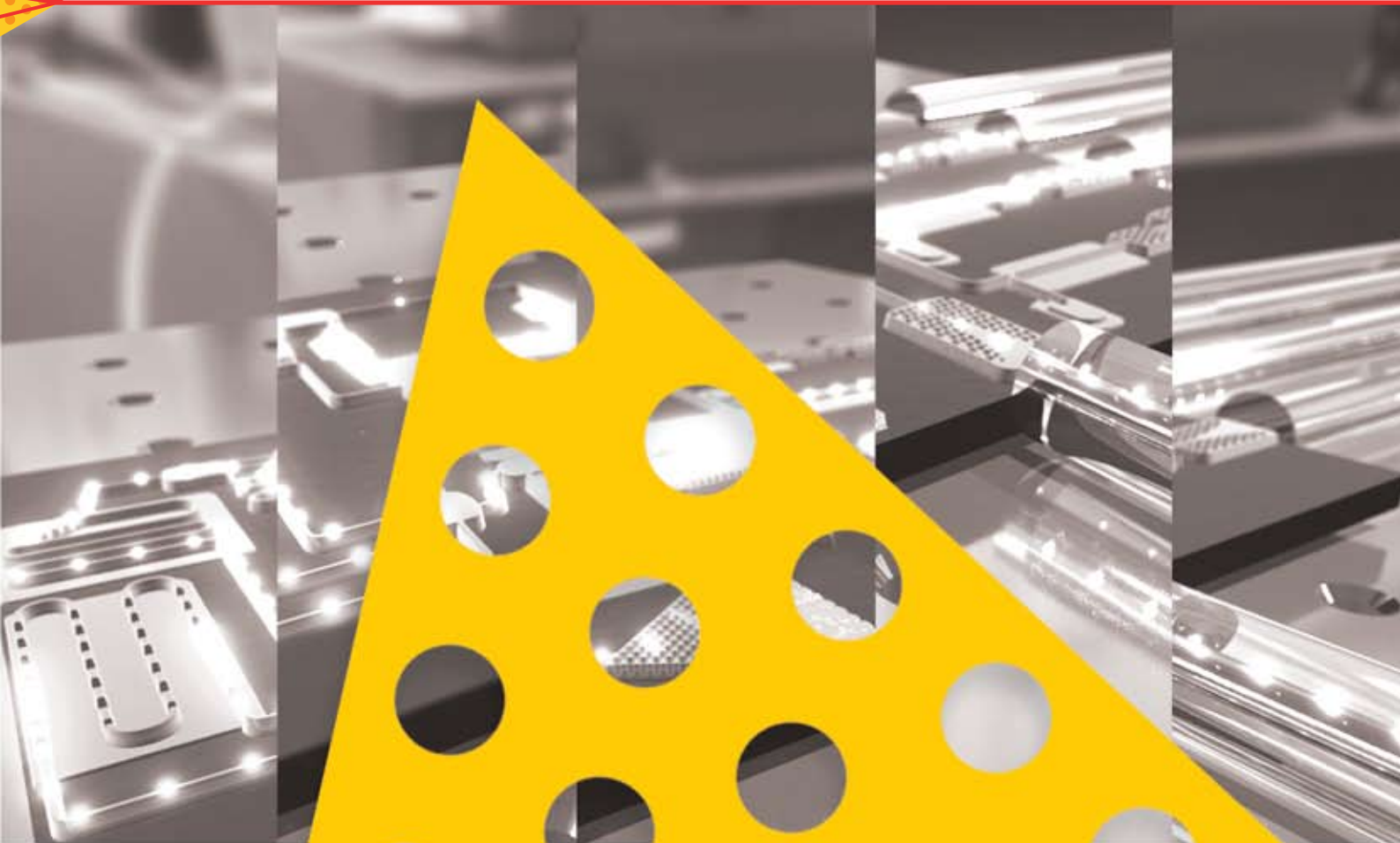




# CUDOS

The Centre for Ultrahigh bandwidth Devices for Optical Systems (CUDOS)  
An Australian Research Council Centre of Excellence



