

K O A L A 2 0 0 9
Conference on Optics And Laser Applications

CONFERENCE REPORT

The poster for the KOALA 2009 conference features a central graphic where the word "KOALA" is written in large, dark, wood-grain letters. The letters "O", "A", and "L" are partially obscured by a koala illustration and a circular arrangement of smaller "OSA" logos. The words "Conference on Optics and Laser Applications" are written in a curved path around the "KOALA" text. At the top left, logos for OSA University of Sydney Chapter, MQ Photonics, and OSA student chapter are displayed. A box at the top right specifies the dates "23 - 27 November" and the location "University of Sydney". A box on the left side of the poster states "KOALA: Conference on Optics And Laser Applications" and "Submissions close 15 August 2009", with website links "www.physics.usyd.edu.au/osa" and "www.ions-project.org". At the bottom, a row of logos includes AFW Technologies, LAS TEK, CXS, Centre for Quantum Computer Technology, Australian Centre for Quantum Atom Optics, CUDOS, and MQ Photonics. The year "2009" is prominently displayed in the center. The bottom of the poster includes the contact information "Enquires to Bill Corcoran - General Chair KOALA '09 - billc@physics.usyd.edu.au".

OSA[®] and MQ[®] Photonics OSA[®] studentchapter
University of Sydney Chapter present

23 - 27 November
University of Sydney

KOALA
Conference on Optics and Laser Applications

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Conference on Optics And Laser Applications
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www.physics.usyd.edu.au/osa
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An IONS project.
International OSA Chapter of Researchers

AFW Technologies
LAS TEK
CXS
ARC Centre of Excellence for Coherent X-Ray Science
CENTRE FOR QUANTUM COMPUTER TECHNOLOGY
AUSTRALIAN RESEARCH COUNCIL, CENTRE OF EXCELLENCE
AUSTRALIAN CENTRE FOR QUANTUM ATOM OPTICS
CUDOS
MQ Photonics

2009

Enquires to Bill Corcoran - General Chair KOALA '09 - billc@physics.usyd.edu.au

UNIVERSITY OF SYDNEY 23 - 27 NOVEMBER 2009

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KOALA

What is KOALA?

KOALA (Conference on Optics And Laser Applications) is a yearly meeting that is organised for students, by students, and brings together a large group of PhD and Masters students in the field of optics from Australia and New Zealand.

KOALA is modeled on the successful YAO (Young Atom Opticians) and IONS (International OSA Network of Students) meetings run in Europe. These conferences allowed PhD students to meet with peers and discuss their research in a broad context and in a relaxed environment.



The conference mascot

Aim

The main goal of KOALA is to facilitate discussion and networking between students in different research fields in optics who otherwise would be unlikely to meet. This gives students a fresh perspective, as well as the opportunity to learn about research beyond their own field in optics. Participants also learn the essential skill of how to communicate their research to people who are not experts in their field.

Previous and coming KOALAs

The first KOALA conference was run in 2008 in Brisbane by the University of Queensland OSA student chapter and was a great success. This was followed up with last year's meeting in Sydney, which was organised by the OSA student chapters at Sydney and Macquarie universities.

KOALA'10 is due to be held in Dunedin in late November and we hope to follow the success of last year's meeting. This annual event, with different hosts each year, allows exposure to various institutions throughout our region. We hope that students in our region will benefit from this experience for years to come - watch out for KOALA in Melbourne in 2011!



Past and future KOALA (from left): The brain behind KOALA, Sebastian Schnelle, thanking the head organiser of KOALA'09, Bill Corcoran; The conference mascot being handed over to next year's organiser, Catarina Sahlberg.

KOALA '09

Last year's conference was held at the University of Sydney and hosted by the Sydney university and Macquarie university OSA student chapters. It was run over five days and consisted of 2 plenary talks, 4 short courses, 26 student talks and a poster session with 25 posters.

The plenary sessions were given by NASA senior optical physicist, Dr. Philip Stahl, and University of Sydney visiting professor, Prof. Joss Bland-Hawthorn. They delivered informative talks on the topics of the James Webb Space Telescope (the Hubble successor) and the use of fibre Bragg gratings and photonics lanterns in the field of astrophotonics. The short courses were held by student delegates and aimed to give an introduction to the different topics of the conference: X-ray optics, quantum optics, nonlinear optics and Bose-Einstein condensation.

