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Full Reference: Phillip W. Janowicz, Caterina Brighi, Zdenka Kuncic, David E.J. Waddington. *Towards detecting infiltrative brain tumours using novel superparamagnetic iron oxide nanoparticles and MRI.*

Conference/Meeting Name: Aus MRinRT (Magnetic Resonance Imaging in Radiotherapy).

Location: Mooloolaba, Queensland, Australia

Dates: 9-11th February 2024

Presentation Type: Oral



A bird's-eye view of the conference delegates, red circle is me.



Annette, Sirisha, James and I at the conference dinner. I had many good discussions with Yves de Deene during this dinner about the use of biological models in fundamental MRI research, and discussed many ideas with him.



Me presenting my talk on brain cancer nanoparticles. I was still acquiring very key data the whole day Thursday before I flew to Mooloolaba on Friday morning. Fortunately this key data made it into my presentation on Sunday.



Me standing in the background with a microphone at the session I co-chaired, and asked questions.

The conference is all about the use of MRI and radiotherapy for treatment of cancers, and covers a wide range of topics from fundamental physics, cancer biology and clinical research. One of the key invited speakers which I definitely learned a lot from was Dr Christopher Crane, who further inspired

my ideas around using both immune checkpoint inhibitors and cancer vaccines in combination with radiotherapy and nanoparticles. He also presented clinical data on Ferumoxytol/Feraheme which was a great lead-up for my talk the following day. Prof Stefanie Corradini was another invited speaker who also provided very interesting perspectives from Germany.

There was definitely a buzz around new, more-correct ways of doing DTI (Dr Marc Agzarian delivered an excellent talk, which also included glioblastoma cases) and an overall generally continued theme around reducing radiotherapy toxicity while increasing cancer treatment effectiveness. I would say a number of the researchers envision MRI-guided radiotherapy combined with immunotherapy to be able to replace surgery in certain cancers in the future.

Talking with Yves De Deene and discussing at length (e.g. during the conference dinner) basic biology experiment ideas was a highlight in terms of collaborations initiated. I had somewhat met Yves online before but never talked to him in-person, nor at length. It was also valuable talking to Dr Christopher Crane and Prof Stefanie Corradini for their perspectives, as well as local (Australia-wide) radiotherapy (RT) and MRI specialists. An overall highlight was the extensive clinical perspectives including in glioblastoma, and this has helped me understand what are the challenges clinicians are facing, and provided valuable information for me to finish writing a more-informed review paper.

The conference has inspired my continued research in glioblastoma nanoparticle MRI plus radiotherapy, and reminded me the importance of continued academic research in this area. I have taken and refined grant ideas from the conference as well as figured out what not to do in terms of limitations and priorities for the field. For example, talking to Dr Sweet Ping Ng has given me valuable insight into what is 'happening on the ground' in terms of glioblastoma imaging, and clinical cases (e.g. timing of RT versus progression and surgery, and avoidance of radionecrosis in challenging cases). I found the clinical cases presented by various speakers particularly insightful.

The learning outcomes provided key cutting-edge clinical studies, as well as basic research, so that everyone was up-to-date with the current and future MRI and radiotherapy treatment, research and collaboration. There is strong application to improving patient outcomes in many different forms of cancer, and particularly the ones which benefit most from MRI, and RT.

A personal highlight for me was also going for a swim at the beach (in nice warm QLD water!) in each morning before the conference started. I also had a chance after the end of the conference to catch up at the surf club with my mother who lives in Brisbane and had a small breast tumour removed last year. (These are in addition to the above highlights).