## Annual Report 2007

# Performance Indicators

Key Result Area and Performance Indicator	Target (Year 5)	Achievement (Year 5)
<b>Research findings</b>		
Quality of publications	Average Impact Factor > 3.2 for top 40 publications	Average Impact factor > 3.8 for top 55 publications; = 2.9 for all 87 publications
Number of publications	>55	88 refereed journal publications
Number of patent applications	3	4 provisional applications filed in 2007
Invitations to address international conferences	10	49 (see table)
Invitations to visit leading international laboratories	7	>10
Number and nature of commentaries about the Centre's achievements	2 in trade journals, 3 in popular media, professional magazines	1 in trade journals, 3 in popular media (incl. 2 in The Australian) 3 in University magazines
<b>Research training and professional education</b>		
Number of postgraduates recruited	10	7
Number of postgraduate completions	5	4 (not including 2 students who submitted in 1/2008)
Number of Honours students	8	12
Number of professional courses	2	2; B Eggleton: Tutorial in Wuhan, China and Short Course at CLEO
Participation in professional courses	3	More than 3 staff participated in tutorials and short courses at international conferences.
Number and level of undergraduate and high school courses in the priority area(s)	4 u/grad subjects, 5 high school visits	U/grad subjects summarized in Education report. High School visits summarized in Outreach report. Both targets very substantially exceeded.
<b>International, national and regional links and networks</b>		
Number of international visitors	9	19 Visiting academics, 3 international student visitors
Number of national and international workshops	Host 1	2 Hosted – Astrophotonics Workshop and Optical Switching Workshop
Number of visits to overseas laboratories	10	>25
Examples of relevant Social Science & Humanities research supported by the Centre	1	
<b>End-user links</b>		
Number & nature of commercialisation activities	2	Commercialisation Committee met twice and reviewed one commercial opportunity.
Number of government, industry and business briefings	2	Presentation by B Eggleton and CUDOS exhibition booth by C Walsh, M Withford at Western Sydney Business Forum
Number of Centre associates trained/ing in technology transfer and commercialisation	50 over Centre lifetime	>50; All new students provided with training in log book maintenance and IP rules
Number and nature of Public Awareness programs	2	Target exceeded. Outreach program very active – “Optics in Outback” Science Exposed, etc – please see Outreach section for details
<b>Organisational support</b>		
Annual cash contributions from Collaborating Organisations		1. All contributions made in accord with Collaborator agreement; 2. University support for students: \$150,000; 3. RIBG support ~ \$400,000; 4. Major equipment grants ~ \$90,000
Annual in-kind contributions from Collaborating Organisations		In-kind contributions in accord with schedules in Collaborator Agreement
Number of new Organisations recruited to or involved in the Centre	2 in all	3 (as of 2007) RMIT, NICTA, DSTO collaborating in 2007 and formally from 2008
Level and quality of infrastructure provided to the Centre		The Centre enjoys substantial and on-going support from RIBG funds (~ \$200,000 in 2007)
<b>Governance</b>		
Breadth and experience of the members of the Advisory Board	Each Board Member has several years' experience in relevant professional areas	Board covers spectrum of University, Federal Govt (Dr Sargent), State Govt (Mr Watkins), industry (Drs Poole, Ritchie, Frisken), academic research groups (Professor Piper)
Frequency and effectiveness of Advisory Board meetings	2	1 Meeting in 2007

Quality of the Centre strategic plan	ARC, ARC Review Panel and Advisory Board accept the Centre's KPM indicators	Strategic Plan assessed in September 2006 as part of the CUDOS proposal for extension
Effectiveness of arrangements to manage Centre nodes	Centre participants and line managers at each node report satisfactory arrangements during ARC reviews. Node research is featured in Annual Report	Centre now has an effective research management arrangement with Project Managers and Node Directors, in association with Chief Investigators who lead the long term science
The adequacy of the Centre's Key Performance Measures	ARC, ARC Review panel and Advisory Board accept the Centre's KPM indicators.	Established at Centre commencement and reported on each year

