

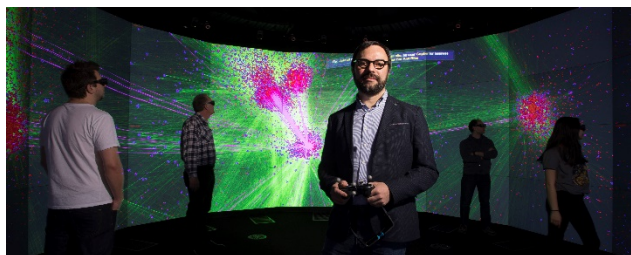
# Visualisation, Simulations & Expanded Perception

EPICentre, UNSW Art & Design

## EXPANDED PERCEPTION & INTERACTION CENTRE

EPICentre is a pioneering high-performance visualisation facility. It forges new ground in integrated thinking (artistic and scientific) to facilitate understanding of complex datasets and ultra-scale imagery. EPICentre promotes cross connection of visualization with applied computational simulations, artificial intelligence (AI), and creativity in arts and science.

EPICentre hosts the highest resolution Virtual Reality (VR) system in the world – nearly 120 million pixels in 3D. This is achieved by 56x60" display cubes, assembled in a 4x14 matrix with 1-2mm edge-to-edge bezels. It also hosts 6.5m Travelling Full Dome.



## SELECTED PROJECTS

### Massive Networks and AI

Visualisation and analytics of very large-scale graphs in immersive environments. Collaboration with CSIRO Data61.

### Microscope on Big Data

Ultra-high resolution as a microscope on big data. Use case: genomics.

### AR as Assistive Technology

Assistive technology for elderly people.

### High-End Visualisation System (HEVS)

Platform allowing deploying interactive applications across range of visualisation systems – one executable that runs everywhere. Cross-faculty collaboration.

## COMPETITIVE ADVANTAGES

- High-End Visualisation System (HEVS) removes barrier of entry for deploying visualisation applications to any platform including AR, VR, XR and large screens.
- Utilizing power of modern hardware compute accelerators and GPUs to speed up simulations, interactions and visualisations.
- Virtual Reality of the Future (120m pixels in 3D) allows to experiment with new UI/UX.
- Cutting edge Augmented Reality research: assistive technology, immersive analytics of simulation outcomes, personalised IoT.
- The most influential computer graphics and high-performance visualisation lab in Australia. Leads <http://sa2019.siggraph.org>.

