

ENGINEERING the future™

news bulletin

ISSUE 21 MAY 2000



THE **Warren** CENTRE
FOR ADVANCED ENGINEERING

INNOVATION IS A MARATHON NOT A SPRINT

In The Warren Centre's 2000 Innovation Lecture, Catherine Livingstone, Managing Director of Cochlear Limited, emphasised the continuous nature of innovation.

"Innovation is about sustainability: a marathon rather than a sprint," said Ms Livingstone speaking to nearly 200 business leaders at Sydney's Hotel Inter•Continental in April.

"And sustainability requires good integration with the market. It implies rigour and continuous measurement."

Ms Livingstone warned that we are facing an emerging risk, that the idea is perceived to have a disproportionate value in the achievement of innovation.

"This disregard for the effort required in the transforming process has the risk of blocking the take-up of new technology," she said.

Ms Livingstone also stressed the difference between an international and a global organisation.

International refers to the degree of geographical spread, where as global refers to the degree of integration.

"While Cochlear was initially international, by the 1990s we realised that ongoing innovation would require globalisation.

"We needed integration so that we could leverage scale to learn quickly and deliver effective and efficient global responses to the market."

Managing Director of Cochlear since 1994, Ms Livingstone has successfully led the



Catherine Livingstone: innovation is the process of transforming ideas into sustainable value-creating outcomes.

company through its public listing in 1995 to a current market capitalisation of \$1 billion.

Its Nucleus cochlear implant system boasts a global market share of 65-70% and the company has some 500 employees in nine offices worldwide.

The Warren Centre thanks sponsors: **Ansett Australia, AusIndustry, Department of Industry Science and Resources, Macquarie Bank, and PricewaterhouseCoopers.**

For a full copy of the lecture, contact **Cheonhee Sohn** on tel (02) 9351 3752 or visit the Centre's website: www.warren.usyd.edu.au/warren/activities.html

DIARY DATES

19 May 2000:

TRIZ Explained and TRIZ in Practice — Inventive problem solving for better, faster design and manufacture of products. Presented at the Australian Technology Park in conjunction with the Advanced Manufacturing Centre and The Concordia Group.

**Contact: Cheonhee Sohn
tel (02) 9351 3752
email c.sohn@eng.usyd.edu.au**

22 June 2000:

Leading an innovation culture within your organisation by John Maclay, GM, Industrial Markets Group, 3M and Using this culture to develop a global product by Keith Martin, Technical Service Engineer. At the Australian Technology Park.

**Contact: Professor Vernon Ireland
tel (02) 9209 4111 email
v.ireland@agsei.usyd.edu.au**

27-28 June 2000:

Intelligent Transport Systems at the Novatel Melbourne on Collins.

Contact: AIC tel (02) 9210 5777

NATIONAL SUMMIT BRIEFING FOR NSW

Early in March, The Warren Centre hosted a briefing on 'Implementing the outcomes of the National Innovation Summit' giving NSW businesses and individuals the opportunity to participate in the national innovation discussions.

Part of the Centre's Enterprise Innovation 2000 initiative, the briefing held at the Australian Technology Park was constructive with close to 100 people present and much lively debate.

The session began with briefings from summit participants and facilitators including The Warren Centre's Executive Director, Professor Trevor Cole and concluded with David Miles,

Chairman of the National Innovation Summit Implementation Group.

Major issues such as education and funding were addressed.

"Overall it was very useful," said Leong Mar, Business Development Manager at the National Nanofabrication Facility. "It gave those involved in the innovation process, the opportunity to speak about their experience and perceived obstacles to innovation and be heard by those in the policy area."

Feedback from the briefing will contribute to the broader innovation summit implementation process.

...continued on back page

This Warren Centre bulletin is proudly sponsored by SGI Australia.



At the forefront of high-performance computing, SGI is delivering computer systems with phenomenal power to compute the toughest problems. These two factors are helping organisations fundamentally change the way business is done in manufacturing, education/science, energy, government, entertainment and communications.

www.sgi.com.au

MICROELECTRONICS

EXPERT SHARES CANADIAN EXPERIENCE

As part of The Centre's Australian Microelectronics Network (AMN) project, Dr Tony Marsh, President of the Canadian Microelectronics Corporation, visited Australia to share Canada's experience of developing its microelectronics industry.

The Canadian Microelectronics Corporation (CMC) is a not-for-profit organisation established in 1984 to provide industrial microelectronic technologies to Canadian universities, both to facilitate world-class research and to ensure a strong source of well-trained graduates for Canadian industry.