## Invited Presentations

Presenter	Conference(s)
LC Botten (1)	PIERS, Beijing China, March 2007
CM de Sterke (1)	Frontiers in Optics, San Jose California, 16–20 September 2007
BJ Eggleton (12)	ACOFI, Melbourne Australia, 24–27 June 2007; APOC, Wuhan China, November 2007; Asia Pacific Physics Conference, Pohang Korea, 20–24 August 2007; Asian Pacific Biophotonics Conference, Cairns Australia, July 2007; CLEO-Europe, Munich Germany, 17–22 June 2007 (Keynote Speech); CLEO-Pacific Rim, Seoul Korea, 27–31 August 2007; Workshop on Fibre Optics and Passive Components, Taipei, Dec 2007, 24–27 June 2007; NanoE3, Couran Cove, September 2007; OFC, Anaheim USA, March 2007; PECS VII, Monterey California, 8–11 April 2007; SPIE Photonics West, San Jose California, January 2007; Workshop on Fibre Optics and Passive Components, Taipei, Dec 2007.
M Gu (5)	5th International Workshop on Nanophotonics, Taiwan, 4 December 2007 (Plenary); Annual Meeting of Shanghai Laser Society, Shanghai China, 2 November 2007 (Plenary); PIERS, Beijing China, 27–30 March 2007; SPIE Microelectronics, MEMS and Nanotechnology, Canberra Australia, 5–7 December 2007; WFOPC, Taiwan, 5–7 December 2007
YS Kivshar (6)	International Symposium "Light Confinement and Control with Structured Dielectrics and Metals", Bad Honnef (Germany) March 16–18, 2007; The Eighth International Conference on Correlation Optics Chernivtsi, Ukraine September 11–14, 2007; Plenary presentation at 16th International Laser Physics Workshop (León, August 20–24, 2007); International Meeting on "Perspectives of Soliton Physics" Tokyo 16–17 Feb., 2007; International Symposium on "Topology and Singularity in Optical Physics" 23–24 July, 2007 Sapporo, Japan; Workshop on Optics and Nanotechnology, Alagos, Brazil March 8–12, 2007
W Krolikowski (3)	International Workshop "Nonlinear Effects in Photonic Materials", Berlin, 12–14 March 2007; International Workshop on Nonlinear Optics Applications, Swinoujscie, Poland, May 17–20 (2007); International seminar and workshop – Nonlinear Physics in Periodic Structures and Metamaterials, Max Planck Institute for Complex Systems, Dresden, Germany, March 19–30, 2007.
B Kuhlmeiy (3)	COST299, Naples, July 2007 (Plenary); European Symposium on Optics and Optoelectronics (EEC), Prague, April 2007; ICMAT, Singapore, July 2007
B Luther-Davies (1)	13th Microoptics Conference, Takamatsu Japan, 28–31 October 2007
G Marshall (1)	SPIE Microelectronics, MEMS and Nanotechnology, Canberra Australia, December 2007
R McPhedran (2)	Conference on Mathematical and Numerical Aspects of Waves, University of Reading, 23–27 July 2007 (Plenary); PECS VII, Monterey California, 8–11 April 2007
D Neshev (2)	Nonlinear Optics: Materials, Fundamentals and Applications, Kona Hawaii USA, 30 July–3 August 2007; International seminar and workshop on Nonlinear Physics in Periodic Structures and Metamaterials, Dresden, March 19–30, 2007
M Withford (2)	AOE, Shanghai China, 2007; COIN/ACOFI, Melbourne Australia, 24–27 June 2007
A Sukurokhov (2)	International seminar and workshop on Nonlinear Physics in Periodic Structures and Metamaterials, Dresden, March 19–30, 2007; ICONO/LAT Minsk Belarus, May 28–June 1, 2007
V.G Ta'eed (2)	Asia Optical Fiber Communication & Optoelectronic Exposition & Conference (AOE), Shanghai, China, Oct. 2007; 9th International Conference on Transparent Optical Networks (ICTON 2007), Rome, Italy, July 2007
M. Lamont (1)	OSA Frontiers in Optics (FIO), San Jose, September 2007.
M. Roelens (1)	European Conference on Lasers and Electro-Optics, 2007 and the International Quantum Electronics Conference, CLEOE-IQEC 2007, paper CI-5-1-THU
L. Fu (2)	Photonics West Meeting, San Jose, January (2007); ICMA, Singapore, July 2007
Tomljenovic-Hanic (2)	Progress in Electromagnetics Research Symposium, PIERS-2007, Beijing, China, 26–30 March 2007; 9th International Conference on Transparent Optical Networks, July 1–5, 2007 - Rome, Italy
Nguyen (1)	Photonic Crystal Fibers, SPIE, Prague, Czech Republic