



Curtin University



# Faculty of Health Sciences

2020 Australian Government Research Training Program Scholarships

## Strategic Project Profile

**PROJECT TITLE:** Improving peripheral vision for early target detection in panoramic imagery

**FIELD OF RESEARCH CODE:** 1701, 1702

**PROJECT SYNOPSIS:** Our ability to detect and recognize objects in the periphery is severely impaired by visual clutter. However, early target detection in peripheral vision is essential in many applied areas in particular in defence settings where displays are information rich and cover a considerable area. This project aims to provide basic knowledge regarding the mechanisms modulating perception in the periphery by investigating the effects of adaptation on visual acuity. Using a combination of classic experimental paradigms and novel immersive display technologies, such as available in the Curtin Hub for Immersive Visualisation and eResearch, this project will allow the investigation of the contribution of distinct visual pathways to human perception in the visual periphery. This knowledge will inform the design of specialized equipment that can be used to display information in settings ranging from submarines to plane cockpits. Moreover, it will aid the development of protocols to enhance human performance in detecting targets in peripheral vision in visually cluttered scenarios.

## WHAT MINIMAL ATTRIBUTES AND SKILLS EXPECTED BY THE CANDIDATE BE COMPETITIVE:

Essential:

- Honours degree in Cognitive Psychology, Vision Science, Vision Neuroscience or related area;
- Comprehensive training in experimental design;
- Ability to analyse complex data; and
- Ability to work in multidisciplinary teams.

Desirable:

- Experience programming in MatLab

Students are advised to contact the Project Lead listed below prior to submission of their scholarship application to discuss their suitability to be involved in this strategic project.

### PROJECT LEAD CONTACT

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