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EFOMP Medal of Honour 2024: Meet Professor Slavik Tabakov

The EFOMP Medal honours an individual who has pursued an outstanding and internationally acknowledged contribution to the advancement of medical physics. EFOMP's Awards and Honours Task-Group has awarded the prestigious EFOMP Medal to Professor Slavik Tabakov this year, in recognition of his numerous contributions to our profession; a well-deserved honour that highlights the significant and long-lasting impact of his work.

Professor Tabakov, thank you for having this interview with me – as an early career medical physicist it is a great pleasure that I get to speak to someone as accomplished as you. Congratulations on receiving the EFOMP Medal Award! How did it feel to be recognised with such a prestigious honour?

I am very grateful to the EFOMP Leaders and Council for awarding me the EFOMP Medal. My largest projects in e-learning and e-Encyclopaedia are now used globally – but these were European projects for which I have worked with colleagues from almost all European countries. Also, my main activities are in the field of medical physics education and I accept the Medal also as a recognition for the colleagues, who like me work in education. Every development through research has three components: personal innovative ideas, an excellent research team and sound education. Many years ago, I decided to focus on one area of our profession and my decision was to dedicate my further professional life to medical physics education. It was not an easy decision, as we all love research, but I am happy that I chose this field, as it is helping thousands of colleagues globally.

I am especially grateful to my colleagues from Bulgaria (BSBPE) for the nomination and my colleagues from the Baltic and other states, who supported it.

Looking back at your journey, what initially inspired you to pursue a career in the field of medical physics and what motivated you to become so actively involved with the various International Organisations that you've served throughout the years?

In brief - I grew up in a family of medical doctors; my grandfather had the first X-ray fluoroscopic equipment in Bulgaria installed in our house. On top of this I have always loved sciences and thus medical physics became a natural union of both fields. I started my career in the Medical University of Plovdiv, Bulgaria, where I later built an MSc programme and continue to be involved.

In my time of study, before the 1980s, there were very few educational programmes focused on medical physics. At the same time, the 1970s and 1980s were revolutionary for medical diagnostics through the introduction of many new imaging methods. This revolution was one of the main advances in medicine of the 20th century. It was obvious that the effective introduction of this new medical technology into clinical practice required many more specially educated professionals – medical physicists and biomedical engineers. We should not forget that by 1985 there were only about 10,000 medical physicists in the world [1]. Most of these colleagues were working in the field of Radiotherapy in the developed countries. The number of medical physicists in Low and

Middle Income Countries (LMIC) was minimal and the distribution of medical physicists in the world is still very uneven [2]. It was obvious that the profession needed significant growth, which could be achieved only through education. Thus in 1989, I decided to dedicate my professional life to medical physics education, and after my family moved to the UK in 1991, I started many educational projects with my colleagues from King's College London, specifically mentioning Prof. Colin Robers and Dr Neil Lewis. Having said that, my wife and colleague Dr Vassilka (Assia) Tabakova was my most staunch supporter and collaborator. The 1st International Conference on Medical Physics Education, which we organised, was followed by the development of MSc programmes, initially in Bulgaria, and later by similar projects in Lithuania, Latvia and Estonia. EFOMP supported all these projects and I am very happy that these were some of the first bridges in our profession between Western and Eastern Europe.

I still continue to have activities in the IUPESM. Now looking back at these 35 years, I am happy to have collaborated and coordinated many international projects in medical physics education, of which 7 large European projects and over 20 IAEA projects. I would additionally mention the ICTP College of Medical Physics in Trieste, Italy, which we both with Prof. Perry Sprawls transformed in 2002 as a "*Train-the-Trainer*" activity (Figure 1). This College has educated over 1500 students from 82 LMIC, many of them developing spin-off educational activities in their own countries [3]. Additionally, I supported the establishment of 16 MSc programmes in different countries. All these activities are a significant part of the overall professional development which led to the tripling of medical physicists globally, compared with 1985, and most importantly increasing the number of medical physicists in LMIC, especially in Central and Eastern Europe [4], but also in Asia, Africa and Latin America.

Figure 1. Prof. Tabakov with colleagues and participants of the ICTP College on Medical Physics 2024, in Trieste, Italy.

I strongly believe in teamwork and the International Organisations in our field provide the background exactly for such joint activities. In 1997, I was elected a member of the IOMP Education and Training Committee. Later in 2000, I was elected Chair of this Committee and continued to work for the IOMP Executive Committee until 2022 (being President in the period 2015-2018), and

Undeniably, your contributions in our field over the years have been numerous — ranging from, as you mentioned, being the Founding Director of multiple MSc' Programmes, including two at King's College London, leading various international projects and developing e-Learning, to authoring and co-authoring multiple textbooks. But, is there a particular

project or achievement that you are most proud of?

