



The University of Sydney



THE UNIVERSITY OF SYDNEY INVITES YOU TO CELEBRATE A
GOLDEN ANNIVERSARY IN COMPUTING

COMPUTING THE FUTURE SYMPOSIUM 2006

Wednesday, 13th September 2006



David Murray
Former CEO of
Commonwealth Bank
Chairman, Future Fund
Board of Guardians



Howard Charney
One of the four founders of
3Com Corporation
Senior Vice President,
Cisco Systems



Dr Caroline Kovac
Named one of the 50 most
powerful women in business
by Fortune magazine in 2004
General Manager, IBM
Pharmaceutical & Life Sciences

It has been 50 years since the first highspeed computer - SILLIAC - was built at an Australian University.

Join leaders from across industry, eminent researchers and international guest speakers as we celebrate the University of Sydney's distinguished history in computer science, and explore future IT directions.

Eminent researchers who will open our minds to the opportunities of ICT innovation over the next 50 years include:

- *David Skellern*
CEO, National ICT Australia
- *Professor Albert Zomaya*
CISCO Chair of Internetworking and Head, School of Information Technologies, The University of Sydney
- *Professor Ben Eggleton*
ARC Federation Fellow, Director, ARC Centre of Excellence for Ultrahigh-bandwidth Devices for Optical Systems, The University of Sydney
- *Professor Hugh Durrant-Whyte*
ARC Federation Fellow, Director, ARC Centre of Excellence for Autonomous Systems, The University of Sydney

Event Details

Date: Wednesday, 13th September 2006
Time: 9.00am - 5.30pm
Venue: Everest Theatre, Seymour Centre, The University of Sydney
Cost: \$150; \$100 for Members of Supporting Associations & Post-Graduate Students

More Info & to Register: visit www.it.usyd.edu.au/ctf or phone 1300 651 485

Sponsored by



Supported by





COMPUTING THE FUTURE SYMPOSIUM 2006

Wednesday, 13th September 2006

PROGRAM

Session 1: The Needs of Industry

- 09:00am Welcome to the Symposium
Professor Gavin Brown AO FAA, Vice Chancellor & Principal, The University of Sydney
- 09:10am Information and Value Creation
David Murray, Chairman, Future Fund Board of Guardians
- 09:50am *David Skellern*, CEO, National ICT Australia
- 10:30am Morning Tea

Session 2: Industry and Research

- 11:00am *Douglas Snedden*, CEO, Accenture Australia
- 11:35am Computing in the Age of the Genome
Dr Caroline Kovac, General Manager, IBM Pharmaceutical and Life Sciences
- 12:10pm The Internet as Innovation Engine
Howard Charney, Senior Vice President, Cisco Systems
- 12:45pm Lunch

Session 3: In Pursuit of Innovation

- 01:45pm The Changing Face of ICT Research
Professor Albert Zomaya, CISCO Chair of Internetworking and Head, School of Information Technologies, The University of Sydney
- 02:20pm The Robots are Coming!
Professor Hugh Durrant-Whyte, ARC Federation Fellow, Director, ARC Centre of Excellence for Autonomous Systems, The University of Sydney
- 02:55pm Optical Logic and the Photonic Chip
Professor Ben Eggleton, ARC Federation Fellow, Director, ARC Centre of Excellence for Ultrahigh-bandwidth Devices for Optical Systems, The University of Sydney
- 03:30pm Afternoon Tea

Session 4: The Future Leaders of ICT

- 04:00pm Panel Discussion - Where are the Future ICT Leaders Going to Come From?
- *Professor Hugh Durrant-Whyte*, ARC Federation Fellow, Director, ARC Centre of Excellence for Autonomous Systems, The University of Sydney
- *Dr Ted Dunstone*, CEO, Biometix
- *Dr James Dalziel*, Director, Macquarie E-Learning Centre Of Excellence, Macquarie University
- *Silvia Pfeiffer*, Research Leader, CSIRO
Moderated by *Mark Jones*, IT Editor, Australian Financial Review
- 05:00pm NSW Pearcey Awards
- 05:30pm Closing Remarks
Barry de Ferranti, Chairman, Organising Committee & SILLIAC Veteran



