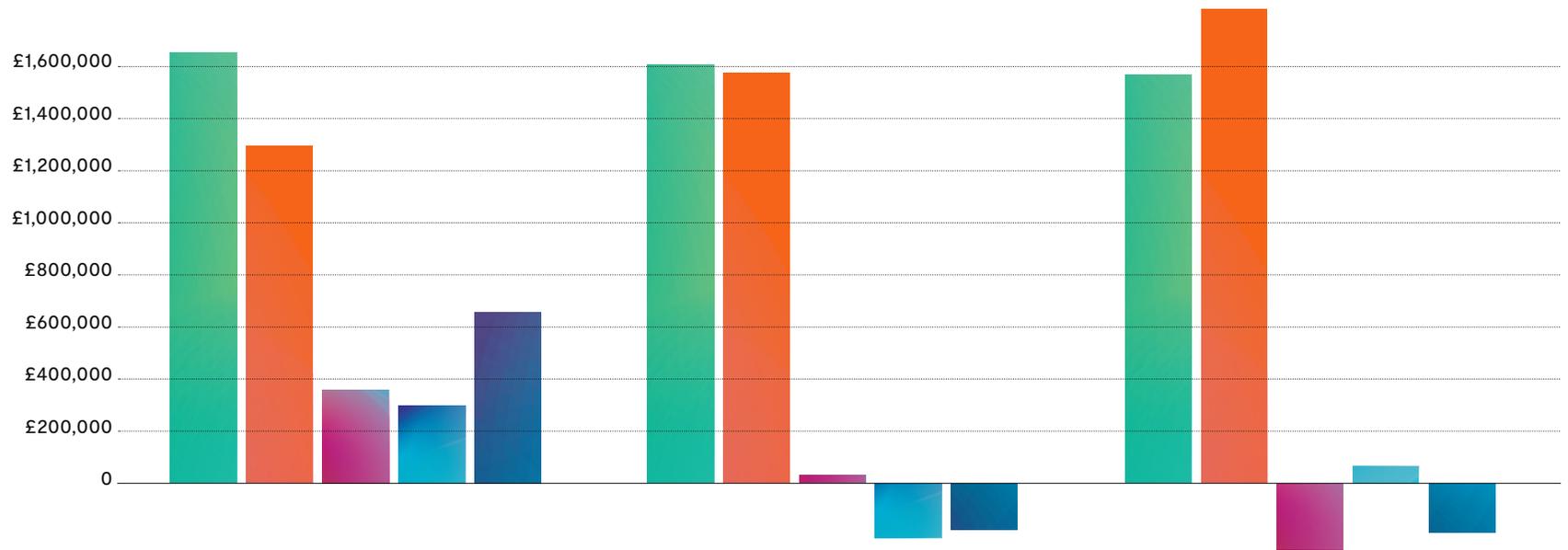


### IPEM Consolidated Income 2022



	Membership Subscriptions	£274,327
	RCT Registrations	£72,847
	Journal Subscriptions	£6,285
	Advertising	£16,607
	Training Scheme Fees	£27,449
	International Support	£45,316
	Other Charitable Income	£8,981
	Journal Income	£886,594
	Books and Reports	£26,737
	Scientific Meetings	£141,053
	Income from other Trading Activities	£31,602
	Investment Income	£7,665
	Other Income	£60,105
	<b>Total</b>	<b>£1,605,568</b>

£ Consolidated Statement of Financial Activity 2021-22



2021 Actual		2022 Actual		2022 Budget	
Income	£1,654,086	Income	£1,605,568	Income	£1,569,893
Expenditure	£1,295,043	Expenditure	£1,574,330	Expenditure	£1,823,465
Net income / (expenditure)	£359,043	Net income / (expenditure)	£31,238	Net income / (expenditure)	-£254,572
Unrealised Gain / (losses) on Investments	£298,707	Unrealised Gain / (losses) on Investments	-£207,564	Unrealised Gain / (losses) on Investments	£66,216
Net Movement of Funds	£657,750	Net Movement of Funds	-£176,326	Net Movement of Funds	-£188,356

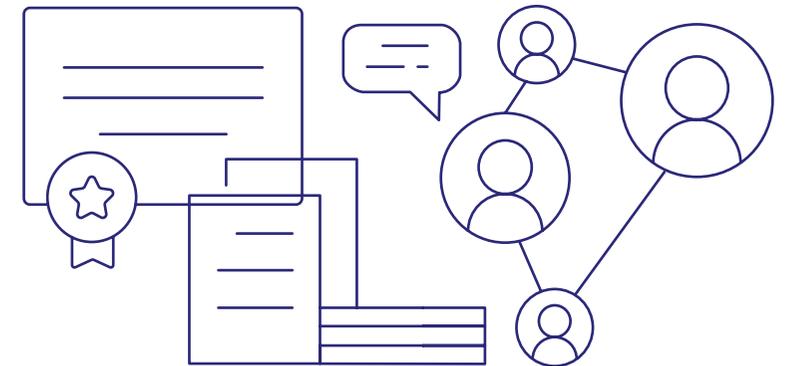
# Year in numbers



## Number of members

# 5,145

Full Members	2,533
Affiliate Members	1,191
Associate Members	1,128
Fellows	280
Professional Affiliate Members	13





Our members...

8

Contributed to **eight policy consultations**

11

Published **11 new e-books** to help members keep up-to-date with current thinking and developments in their field and commissioned another seven

26

Held **26 events, webinars and public lectures**, attended by more than 1,500 people, both members and non-members

150

Supported **150 members** on national, European and international standards groups

1.8 million

There were **1.8 million downloads** from IPEM journals

£56,438

Total prizes, grants and awards

ipem.ac.uk



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