The student talks were invariably successful in providing basic understanding on the topic, whilst also communicating the context and aim of the research. The talks also served to help promote the work of various research groups within the region.



Most of the KOALA '09 delegates

KOALA '09 Stats

- **Location**

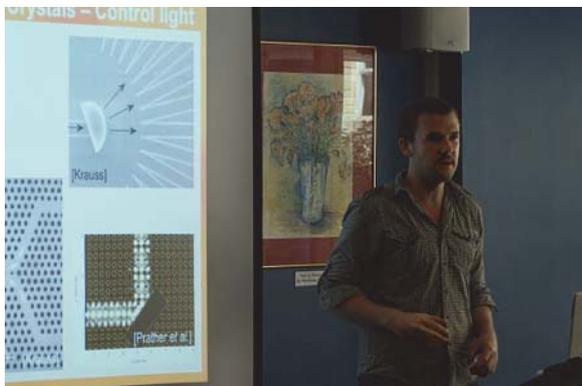
Mandelbaum House and University of Sydney School of Physics, Camperdown/Darlington, Sydney

- **Delegates**

50 PhD, MSc and Honours students, 2 invited lecturers

- **Sessions**

4 short courses, 26 half hour talks, 1 poster session (25 posters)



Felix Lawrence presenting his research.



Relaxing on the campus lawn after a hard day of listening to talks.

- **Institutions**

Australian Defence Forces Academy (Canberra)

Australian National University (Canberra)

Macquarie University (Sydney)

Swinburne University (Melbourne)

The University of Melbourne

The University of Otago (Dunedin)

The University of Queensland (Brisbane)

The University of Sydney

• **Research Areas**

Biophotonics (Swinburne, Sydney)

Bose Einstein Condensation/ Atom Optics (Melbourne, Queensland, Otago)

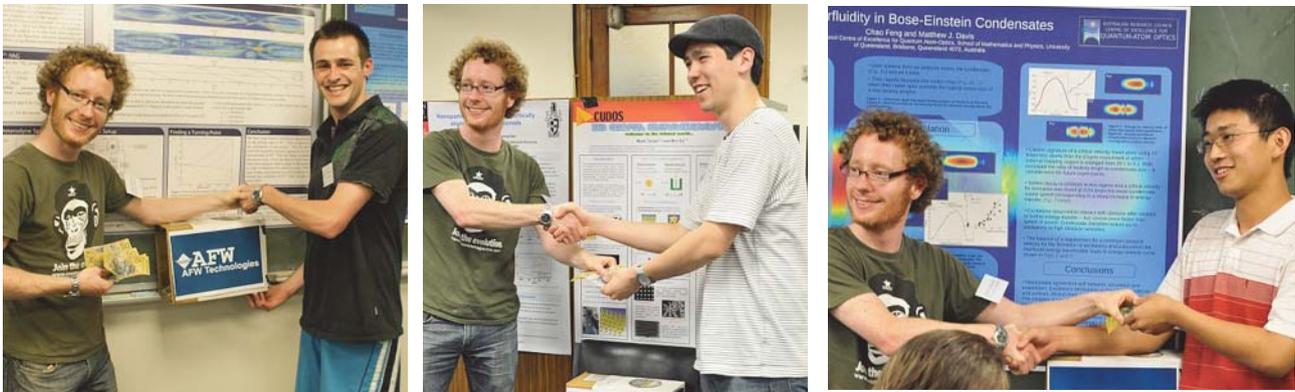
Coherent X-rays (Melbourne)

Nonlinear Optics (ANU, Sydney)

Photonics (ANU, Maquarie, Swinburne, Sydney)

Plasmonics (Swinburne, Sydney)

Quantum Optics (ADFA, ANU, Maquarie, Otago)



Happy winners at the AFW poster session (from left): Bill Corcoran handing out the prize for best poster to David McAuslan; Mark Turner receiving the prize for second best poster; Chao Feng receiving the prize for third place.