COMPUTING THE FUTURE SYMPOSIUM 2006

Wednesday, 13th September 2006

SPEAKERS



David Murray, Chairman, Future Fund Board of Guardians
Former CEO of the Commonwealth Bank

David Murray is an eminent Australian of considerable professional standing in the business community. He joined the Commonwealth Bank of Australia in 1966; became its CEO in June 1992 and retired in 2005. During his 13 years as the head of the Commonwealth Bank it was transformed from a partly-privatised bank with a market capitalisation of \$6 billion in 1992 to a \$49 billion integrated financial services company.

In his role as Chairman of the Future Fund Board of Guardians, David Murray will oversee an expected \$140 billion funds under management within the next 15 years and play a significant role in determining how the fund will operate. The Future Fund was established to house government budget surpluses, and meet public servants' superannuation liabilities.



Dr David Skellern, CEO, National ICT Australia

David is one of Australia's most successful ICT entrepreneurs, sporting a strong background in research, education, collaboration, and commercialisation. He began his career in 1974 at the University of Sydney where he spent around a decade designing, building and commissioning instrumentation and extensions for the Fleurs Synthesis Radiotelescope, one of Australia's pioneering giant radiotelescopes. David was Chair of Electronics at Macquarie University and spent significant time working in industry as a visiting researcher, including over two years at Hewlett Packard Laboratories.

David co-founded the Radiata group of companies in Australia and the USA, established to commercialise the results of the WLAN research project that he led at Macquarie University in collaboration with CSIRO. Radiata was acquired by Cisco Systems, Inc. in 2001 for \$A565m, at which time David joined Cisco and subsequently moved to the United States as Technology Director of the Wireless Networking Business Unit. David was appointed to the NICTA board in 2003. David received a BSc (Computer Science and Mathematics) in 1972, a BE (Electrical Engineering) in 1974, and a PhD in 1985, from the University of Sydney.



Douglas N. Snedden, Country Managing Director, Accenture Australia

Douglas assumed the position of Country Managing Director for Accenture Australia, on 01 January 2006. He started in Sydney with Accenture (then Andersen Consulting) in 1980. Douglas has spent the majority of his career in the Financial Services industry. He has also worked on engagements in Government and the Communications industry. Douglas spent 2 years working in the UK in 1986-87 and has had an ongoing role in the Asia Pacific region for the last 10 years. Douglas has served the community through memberships of the boards of St Vincent's Hospital, the Sydney Theatre Company and the Black Dog Institute. Douglas was educated in Canberra at the Canberra Grammar School and ANU, where he studied Economics and Accounting.

SPEAKERS



Dr Caroline Kovac, General Manager of IBM Pharmaceutical & Life Sciences

Named one of the 50 most powerful women in business by Fortune magazine in 2004

Caroline is responsible for the strategic direction of IBM's global pharmaceutical and life sciences business. She leads her team in developing the latest information technology solutions and services, establishing partnerships and overseeing IBM investment within the healthcare, pharmaceutical and life sciences markets.

Caroline was general manager, IBM Life Sciences with only two employees as an emerging business unit in 2000. She successfully grew the life sciences business unit into a multi-billion dollar business, and one of IBM's most successful ventures to date with more than 1500 employees worldwide. Caroline holds a Ph.D. in chemistry from the University of Southern California and a Bachelor of Arts degree from Oberlin College.

