

A new pain post-doc's review of EFIC 2022

2022: The return of hugs, offices, face-to-face data collection, and in-person conferences! As a self-confessed part-time home bird, I admit I often found myself thanking the technology wizards for giving us the ability to connect and knowledge-share from home, but my travel-hungry side was very glad to have an academic excuse to travel. That said, the increased development and take-up of online platforms have made knowledge-sharing much more accessible. This was a key focus of the European Pain Federation (EFIC) Conference 2022 that will hopefully remain so for the years to come, particularly for a conference focused on pain: a phenomenon that can turn even leaving the front door into a herculean effort. The use of online recorded talks with live question sessions opened the door to knowledge and communication for many people for whom these opportunities would not be accessible.

EFIC 2022 was my first pain conference. Ever since enrolling in a Psychology of Pain course during a university exchange to McGill, I have been passionate about pain research and how to better understand and develop more successful pain treatments for those who suffer from it. During my PhD the focus shifted to anxiety, ageing, and balance control, but through this I was fortunate enough to be involved in several studies involving Parkinson's UK. When a post-doc position popped up in Dr Kirsty Bannister's pain lab with a focus on chronic pain in Parkinson's, I knew I had to go for it. 6 months later, I was finally attending my first pain conference in Dublin to share our project and present some of the initial data¹. While the conference was a great moment in my development, I would like to share some particular highlights.

Naturally, meeting other delegates is a great aspect of any conference – it's always rewarding to connect with people you've only seen on twitter or your references list. Many of these fellow attendees provided some fantastic seminars that covered a wide range of current pain research.

What I was particularly interested in was the inclusion of multiple sessions discussing virtual reality for pain

research and treatment. One aspect of my doctoral and adjacent research was using VR to explore new ways of studying the brain and body. It is an exciting fast-developing field that allows both methodological (e.g., inducing physically safe sensory disturbances or anxiety to study these effects on pain and other outcomes) and therapeutic (e.g., immersive evolution of mirror therapy for phantom limb pain patients) advances in pain research. It's very encouraging to see all the developments being made in this area, such as Dr Daniel Harvie's use of athletic avatars to reduce pain-related negative body image², Dr Tasha Stanton's novel illusory walking paradigm for people with phantom limb pain³, and Dr Sam Hughes' research illustrating the potential for VR to reduce mechanical pain sensitivity and increase descending modulation of pain⁴. As for its use in academic development, using VR is a fantastic avenue for developing technological skills such as learning how to code and animate digital environments. Plus, it's a great excuse to play with Unreal Engine on a gaming laptop at work.

Much of the conference also emphasized accessibility; improving the quality of communication between researchers, healthcare providers, and service-users was a key focus at EFIC 2022. The more we learn about the psychological and social impacts on pain processing and management, the more it becomes apparent that improving function and communication in these areas should be a priority. There were many interesting discussions around helping service-users better understand their bodies and their treatments, as well as the other way around; how can we listen better to people in pain? Are we asking the right questions? One session that stood out was Prof Ziad Obermeyer's plenary on AI in pain research⁵, which discussed the shortfalls of using machine learning to define the radiographic severity of knee osteoarthritis, which typically relies on biased data. We were also presented with promising results on how using patient and pain-driven algorithms in radiology might help reduce some of the racial disparity in current care resource allocation. An important take-home message of the many stimulating seminars at EFIC 2022 was that new technological developments are worthwhile, fun, and

increasingly therapeutically useful, but we need to ensure that involvement of, and communication with, the target populations form a key part of the development process.

The emphasis on patient involvement has been a key part of my research development thus far. I have been fortunate to be involved in several studies funded by Parkinson's UK who are a great advocate for patient involvement in their funded studies, and it has been extremely useful and enjoyable to have patient input throughout the research process, from paradigm planning to data collection. Spending time talking in-depth with people with Parkinson's about their experiences and how this has informed their understanding of life with the disease has been essential to our progress in Parkinson's research. We hope that this collaborative effort will continue to cultivate beneficial treatment strategies, particularly with our current research on the potential underlying mechanisms of pain in Parkinson's. I look forward to many more pain conferences and sharing our progress. Thanks for reading and see you at the next one!

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