



## Feature Story: Karolina Krzys

By Queen's Psychology - Mar 24, 2022

Congratulations to Queen's Psychology PhD student **Karolina Krzys** on her recent Meta PhD Research Fellowship award! Karolina received her Fellowship in the AR/VR Perception, Cognition, and Action category.

According to the Meta website, *"The Meta PhD Research Fellowship program awards PhD candidates conducting cutting-edge research in emerging topics across computer science and engineering, including AI system hardware/software co-design, blockchain and cryptoeconomics, human-computer interaction, programming languages, and AR/VR future technologies."*

*"To support students' commitment to furthering research in some of Meta's key interest areas, the program offers full coverage of students' tuition and university fees for up to two academic years, as well as a \$42,000 stipend."*

*"Fellows are also invited to attend the annual Meta PhD Fellowship Summit, where they'll have the opportunity to present their own research, discover more about the impact of current research at Meta, and build connections with Meta researchers and fellow award winners. As in 2021, this year's summit will be held virtually."*

*"Now in its 11th year, the Meta PhD Research Fellowship has supported more than 179 PhD candidates from around the world. This year, we received over 2,300 applications from over 100 universities worldwide, and we selected 37 outstanding Fellows from 24 universities."*

Inspired by an intersection of Karolina's previous research on human navigation and Dr. Monica Castelhana's extensive body of work on scene perception, Karolina is interested in how a range of cognitive processes and certain external factors affect how we perceive and interact with the environment around us. Using a variety of methods and tasks, her team is seeking to understand

how prior knowledge influence how we encode, process, and remember complex, real-world scene stimuli.

“Our goal from the beginning of my PhD was to explore these questions using Virtual Reality (VR) with the hope of extending existing knowledge on scene perception to 3D space,” Karolina recalls. “In my current research, I am attempting to identify how physical properties of 3D space, such as depth interact with higher-level cognitive processes. In particular, I am interested to learn how general knowledge and prior experience of space influence what we pay attention to, and how we understand and interact with space around us. From the perspective of VR developers, this project may contribute to understanding of human factors that need to be accounted for in the design of ergonomic human-machine interactions (HMI).”

For Karolina, the Meta Fellowship came at a perfect time. Because her thesis research relies on in-person data collection (which has been significantly delayed due to the pandemic), Karolina decided to extend her PhD by a year and her tuition for the extra year will be covered by the fellowship.

Karolina feels that the fellowship will allow her to continue and extend the research that she has already undertaken at Queen’s University. With the fellowship she plans to forgo TA-ship to devote more time to research.

As Karolina nears the end of her PhD, she is increasingly conscious of future career opportunities. “As those in similar stages of career development may appreciate, it is extremely challenging not to doubt yourself, stay focused and motivated,” she admits. “This fellowship signifies to me that my work is valued and that there is a need for the type of research that I do. The fellowship gave me a much-needed boost of confidence to face the uncertainty of transition from the graduate school.”

“I would like to thank my supervisor and career mentor Dr. Monica Castelhana for providing safe space, continuous support and for always pushing me just a little,” Karolina says. “Also, huge shout-outs to all research assistants who challenged themselves to learn how to design for VR and who contributed countless of hours preparing models and collecting data over the last four years. Finally, thank you to our Lab programmer, Nalsen Yang, who endured all technical challenges of the project and got the job done!”

Looking toward the future, Karolina enjoys the challenges that come with research, and is planning to pursue a career in academia.