Computing in the Age of the Genome

The human genome announcement in 2000 sparked explosive growth in genomics, proteomics and other biosciences and created a new need for information technology to unlock knowledge and value from the new scientific discoveries. Much of the focus in seeking value from the new science has been on drug discovery and the pharmaceutical and biotech industries, and the first fruits of this work are just beginning to appear in the pharmaceutical pipeline. The next phase of value creation has already begun. Applying techniques of high-throughput biology and genomics to large patient populations and using powerful computing to analyze, model and simulate is becoming the next wave of the new biology, one which IBM calls Information-Based Medicine. Information-based medicine is the marriage of information technology with the practice of medicine, from pharmacogenomics to systems biology, personalized medicine, as well as molecular diagnostics and presymptomatic testing. In this talk, Dr. Kovac will discuss our experience in how these technologies are being used today for medical research and discovery and present our vision of how they will evolve to change the nature of medicine.



Howard Charney, Senior Vice President of Cisco Systems

One of the four founders of 3Com Corporation

Howard is Senior Vice President of Cisco Systems and is a member of Cisco's Office of the President and Executive Staff. Howard contributes to Cisco's strategy and direction, advises customers on implementing critical Internet technologies, and communicates Cisco's vision to key audiences worldwide. Howard founded Grand Junction Networks, which invented Fast Ethernet and low-cost switching. Cisco acquired Grand Junction in 1995 and charged Howard with growing Cisco's networking business, after which he led its Small/Medium Business division to market leadership in two-tier distribution of network systems.

Prior to Grand Junction, Howard was one of the four founders of 3Com Corporation. Howard is a licensed patent attorney, and belongs to the State Bar of California and the Federal Bar. He holds mechanical engineering degrees from MIT, MBA and JD degrees from Santa Clara University.

The Internet as Innovation Engine

Howard will analyze the impact of information and Internet technologies over the past 20 years. Using current and historical examples he demonstrates that the Internet, while part of a long-term pattern of economic build-out that began with the programmable microprocessor, has had a unique multiplier effect. Looking forward, Charney identifies key emerging technologies that will continue to transform the ways we work, live, play and learn.

SPEAKERS



Professor Albert Y. Zomaya, CISCO Chair of Internetworking and Head, School of Information Technologies, The University of Sydney

Albert is currently the Head of School and the CISCO Systems Chair Professor of Internetworking in the School of Information Technologies, The University of Sydney. He also serves as Deputy-Director (Information Technology) for the Sydney University Biological Informatics and Technology Centre.

Albert serves on the executive board of the International Federation of Automatic Control committee and was the Chair for IEEE Technical Committee on Parallel Processing. Albert served on the editorial boards of the IEEE Transactions on Parallel and Distributed Systems and the IEEE Transactions on Systems, Man, and Cybernetics. He was the editor-in-Chief of the Parallel and Distributed Computing Handbook (McGraw-Hill, 1996) Albert is the founding co-chair of the Workshop on Bio-Inspired Solutions to Parallel Processing Problems. He is a Chartered Engineer, a Fellow of the IEEE, a Fellow of the Institution of Engineers (UK), and Member of the ACM. Albert received his PhD from the Department of Automatic Control and Systems Engineering, Sheffield University in the United Kingdom.

The Changing Face of ICT Research

It is an accepted fact today that computers have led mankind to a third revolution. The basis for this revolution is the emergence of new conceptual and technological tools from computer science – tools which are already proving their potential to have a profound impact on science. It is important to distinguish between computer science and computing. Computers have played an increasingly important role in science for 50 years, and in particular the past decade and a half, and will continue to do so. However, we see today, for the first time, a fundamental shift from computers supporting scientists to 'do' traditional science to computer science becoming embedded into the very fabric of science and how science is done, creating 'new kinds' of science. This talk will survey the state of affairs and highlight the trends that have the potential to have an unprecedented impact on our world in next 100 years.



Professor Hugh Durrant-Whyte, ARC Federation Fellow, Director, ARC Centre of Excellence for Autonomous Systems, The University of Sydney

Hugh Durrant-Whyte has built the world's second largest Field Robotics and Autonomous Systems centre, based at Sydney University and involving the University of NSW and University of Technology Sydney. The centre has over 130 research staff and PHD students. As its entrepreneurial leader, Hugh has led the centre to secure a total of \$30m funding, mainly from competitive selection sources and industry.

