

Media Release

Chiefs of Staff, News Directors

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Web-based citizen science project discovers huge galaxy cluster

Two volunteer participants in the web-based citizen science project “Radio Galaxy Zoo” (RGZ) have discovered a galaxy cluster in outer space by using infrared and radio images.

Their discovery has now been published in a scientific paper in the Monthly Notices of the Royal Astronomical Society, on which the two volunteers are included as co-authors.

University of Tasmania physics senior lecturer Stas Shabala is one of the paper’s 18 authors from six countries, and project manager for the Radio Galaxy Zoo project, which launched in December 2013.

Dr Shabala said it was a coup for Australia to lead the international collaboration, and said this latest discovery proved the value of volunteer contributions to science.

“This discovery reminds us what an advanced machine the human brain is – we could not have found these sorts of objects using existing automated computer algorithms,” he said.

“These unusual objects are out there, giving us important clues about the physics of galaxies, and we would be missing out on them without the eyes of our 10,000 volunteers.”

The volunteers spotted an unusual C-shaped structure in the images of NASA’s Wide-Field Infrared Survey Explorer telescope and the NRAO Very Large Array in New Mexico, USA, and flagged it to professional RGZ astronomers.

The international RGZ project is led by Dr Julie Banfield of the ARC Centre of Excellence for All-sky Astrophysics (CAASTRO) at the Australian National University and Dr Ivy Wong at the International Centre for Radio Astronomy Research (ICRAR) at the University of Western Australia.

“Volunteers classify radio galaxies in a dataset that is just too big for any individual or small team to plough through – but with over 10,000 volunteers, we have already reached almost 60% completeness and over 1.6 million classifications,” said Dr Banfield.

In their follow-up analysis, the RGZ team classified the structure as a rare “wide angle tail” or WAT radio galaxy that is part of a previously unreported, very sparsely populated galaxy cluster.

The full article is available online here:

<http://mnras.oxfordjournals.org/content/460/3/2376>

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