We formed an excellent team in King's College London (KCL) and King's College Hospital (KCH). I am happy that when I took the lead of the MSc in KCL it had 8 students; later we founded with my colleagues two further MSc's, and when I retired recently the medical physics students there were above 100, making it one of the largest such MSc courses in the world (Figure 2). It was very hard work, but again the excellent team was of great importance. I am also very proud of our students and their achievements – for 25 years their projects received over 30 national and international awards [5].

Figure 2. Prof. Tabakov with KCL students in 2016.

Considering the e-learning projects, I am very happy with the results; we've developed not only the first e-Books and educational image databases of our profession, but these were some of the first e-Books with ISBN in the world. It was again a fantastic teamwork with colleagues from the UK, Italy, Sweden, Portugal, France, Ireland, Czechia and Bulgaria. This was a sequence of EU projects which also developed the first educational web site in medical physics, which is still active, and in 2004 our projects were awarded the inaugural EU Award for Vocational Education – the Leonardo da Vinci Award. This was an enormous success for our profession and activated many colleagues in various countries to work in the field of e-Learning, where medical physics has a steady place as one of the founders [6, 7]. These projects were not only supported by EFOMP, but also were the first to include the Federation as a project partner.

However, if I have to specify one project, which I consider as the "Jewel in the crown", this will be the EMITEL project, which developed the unique e-Encyclopaedia of Medical Physics with Scientific Dictionary of terms, translated to 32 languages. This enormous project included over 150 specialists developing the encyclopaedic articles and over 200 colleagues doing the translations. As the project developer and coordinator, I am very grateful to all these colleagues from about 50 countries who worked voluntarily to develop this huge educational resource [8,9], which is now used, monthly, by over 5000 colleagues in the world (Figure 3). I have to specifically mention Prof. Magdalena Stoeva and Dipl .Ing. Assen Cvetkov, who developed the website of this free resource and my wife Dr. V Tabakova, who was coordinating the International Network. This project was the first to include IOMP as a project partner. We recently completed the Update of the Encyclopaedia and Dictionary, which were published by the CRC Press and are now being updated on the internet.

Together with my wife we described these pioneering e-learning projects in a popular free ebook, which to our surprise has over 40,000 downloads [10]. By coincidence many of these projects have an anniversary this year [11].

To express my gratitude to my UK colleagues, who were firm supporters and contributors in these projects, I gifted to our MEP Department at KCL/KCH our first CD-ROM with ISBN, while I gifted to the IPEM my IOMP Harold Johns Medal for International Education Leadership.

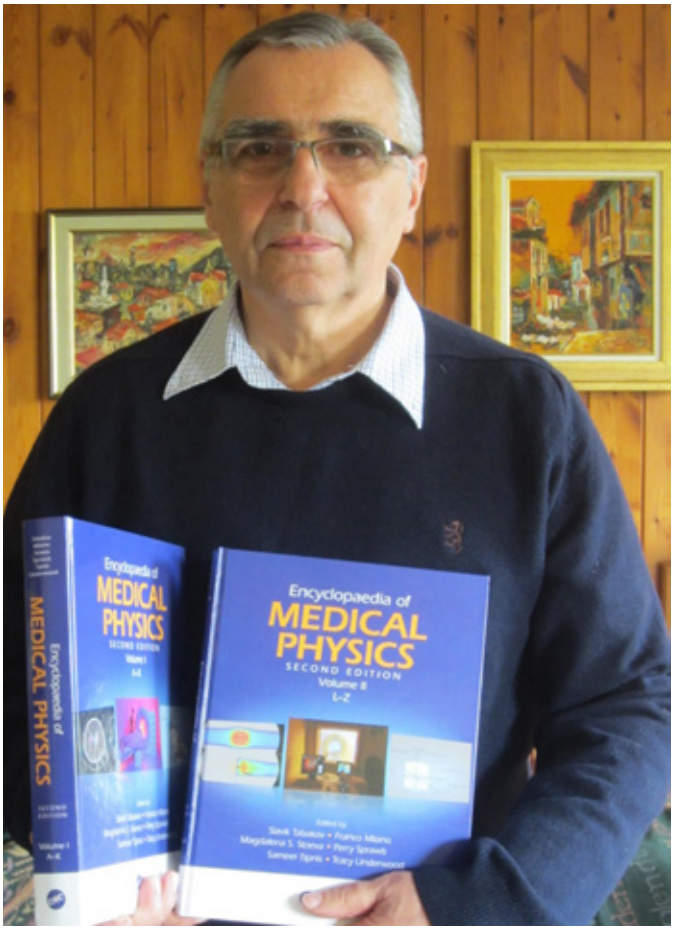

Figure 3. Prof. Tabakov holds the 2nd Edition of the Encyclopaedia of Medical Physics, that includes over 3300 cross-referenced full entries related to medical physics and associated technologies.

