

## CXS

The Australian Research Council (ARC) Centre of Excellence for Coherent X-ray Science (CXS) brings together leading Australian researchers in the fields of physics, chemistry and biology. CXS is made up of scientists from the University of Melbourne, La Trobe University, Monash University, Swinburne University of Technology, Griffith University and the CSIRO.

## WHY A PHD WITH CXS?

PhD students within CXS will acquire an unusually wide range of experience that will enable them to develop careers across a broad range of disciplines throughout physics, chemistry, biology and theoretical mathematics. CXS can help you achieve your goals and enhance your future career and life opportunities in Australia and overseas.

## SCHOLARSHIPS ARE NOW AVAILABLE.

For more information or to discuss collaboration with our researchers please contact:  
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[WWW.COECXS.ORG](http://WWW.COECXS.ORG)

## COLD ATOMS AND ULTRA COLD PLASMA: A NEW SOURCE OF COHERENT ELECTRONS

We have developed a novel source of highly coherent electron bunches. We are exploring the physics of laser-atom interactions on an experimental and theoretical basis. We have developed new algorithms for imaging cold atom clouds to enable feedback control of the cloud shape, and thereby the shape of the electron bunches, to optimise the coherence and brightness of our new source. We are also using the cold atom cloud to produce high-resolution ion beams, and for investigating fundamental physics with ultracold Rydberg atoms.

# RESEARCH OPPORTUNITIES

ULTRA COLD PLASMA SOURCE PROGRAM  
UNIVERSITY OF MELBOURNE