"Today, the CMC provides a Canada-wide infrastructure of industry-quality equipment and services to enable world-class research and post graduate training in microelectronics and microsystems," said Dr Marsh.

"Its membership now includes 38 universities and 23 industrial organisations."

At the seminars held throughout the country in April, the AMN project's feasibility study and business plan were also presented.

"The AMN will facilitate access to international contacts, industry-focused educational material and also offer leverage through combined purchasing power," explained Professor Trevor Cole, Executive Director at The Warren Centre.

"The challenge is to build up the network, obtain seed funding and progressively enhance the range of services and design tools it can offer through the State nodes."

The business plan and an application for \$5 million of matching seed funding for the regional nodes has been submitted to the Department of Industry, Science and Resources.



Dr Tony Marsh (right), visiting President of the Canadian Microelectronics Corporation with Matthew Henderson, the Australian Microelectronics Network's Project Director.

"The nodes will support state-based initiatives and provide mentoring and training," explained Matthew Henderson, the Project Director.

A separate funding request to purchase the "backend" design tools, which would enable Australian companies to design world-class products, is being developed for presentation to government.

"Critical to this tool access will be the key centres — or points of contact — providing efficient technical support to company members," explained Mr Henderson.

While both these steps will come under the Network's umbrella, the study also recommends a separate group to promote access to facilities within universities so that students can gain experience with industry strength tools.

Results of the funding applications are expected by the end of May.

For more information contact:
Professor Trevor Cole tel (02) 9351 7224
email trevor@ee.usyd.edu.au or
Matthew Henderson tel (02) 9209 4459
email m.henderson@ee.usyd.edu.au

TRANSPORT PROJECT LAUNCHED

The 'Sustainable Transport in Sustainable Cities' Project was officially launched by The Hon Carl Scully MP, Minister for Transport and Minister for Roads at the end of March.

At the launch held at the Westin Hotel in Sydney, the Project's Visiting Fellow, Chairman of the US Transportation Research Board, Professor Martin Wachs shared his enthusiasm for the project and spoke about the critical issue of sustainability in transport and land-use.

Impressed with the progress to date, Professor Wachs sees Australia as being highly creative in its urban planning and transportation, in part because of people's ability to work collectively.

The project is currently in its second stage reviewing community values.

For more information contact: Project Manager, Kim Freeman tel 0412 278 073 or email k.freeman@eng.usyd.edu.au

BIOMATERIALS UNDER THE MICROSCOPE

Biomaterials is under review as a possible Warren Centre project.

At a Major Project Committee meeting in March, Professor Klaus Schindelm from the Graduate School of Biomedical Engineering at The University of New South Wales outlined some of the advances and directions in biomaterials.

"Until recently, biocompatibility of materials was considered to be inertness. Now we have materials that can act as scaffolds and/or interact with the body's cells," he explained. "With these advances, biomaterials can be used in combination with the body's own natural processes."

However, he emphasised that the major limitation to biomaterial development is not the materials technology itself but the lack of understanding of the biological environment and its interaction with materials.

The Major Project Committee reviews different fields to explore possible roles for The Warren Centre in advancing or facilitating progress in that industry.

If you are interested in biomaterials, please contact Robert Mitchell tel (02) 9351 4048 or email r.mitchell@eng.usyd.edu.au

The Warren Centre for Advanced Engineering
Engineering Building, J13
Sydney University NSW 2006
Telephone: (02) 9351 3752 Facsimile: (02) 9351 2012
email: warrenc@eng.usyd.edu.au
Internet home page: www.warren.usyd.edu.au

Edited by: Karen Prout

Designed and produced by: Kannegieter & Jackson

Print Post No: PP224696/00070

NATIONAL SUMMIT BRIEFING FOR NSW

...continued from front page

Michael Johnson, Champion for the Enterprise Innovation 2000 project, emphasised that the briefing also gave a good road map for the next steps in The Warren Centre project.

"It was clear that there are some common themes in the innovation process — that Government sets the agenda; that innovation is a process not a thing; that internet is integral to innovation; and that, with the accelerating rate of change, you need cultures, structures and training which can accommodate this."

A survey carried out at the briefing received an excellent response rate. The Warren Centre has tabulated the results and is developing actions based on its findings.

For copies of the results, contact Cheonhee Sohn, tel (02) 9351 3752 email c.sohn@eng.usyd.edu.au

Thanks to major sponsors:
Australian Technology Park Sydney,
Department of Industry Science and Resources and Griffith Hack,
and minor sponsors:
iiglobal, Innovation Connections and Michael Johnson & Associates.

For more information on the project, contact Michael Johnson tel (02) 9810 8107 or email mjanda@zip.com.au