Throughout your career, you've witnessed significant advancements in medical physics. What do you think is the most exciting development currently happening in the field, and where do you believe we should focus our attention in terms of research moving forward?

As a whole, medical physics is an extremely dynamic profession. In my professional life in medical imaging I saw the introduction of various scanners, later of digital detectors and PACS, now of Artificial Intelligence (AI) in imaging and radiotherapy. However, one could see a clear pattern of fast research groups going ahead, with the industry, and huge groups of colleagues who after this have to implement the new equipment and methods in clinical practice, and in the education of the coming new generation. The gap between the two groups has to be decreased. Due to this reason while I was IOMP President, I introduced an Award for colleagues who have not only invented, but also introduced in clinical practice their innovation (the IOMP John Mallard Award) [12].

In general, we have to encourage colleagues to write more books – both as detailed descriptors of the innovation and as guides for its implementation and also educational resources. With Prof. Kwan Ng and Prof. Russell Ritenour, we are Editors of the IOMP-CRC Series in Medical Physics and Biomedical Engineering. For 15 years we have supported the publication of about 100 textbooks, over 2/3 of all books in the Series. We would like to persuade our colleagues, additionally to the excellent research papers – which we all enjoy – to write books, which are more time consuming, but extremely important for the profession. To further support this process, we have to take an active role in the update of academic promotion in Universities, which currently places a heavier emphasis on paper publishing, compared with book publishing.

New medical equipment and methods in Radiotherapy develop rapidly, but as my sub-field is imaging, I shall say several words about my views related to these advancements. AI is definitely the field of the new generation. As a specific advice – I think we have to more actively shape the introduction of AI in our profession. I see this in three main phases. The immediate one is to have a model-syllabus for an academic module e.g. "AI in Medical Physics" – this will allow a synchronised approach in the early introduction of AI in the specificities of our scientific field. The mid-term phase I see as an active link between AI and Quantitative Imaging (QI), which is a very powerful diagnostic tool. It is important to work with our medical colleagues for increasing its clinical application. In this connection I see the long-term phase as better collaboration with our medical colleagues in AI and other novelties, which will additionally stabilise the place and appreciation

which medical physics has in healthcare.

I absolutely agree with you, the use of AI in diagnostic imaging is "the new black" and we, as medical physicists, should guide its clinical implementation. As someone who has shaped the careers of many in our filed, what advice would you give to early career medical physicists, like myself, who aspire to make a meaningful impact?

Our profession, which is in the interface with medicine, is so multifaceted and dynamic that detailed advice today would need to be updated in several years. However, something of special importance is cross-border collaboration – not only with our medical colleagues and biomedical engineers, but also with colleagues from other fields of science. Physics is philosophy and in order to progress in it, one needs a broad horizon, which can be achieved best through interdisciplinary teamwork.

We have to constantly update our knowledge and professional development. To that end, together with Prof. Perry Sprawls, we founded the IOMP Journal Medical Physics International, dedicated to education and professional development in our profession [13]. Together with our own progress we have to also help the progress of colleagues in other countries. In this connection I would encourage colleagues to volunteer and be active in the National Societies and International Organisations in our profession. In particular the International Organisations have huge impact on the profession, as: EFOMP, which collaborates with the EU in order to support various educational activities and Safety regulations development; IOMP, which spreads the knowledge from developed countries to the LMIC, thus achieving global development of the profession; IUPESM (the Union between IOMP and IFMBE), which arranged the global recognition of our scientific fields and professional occupations. These activities are slow, but extremely powerful and they are paramount for professional development, and also for funding and dissemination. Most importantly, the activities of the National and International Organisations create the foundation of the profession and from there indirectly support healthcare.

Thank you very much for your time. Looking forward to your award presentation in Trieste next May during the Alpe Adria Meeting. Is there any last remark you would like to share with our readers? What are you most excited about for the future?

Thank you for the excellent questions, dear Eleni. I would only add that our profession is unique and all of the many colleagues I have met over the world appreciate it and love it. Our main aim is the benefit of the patient and we must keep this focus in all our practice and research, and in all our life. I am really excited to see how the new generation of talented medical physicists, some of them students of mine, are tirelessly working for the development of novel medical equipment and methods and their clinical applications, and some are already lecturers and top-level professionals. I sincerely wish all colleagues much success in our most human profession.

