INNOVATION

Convergence of ICT and the Life Sciences

The convergence of diverse technologies plays an increasingly important role in breakthrough innovation and growth of new products, services and industries. Information and Communication Technology (ICT) is increasingly applied in the Life Sciences to create new devices, processes tools and products for improved prevention and care.

ICT for LIFE SCIENCES

In October , NICTA launched a new initiative the ICT for Life Sciences Forum. The research vision of the ICT for Life Sciences activity is to "create technology which contributes to the development and implementation of personalised medicine". This Forum connects the community of engineering, computing, medical and life science researchers in Melbourne interested in understanding the issues and opportunities offered by the integration of Information and Communication Technology and the Life Sciences in collaborating to tackle major health problems.

The inaugural event for the ICT for Life Sciences Forum was also held in October, to honour Professor Graeme Clark's achievement in developing the bionic ear.

In the 1970's, Professor Graeme Clark led a team of multidisciplinary researchers at the University of Melbourne to develop the first multiple-channel cochlear implant, or bionic ear. In 1978, the world's first cochlear device was implanted in a human in an operation performed in Melbourne.

Professor Clark's achievement remains an inspiration for the ICT for Life Sciences Forum. It demonstrated the great value to society of combining knowledge from engineering and the life sciences to work in partnership to address a problem that has a profound impact on the lives of many people around the world.

The Graeme Clark Oration will be an annual public event. The Oration will be delivered annually by a leading figure addressing the convergence of ICT and the life sciences – from the past, the present and what is likely in the future.

www.ict4lifesciences.org.au

Australian team to build the Bionic Eye

A major partnership of leading Australian research institutions created to build an advanced bionic eye has been formed. Bionic Vision Australia brings together a multidisciplinary team of experts to develop a retinal prosthesis capable of improving the sight of people with degenerative or inherited retinal disease, in particular Retinitis Pigmentosa and Age-related Macular Degeneration.

The Bionic Vision Australia partners include the University of Melbourne, the University of New South Wales, the Bionic Ear Institute, the Centre for Eye Research Australia and the Victoria Research Laboratory of NICTA. The partnership brings together retinal surgeons and physicians, materials scientists, biocompatibility experts, neurophysiologists, signal processing engineers and electrical and electronics engineers.

Bionic Vision Australia plans to deliver a first prototype device ready for human implant in 2011. This will contain about 100 electrodes that will deliver benefits to patients who suffer from severe mobility and light perception issues. This device will be developed at the University of New South Wales, where research on the bionic eye has been in progress for 10 years. By 2013, the partnership plans to have a 1000 electrode device ready for the first human implant. Patients implanted with this device will have their eyesight restored so that they can recognise familiar faces and read text. This device will be developed at the Victoria Research Laboratory of NICTA, Australia's Information and Communication Technology research centre of excellence.

BIONICVISION AUSTRALIA

This announcement positions Australia to take a leadership position in medical bionics. It is also very pleasing to see three of the founding sponsors of the ICT for Life Sciences Forum - the University of Melbourne, the Bionic Ear Institute and the Victoria Research Laboratory of NICTA, making important contributions to Bionic Vision Australia. This announcement reinforces the growing importance of multidisciplinary research and the contributions it can make to human health and well-being.

www.bionicvision.org.au

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ADVENTURES IN INNOVATION SUMMER 08

MELBOURNE VENTURES PTY. LTD.

DEAL NEWS

THE UNIVERSITY OF MELBOURNE

Victoria The Place To Be

Biotechnology Intellectual Property Manual

If you have questions about IP Management, contact us for a copy of the new Biotechnology IP Manual, recently released by the Victorian Government.

The manual provides a practical guide to the identification, protection and management of biotechnology related IP, thereby assisting in maximising the benefits gained from investment in research.

Manjrasoft aims to "simplify .NET clouds and enterprise grids"

Manjrasoft Pty Ltd is an exciting new startup company commercialising novel software technologies developed in the Grid Computing and Distributed Systems (GRIDS) Laboratory at The University of Melbourne. Manjrasoft's core technology enables enterprises to improve performance and scalability within existing, Windows-based software application and development frameworks by distributing application processing within .NET enterprise environments. Further developments underway also extend abilities for the peering of cloud computing across networks.

Developed under the leadership of Associate Professor Raj Buyya, the technology introduces the 3rd generation of distributed / cloud computing middleware to enable rapidly-deployable, highly scalable, multi-mode, .NET parallelisation of application processing across Windows desktops, servers, and clusters. Extensive prototyping has been completed and the software is approaching a ready state for beta deployment.

"It is exciting to reach this point and to have already identified a number of interested trial customers" said A/Professor Buyya, "I am convinced our technology will make a strong impact on the industry and lead to a successful business."

Melbourne Ventures' Ivan Mellado has worked closely with A/Professor Buyya to define the commercial opportunity, develop the initial strategic plan and establish the new company. A/Professor Buyya will lead the venture as the initial CEO and CTO. Melbourne Ventures and the University will provide in-kind support to facilitate the transition to a commercial operation. Ivan Mellado will join the board of directors.

As part of establishing the company, Melbourne Ventures successfully applied for an AusIndustry COMET grant. The grant has enabled Manjrasoft to secure key advisors with deep industry experience to aid in the development of an investor-grade Business Plan and initiate business development activities. The company will use the Business Plan to progress investment discussions with a range of financial and strategic investors who have expressed early interest in supporting the business.