• **Sponsors and Funding**

Centre for Quantum Computing Technology (CQCT)	\$5k
Australian Optical Society (AOS)	\$3k
Centre for Coherent X-ray Science (CXS)	\$3k
Centre for Ultrahigh-bandwidth Devices for Optical Systems (CUDOS)	\$3k
Australian Centre for Quantum Atom Optics (ACQAO)	\$3k
MQ Photonics	\$3k
Optical Society of America (OSA)	\$2k
AFW Technologies	\$1.5k
Lambda Scientific	\$1k
Total	\$24.5

KOALA '09 Programme

Programme Schedule

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	
9:00	WELCOME		SOCIAL DAY			
9:30	PLENARY P. Stahl	S. Sziget B. Cororan			E. Curwood A. Butler	D. Sheludko A. Torrence
10:30						
11:00	PLENARY J. Bland-Hawthorn	S. Schnelle S. Gross			C. Mejia A. Tuniz	C. Bradac E. Granados
12:00	Lunch				Lunch	
12:30						
13:00	SHORT COURSES BEC/Quantum	K. Kuntz P. Ledingham			B. Cumming A. Taylor	A. Bedoya L. Humbert
13:30		I. Kabakova			F. Lawrence	S. Midgley
14:00						
14:30	SHORT COURSES NL Optics/X-ray	A. Solntsev			E. Cannon	D. Smith
15:00		T. Han			LAB TOUR Maquarie University	G. M. Lee
AFTER-NOON		LAB TOUR Sydney University				
EVENING	WELCOME RECEPTION	AFW Technologies POSTER SESSION			CONFERENCE DINNER	

The conference programme was designed to keep the participants in a relaxed frame of mind in order to allow the vast range of topics to be digested. The talks themselves were in half-hour blocks. This allowed the speaker to take the audience through the basics of the science behind their research, the driving vision behind them and the research outcomes. The time frame also allowed the audience to interact and engage actively with the speakers during the talks. This interaction often clarified to the audience – at any given time half of whom were unacquainted with the subjects presented – the basics of techniques or concepts that the speakers may otherwise have taken as assumed knowledge. It was this format that in part allowed for talks from such disparate fields as quantum atom optics and fibre telecommunications to meld into a cohesive meeting.



Ben Cumming giving his talk



Sahand Mahmoodian explaining his poster at the AFW Poster session

KOALA '09 Student Testimonials

“KOALA'09 was simply fantastic! I really enjoyed 30 minute long presentations and student-only audience. It was a great opportunity to share our scientific ideas with good introduction, fair amount of details and in-depth discussion.”

Alexander Solntsev, Australian National University

“I think that last KOALA '09 conference was great: it was a conference for student organized by the students and this made it efficient and straightforward because the exchange of opinions and ideas was direct and immediate. In big conferences sometimes people lose the real meaning of the event forgetting that the most important thing is the development of science through the discussion with other people: the KOALA is instead the celebration of the constructive meeting of ideas.”

Carlo Bradac, Macquarie University



Conference dinner at Spanish Tapas with great food and flamenco dancing as entertainment.

“I am a student from Otago University who has been to both of the KOALA conferences. I found that it was a very valuable conference for several reasons. It was really good to meet other students from Australia and New Zealand who are doing a PhD in optics. I found that I had some very interesting discussions with other students about my and their research and found that it was a good opportunity to discuss new ideas with regards to my research. The overall environment was more relaxed than other conferences I've been to and everybody felt that they were able to ask questions during the talks. I found that it was very valuable to learn about other research that is going on in the field of optics because as a PhD student you tend to specialize in your own particular area. Overall I found KOALA to be a well organised conference and an excellent experience, and I would recommend that all PhD students researching in the field of optics should attend it.”

David McAuslan, University of Otago

“KOALA 09 was a great conference. I really appreciated being surrounded by other PhD students who are also doing research in optics. The relaxed atmosphere allowed me to learn a lot about the different research areas and to make valuable contacts with students working in similar areas to me. I also loved the introductory workshops which were presented by some of the KOALA attendees. These gave an overview of the various fields represented at the conference and helped me get the most out of all the research talks.”

