



# CONFERENCES

## Honorary member award



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### *What does this award mean to you?*

This award is international recognition of our research and innovation. The award confirms that you can be from a migrant background, working at the end of the Earth (Australia) with limited funds, but if you take risks and live your dreams, foundations will be laid, progress will be made and ultimately, you will improve patient outcomes.

### *What are the next challenges for radiation oncologists, medical physicists and radiotherapists and what is your next challenge?*

Advances in radiotherapy technologies mean we can deliver treatments with unprecedented accuracy and precision. Now, the biggest challenge we face is how to maximise the biological opportunities that are inherent to these technologies. For decades we have known about the potential biological benefits of spatial and temporal modulation of radiation, for example microbeam-radiotherapy and ultra-high dose rate radiotherapy (FLASH), but the biological response did not align with existing radiobiology models. So, the immediate challenge is not the fancy technology, where we feel most comfortable, but to address our failure to understand the biological response to irradiation, modulated in space and time. We need to grasp the nettle and advance on this question, in collaboration with new specialist partners, to escape the existing beliefs, which may constrain our progress.

The challenges that require most attention, when we bring ideas to reality, rarely emerge from the science but from breaking through the barriers of politics and egos, adapting to collaboration with diverse groups and communicating new ideas to those who are reluctant to move from conservative comfort. A challenge we all face is the ability to nurture the full gamut of skills to turn such barriers into opportunities and hence to enable our ideas to be realised, with the ultimate goal of improving patient outcomes.

### *What have been the highlights of your career?*

The highlights of my career have been the journeys I have taken with my students. While I have been their mentor, they have been my teachers. Together we grow the intellectual capital of our profession, which is an invaluable part of my legacy.

## ***What are you proudest of in your career?***

I am proud of three awards:

1. The Institute of Physics and Engineering in Medicine Roberts Prize (2007) for the best paper, which addressed bystander effects in radiotherapy and opened a new line of enquiry;
2. Being on the list of 100 Australian Women of Influence (2016), which recognised the social impact of my work through innovation in medical physics and cancer research;
3. I am most proud of being the recipient of the 2021 honorary member award from the European Society for Radiotherapy and Oncology (ESTRO). For me this is the Nobel Prize of radiation oncology.

## ***What started your interest in science?***

Science has always captivated me, because I'm a 'busy-body' and science explains how the world we live in works and the dynamic patterns it follows. My school report said: "If Nataalka were not such a busy-body, she could do well." I'm glad I ignored that advice. Science is universal and international; it gives you a ticket to engage with people from different cultures and who may have different priorities.

Science is the ultimate addiction - no sooner do you understand one question than another question emerges, and you are enticed further down the road of discovery.

## ***If you hadn't been a scientist, what would you like to have been?***

Is there a better life than that of a scientist?

A scientist encompasses numerous roles including influencer, collaborator, team member, leader, inspirer, manager and assessor. I have even stood on the street with my team, collecting donations for cancer research on Daffodil Day, engaging with the public on topics that most challenge our communities. As a scientist, I have worked as a clinical medical physicist, a university lecturer, a researcher and as director of VectorLAB, which is a multidisciplinary team of scientists who aim to improve treatment for cancer. Being a scientist has given me a rich life of problem-solving, enabling me to recreate myself in numerous different roles.

## ***What do you do in your spare-time?***

I don't have much spare time as such because there are always new projects in the pipeline. When time permits I do fine embroidery, I knit, make lead lights, dance, perform nanny duties, garden, renovate the home, and hike. However my favourite 'spare-time' activity - which is much under-rated - is thinking. Today, it is seen as doing nothing. In fact, it can be described as strategic planning towards realisation of virtual solutions.