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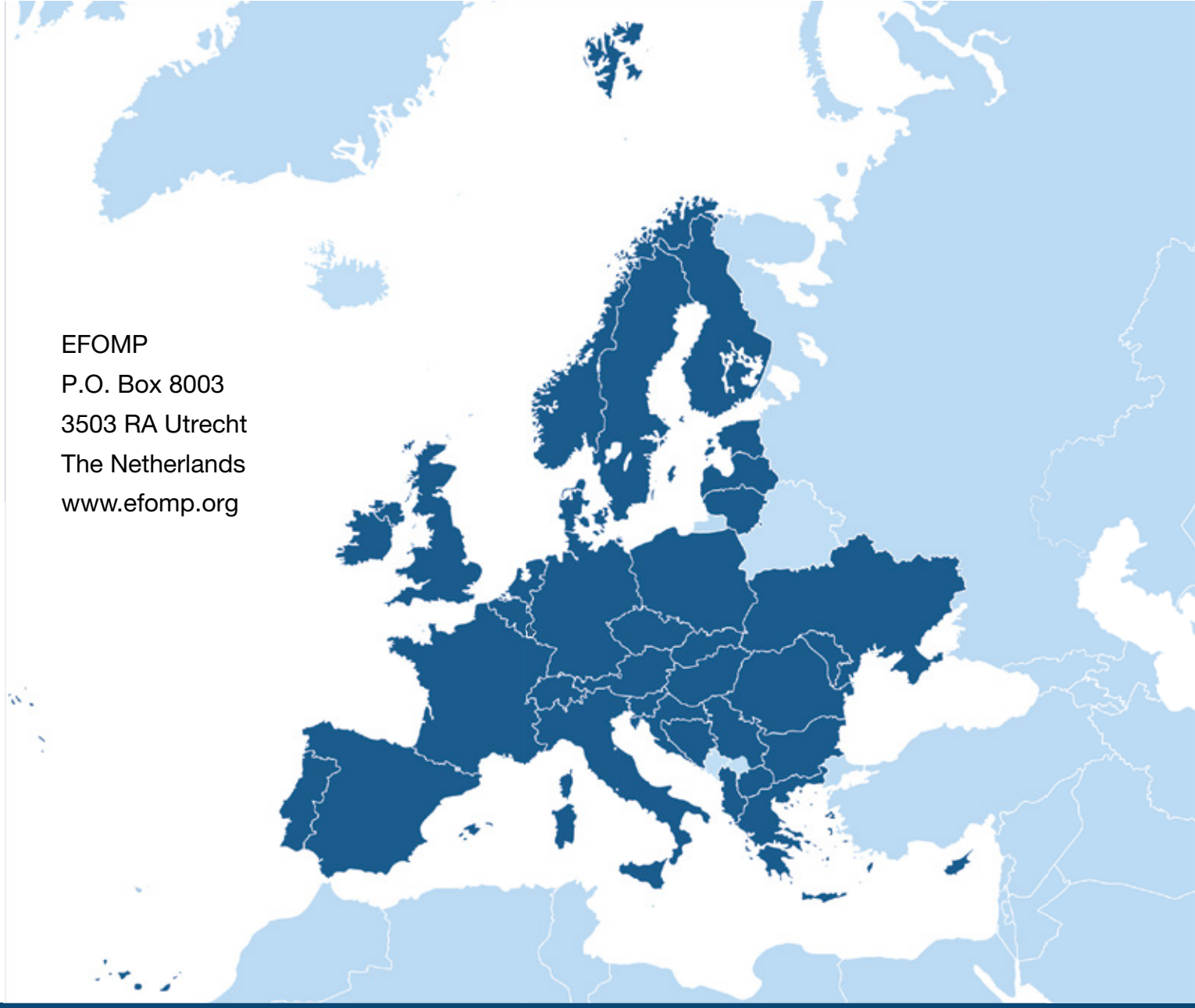
Eleni Skouridi, a medical physicist at the State Health Services Organisation (SHSO), Cyprus's largest healthcare provider, has worked in the Nuclear Medicine Department and the East Anglian Regional Radiation Protection Service at Cambridge University Hospitals, UK. She now leads the implementation of a radiation dose management system across eight public hospitals and five National Breast Cancer Screening Centres in Cyprus, focusing on diagnostic imaging, medical imaging informatics, and IT in medical physics, including PACS/RIS workflows.



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The European Federation of Organisations in Medical Physics (EFOMP) was founded in May 1980 in London to serve as an umbrella organisation for medical physics societies in Europe. The current membership covers 36 national organisations which together represent more than 9000 medical physicists and clinical engineers working in the field of medical physics. The office moved to Utrecht, the Netherlands, in January 2021.

The motto developed and used by EFOMP to underline the important work of medical physics societies in healthcare is “Applying physics to healthcare for the benefit of patients, staff and public”.

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