Hugh has published over 270 papers and personally supervised over 50 top class PHD students, many now noted academics, engineers and business personnel. Amongst his voluntary activities, Hugh teaches robotics at Primary Schools. Hugh Durrant-Whyte received a B.Sc. in Nuclear Engineering from the University of London, U.K., in 1983, the M.S.E. and Ph.D. degrees, both in Systems Engineering, from the University of Pennsylvania, U.S.A., in 1985 and 1986, respectively.

The Robots are Coming!

Robots represent the next great step in the fusion of machines, computing, sensing, and software to create intelligent systems capable of interacting with the complexities of the real world. Robotics challenges researchers to create intelligence and apply it in a useful form in machines that make our lives easier, more productive and safer. This talk will describe the leading position Australian researchers have achieved in developing robotics for applications in mining, agriculture, marine and air application domains. I will also take a look into the future and to see what the next 50 years will hold for robotics: Are robots ready to do useful things? Can we really build intelligent robots? Why don't real robots look like those in Hollywood films? Will robots take over the world? Find out the answer to these and other essential questions at this talk!

SPEAKERS



Professor Benjamin Eggleton, ARC Federation Fellow, Director, ARC Centre of Excellence for Ultrahigh-bandwidth Devices for Optical Systems, The University of Sydney

Ben is an ARC Federation Fellow, Professor of Physics and the Director of the ARC Centre of Excellence for Ultrahigh-bandwidth Devices for Optical Systems (CUDOS).

Ben was Technical Manager of the Fiber Grating and Devices group where he led Lucent Technologies research effort in fiber grating devices. They developed a 40Gb/s tunable dispersion compensator that was subsequently manufactured and deployed in optical networks. Ben was later Research Director within the Specialty Fiber Devices Business Division where he was responsible for forward-looking research and research prototyping supporting Lucent Technologies business in optical fiber devices and components.

More recently he was Director of the Photonic Devices Research Department in OFS Laboratories, part of the newly formed OFS Fitel business. Ben received his Ph.D in Physics from the University of Sydney in 1996 and received the 2004 Malcolm McIntosh Prize for Physical Scientist of the Year.

Optical Logic and the Photonic Chip

The Centre for Ultrahigh bandwidth Devices for Optical Systems (CUDOS) was created under the Australian Research Council's Centres of Excellence program. CUDOS' research is aimed at the study and potential applications of linear and nonlinear optical behavior in micro-structured materials. The Centre is the result of the collaboration of five universities and international partners and is hosted by the School of Physics at the University of Sydney. The optical physics that CUDOS researchers are studying is of fundamental interest, and it also has potential application in the next generation all-optical technologies, particularly devices that underpin optical communication systems. One of the reasons that all-optical technologies are important is that the electronic approaches to optical switching that are used in current optical communication systems will not work at the very high speeds used in next generation systems. Most experts agree that the solutions will lie in miniaturized applications of nonlinear optics, leading us to the notion of a "photonic chip", the holy grail of this technological race.



Mark Jones, IT Editor, Australian Financial Review

Mark Jones is the IT editor of the Australian Financial Review. Mark was previously from IDG where he was deputy managing director and responsible for the production of such titles as Computerworld, CIO magazine. Mark spent a couple of years in Silicon Valley with IDG and has a great love and passion for technology and journalism.



James Dalziel, Director, Macquarie E-Learning Centre Of Excellence, Macquarie University

James is one of Australia's leading e-learning innovators. He was involved in early e-learning innovation at the University of Sydney in 1996 and 1997, leading to the spin-off of WebMCQ Pty Ltd, a highly successful Australian e-learning company.

After several years working across education, corporate and government e-learning, James returned to an academic environment at Macquarie University during 2003 to become Director of the Macquarie E-learning Centre of Excellence.

James is well known nationally and internationally for his innovative developments in e-learning, and his contributions to e-learning standards. James has been closely involved in a number of significant e-learning projects including COLIS and LAMS.

