

# CUDOS



## RESEARCHERS AND POSTGRADUATE STUDENTS

Are you inspired, confident and passionate about next generation photonics? Then this is where you need to be!

## CUDOS 2011 - 2017

### What is CUDOS ?

- One of a small number of flagship research centres funded under the Australian Research Council's prestigious Centres of Excellence program
- Established in 2003, funded to 2017
- Collaboration between Australia's leading universities with photonics research programs – The University of Sydney, the Australian National University, Macquarie University, Swinburne, University of Technology, RMIT University, Monash University and the University of Technology, Sydney
- Partner investigators from, and a substantial collaboration with, the world's leaders in photonics research from seven countries
- Partners from leading Australian companies

### CUDOS Research – Then & Now

- 2003 - As the Centre for Ultrahigh Bandwidth Devices for Optical Systems, we advanced a vision of developing an integrated photonic-based signal processing platform – a photonic chip.
- 2009 - In collaboration with researchers in Europe we demonstrated that photonic chips could indeed be used to switch data at speeds that approached terabits a second.
- 2010 - Now we are entering the most exciting stage of our history.

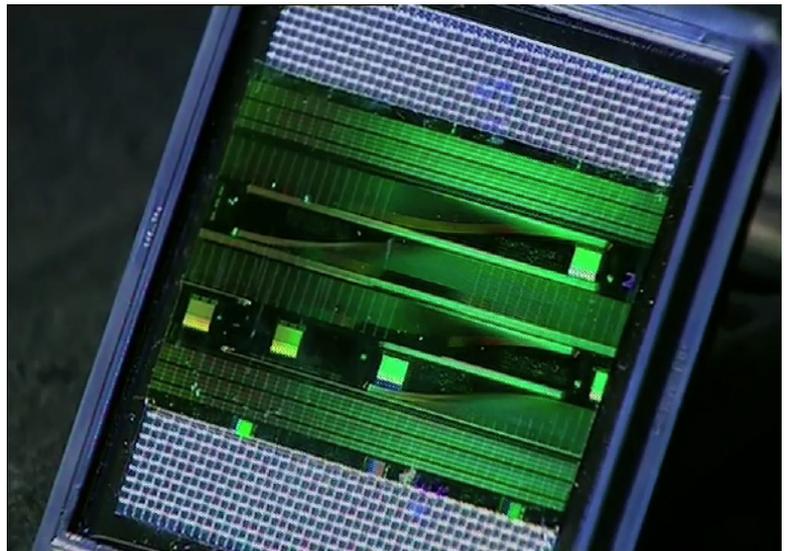
CUDOS 2011 – 2017 will build on these achievements by researching photonic chips for applications in quantum signal processing and mid infrared technologies as well as in high speed optical communications.

We will initiate a broad-ranging program in nanophotonics focusing on metamaterials and plasmonics, with the aim of developing miniature devices whose operation depends on optical characteristics that are unattainable with bulk materials. Hybrid integration, the marriage of dissimilar materials into one monolithic device, will be an active area of research, both to blend existing platforms used by CUDOS researchers into one device and to integrate the new classes of structured materials into existing platforms. Our research will cover theory and experiment from fundamental physics to engineering-level application.

## CUDOS Linkages

Whilst CUDOS is Australia's flagship of photonics research, bringing together the best groups in the country, it is also thoroughly plugged into the world's research networks and will build upon current programs that involve real and active collaborations with the best international researchers and groups from the UK, Germany, the Netherlands, Canada, Belgium, Japan, Denmark and the USA.

Engagement with CUDOS will provide opportunities to tap into these networks.



## CUDOS Opportunities for Professional Growth

### Researchers:

Investment, growth and talent are at the top of our agenda for CUDOS 2011 – 2017 and we will therefore be offering up to twenty postdoctoral opportunities, across all of our collaborating universities.

To further explore these opportunities, please visit our website at <http://www.cudos.org.au/new> where details of positions available and application procedures will be posted. To ensure that you get notified of upcoming vacancies we invite you to join our mailing list of interested potential applicants. Please email our Administrator at [CUDOS-recruitment@physics.usyd.edu.au](mailto:CUDOS-recruitment@physics.usyd.edu.au) with your contact details.



### Students:

We have a strong commitment to, and the demonstrated capacity to train, our postgraduate students at the leading edge of physics and engineering research and to prepare them to become the next generation of leaders in academia and industry. Please visit our website at <http://www.cudos.org.au/new> where you will find examples of the exciting research some of our current PhD's are involved in, and links to the websites of our collaborating universities where their PhD programs are described and application procedures, scholarships and other details including contacts outlined.



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