Sarah Midgley, University of Queensland

“I think the best part about KOALA is that it allows for graduate students from a wide range of disciplines within optics to meet and learn about the current research in fields that they may know very little. It gave me the unique opportunity to develop my scientific communication skills at presenting my research to a non-specialist audience, which is a crucial skill to have in this day and age as research topics are becoming more and more isolated and specialized. It can be difficult to step outside your niche and try to relay what's interesting and exciting about your work to someone else, or even try to relate it to their research. This is why we need conferences like KOALA to keep challenging us and giving us the opportunity for the possibility of future cross-disciplinary collaborations.”

Katanya Kuntz, Australian Defence Forces Academy

“I couldn't make it to last year's meeting at the University of Queensland, so I have been waiting for this unique conference for quite a long time! It is probably safe to say that the second annual KOALA conference held in Sydney has been a great success; perfect organization, interesting talks about many different and varied research areas, and an informal and friendly atmosphere between the students. I have been impressed by the quality of the presentations and posters as well as the discussions that some of them originated, even if we were a very heterogeneous group of students. [...] All in all, it has been a great experience and I recommend it to all PhD students in optics.”

Eduardo Granados, Macquarie University



Social day at the Blue Mountains with a hike and a train trip through the spectacular scenery.

“KOALA'09 was a brilliant opportunity to meet and talk to students in a similar situation and also was a great way of learning about current research in optics in Australia and New Zealand. The format gave the unique possibility to ask questions and discuss problems without the fear of seeming dumb in front of supervisors and other senior researchers. I liked the scope of different research that was presented and think this is a chance not to be missed by all optics students in Australia and New Zealand.”

Sebastian Schnelle, University of Queensland

KOALA '10

The University of Otago OSA student chapter are the proud organisers of the third annual KOALA. Given the success of the previous meetings, we are still hoping to continue improving the conference to make KOALA '10 an even better event!

Time

KOALA '10 will be held in late November, or possibly early December. We are hoping to arrange a date so that the conference doesn't clash with any other major relevant meetings in optics that might be happening around this time.

Location

The meeting will be held on the Otago university campus, in Dunedin on the South Island of New Zealand.



University of Otago clocktower building.

Format

We are planning on keeping KOALA '10 in the same format as the previous two years' meetings, with the conference running over five days, including one day set aside for a social event. The programme will still be focused on letting as many students as possible present their research, while at the same time allowing plenty of time for questions. We hope to create the same informal, friendly environment that facilitates networking and scientific discussions amongst the students, which has been so appreciated at the past meetings.

Overall, KOALA '10 will be similar to the previous two KOALAs, but of course with a bit of a Kiwi touch to it!



Getting involved in KOALA '10

Students

Spread the word of KOALA to your fellow students and make sure you come along to this year's meeting. Contact us and we'll keep you updated with more information, dates and deadlines. If you have any ideas or comments, please let us know - we'll be happy to hear from you!

Supervisors

Tell your students about KOALA and encourage them to go. We would like to see more students attending from all the research groups in Australia and New Zealand that are working in the field of optics. Our goal is to make this conference an event that will continue to run annually for many years, to the benefit of all optics research students in the region.

Sponsors

There are many ways you can help support KOALA. Last year we had donors supporting the conference as a whole as well as donors sponsoring specific events. This year we are once more looking for support, and again we are happy for sponsorship of the conference as a whole or a specific part such as poster session and poster session prize or welcome reception.

KOALA provides a chance to promote your group to people who will soon be moving into the industry as professionals. Let us get your name out to the best and brightest students in optics in the region. The event also provides a forum for you to advertise to the people who design experiments and define what equipment they need – the students.

As well as encouraging advertising from industry, we also encourage representatives from industry to attend the conference. Whether you're interested in the new talent coming to the optics community or in showing us the next bit of equipment we want to have in our labs, students are interested in what is going on in the real world! Please let us know if you are interested in coming along, with stall or without.

Without support, this conference cannot run. We hope that you can see the excitement we share in running this conference and the benefit to the optics communities of Australia and New Zealand that this meeting brings.

Contact KOALA '10

The Otago University OSA Student Chapter

Address: Department of Physics, University of Otago, PO Box 56, 9054 Dunedin, New Zealand

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