SPEAKERS



Dr Silvia Pfeiffer, Head of Networked Media Systems, CSIRO ICT Centre

Silvia heads the Networked Media Systems research stream at the CSIRO ICT Centre and has published world leading research on multimedia content analysis and new multimedia applications for nearly 10 years.

Silvia joined the CSIRO in Sydney as a research scientist in digital media, working on several projects involving automated content analysis in the compressed domain. She developed the idea of the Continuous Media Web, which extends the World Wide Web's search and surf capabilities to time-continuous data such as audio and video. With her research team, they developed the Aida mobile video browsing technology as a proprietary solution using Annodex for video surfing on the mobile phone.

Silvia received her Ph.D. in Computer Science on audio content analysis of digital video from the University of Mannheim, Germany.



Ted Dunstone, Managing Director and Principle Consultant, Biometix

Ted has been involved with biometrics and authentication for over fifteen years, both academically and commercially, and has specialized in the government use of biometric identity systems. His experience consulting for Government agencies includes the Hong Kong Government on their new Identity Card, Technical Advisor at the 1999 U.N. ICAO meeting and the development of biometric systems for border clearance with Australian Customs.

In 2002 he lead Biometix in its successfully implementation of SmartGate, the worlds first fully operational face recognition system, as well as pioneered techniques in the areas of testing and assurance and illumination control. As principle consultant in Biometix, Ted has also been involved with providing advice, amongst others, to the Department of Immigration, DSTO, Centrelink and the Department of Finance.

Ted has a computer engineering degree from the University of South Australia and doctorate in machine learning and biometric identification from University of Wollongong. He completed his PhD in artificial intelligence at Wollongong University in 1995 under a scholarship to investigate the detection of terrorists in airports.



Barry Z. de Ferranti, Principal, Barry Ferranti Associates (R) & Vice President and Hon. Life Governor, Foundation for Information Technology, The University of Sydney

Since 1949, a pioneer in Australian computing (Electrical Engineering USyd, SILLIAC, IBM, Ferranti, ICT, ICL New York), Barry has been deeply concerned with Australia's development and application of Information and communication technologies as consultant to commerce, the ICT industry and governments. As engineer building SILLIAC and working with the School of Physics, he assisted executives from industry to understand and plan applications which led to early adoption of computers in this country. That role continued in his consultancy for the past 36 years.

In recent years, Barry has been much involved in Professional Societies concerned with ethical practice and disciplinary matters. The future development of leaders in the wider community who can successfully and satisfactorily apply ICT continues to be his main interest.



The University of Sydney



THE UNIVERSITY OF SYDNEY INVITES YOU TO CELEBRATE A
GOLDEN ANNIVERSARY IN COMPUTING

COMPUTING THE FUTURE SYMPOSIUM 2006

Wednesday, 13th September 2006

Time: 9.00am - 5.30pm

Venue: Everest Theatre, Seymour Centre, The University of Sydney

Cost: \$150; \$100 for Members of Supporting Associations & Post-Graduate Students

You may register via fax, mail, email, phone 1300 651 485 and online at
www.it.usyd.edu.au/cft

Registration Details

Computing The Future Symposium 2006

First Name: _____

Last Name: _____

Title: _____

Company: _____

Phone: _____

Email: _____

COST: \$150 \$100 - Members of Supporting Associations & Post-Graduate Students

PAYMENT METHOD: Cheque Credit Card Amount: \$.....

Card No: ____/____/____/____ Expires: __/__

MasterCard Visa Bankcard Diners Club Amex Amex ID No:

Cardholders Name: _____

Signature: _____

Please make cheques payable to "Slattery IT Consulting", or let us know if you would prefer an invoice to be sent to you.



Assisting ICT companies with marketing, communications and events

SYDNEY: Level 4, 120 Clarence Street, Sydney, 2000 • Tel 02 9423 8850 • Fax 02 9423 8855
MELBOURNE: Level 8, 313 La Trobe St, Melbourne, 3000 • Tel 03 9602 1313 • Fax 03 9602 3388

<watch@slatteryit.com.au> <www.slatteryit.com.au>