"Cloud computing has been widely adopted by major software vendors, outsourcers and a number of major alliance initiatives" comments A/Professor Buyya, "fundamentally, it is about being able to readily distribute, scale, manage and quickly reconfigure computing tasks across discrete pieces of infrastructure, and the opportunity is open for Manjrasoft's technology to quickly establish itself as a central building block within Cloud computing." The leading industry verticals driving wider adoption of these technologies include financial services, life sciences, manufacturing and sectors with intense information processing needs.

Ivan Mellado adds that "the wide-scale deployment of multi-core chips also presents a compelling opportunity for Manjrasoft. Many industry leaders have observed that relatively few programmers worldwide have the know-how to write code to really take advantage of this hardware trend - Manjrasoft's technology could provide a powerful way for enterprise developers and ISVs deploy applications across multiple cores within the pervasive Microsoft Windows environment."

Associate Professor Raj Buyya

"There are many challenges ahead as we try to introduce our software into the value chain and integrate with complementary technologies. We need to prioritise the 'right' vertical markets and applications where we can really drive home the advantage of our 3rd generation approach. I am highly motivated and committed to building a commercial success" said A/Professor Buyya, "and it has been invaluable to have Melbourne Ventures here to support me through the process."

INNOVATION

LATEST NEWS

Fibrotech receives $3m to progress new treatment for fibrosis

The Medical Research Commercialisation Fund backed by the Victorian, NSW and West Australian Governments with investment funding from the Statewide and Westscheme Superannuation funds has invested $3 million to bring the drug, FT-11, developed by start-up company Fibrotech, to commercial reality.

Premier Brumby announced the investment at the Ausbiotech Conference held in October. “This investment will help to ensure a Victorian discovery becomes a worldwide success,” Mr Brumby said. “This investment means that scientists from the University of Melbourne and the Bio21 Institute can continue the development of this drug here in Australia. There is enormous international interest in the news that Victorian scientists had developed a novel drug for the treatment of fibrosis.

The University of Melbourne shares patent rights for the drug through Fibrotech Therapeutics, the company commercialising the drug. The University’s commercialisation company, Melbourne Ventures, has also worked closely with Fibrotech on its commercial and strategic development, under a program supported by the Brumby Government through its Vicstart initiative.

The drug will initially be developed to treat people with kidney disease caused by diabetes.

Fibrotech’s Associate Professor Darren Kelly said: “The Melbourne project has had a 100 per cent success rate in trials on rats and will be trialled on approximately 30 Victorian patients. Depending on the results of clinical trials, the drug could be available within six to eight years.”

Innovation Minister Gavin Jennings said: “The investment by the Medical Research Commercial Fund is a great example of how a venture capital fund can work with our premier research institutions to take their ideas to the world while ensuring the best commercial outcome for Victoria.”

FT-11 is a breakthrough for treating fibrotic conditions that are responsible for up to 45 per cent of all deaths in the Western world.

Hatchtech receives $2.5m new funding for Phase II head lice trials

Hatchtech Pty Ltd has secured $2.5 million in further funding from new and existing investors to progress its unique head lice treatment into Phase II safety/ efficacy studies in humans. The new advanced trials for the DeOvo™ product are multi-centre in Australia and India and follow successful Phase I studies in Australia in 2007.

DeOvo™ is the lead product of Hatchtech, an Australian company developing novel technology to control a variety of insect, arachnid and nematode pests. An Investigation New Drug application was accepted by the US FDA earlier this year.

DeOvo™ is designed to give healthcare professionals and parents a definitive treatment of head lice infestations as a single treatment. It has already been shown to be safe in adult volunteers.

“Securing this funding allows Hatchtech to progress DeOvo™ to proof of clinical concept in affected patients. This is an important and valuable milestone,” said Dr Paul MacLeman, Hatchtech’s chief executive officer.

“The imminent Phase II trials will strongly demonstrate DeOvo™’s potential as the one time definitive head lice cure. This would replicate effects already proved in laboratory tests on lice.

Approximately 12 million children are affected by head lice each year in the United States. The global annual market for head lice control products is estimated to be in excess of US$450 million.

Key US Patent Granted on Antibodies against GM-CSF to Treat Inflammatory Disorders

The U.S. Patent & Trademark Office has granted to the University of Melbourne a U.S. patent covering key uses of antibodies against GM-CSF. The patent stems from a provisional patent application filed in the USPTO in 2000 by the University.

In 2007, German biotechnology company MorphoSys AG signed an agreement with the University of Melbourne, providing MorphoSys with an exclusive license to this patent family. The claims of the patent are directed to methods of ameliorating the effects of inflammation by administering to a patient an antibody directed against GM-CSF.

Human cytokine GM-CSF (Granulocyte macrophage-colony stimulating factor) is the target molecule of MorphoSys’s proprietary MOR103 antibody program for the treatment of rheumatoid arthritis. MOR103 is the first fully human antibody against GM-CSF in clinical trials. The drug could offer an innovative treatment option for rheumatoid arthritis based on a mechanism of action distinct from anti-TNF and other competing approaches.

MorphoSys is one of the world’s leading biotechnology companies focusing on fully human antibodies. With its proprietary technologies, MorphoSys is developing not only the next generation of therapeutic antibodies, but also antibodies for research and diagnostics purposes.

In 2004, the market for biopharmaceuticals to treat rheumatoid arthritis amounted to US$ 6 billion worldwide and is expected to further increase to US$ 14 billion in 2009.

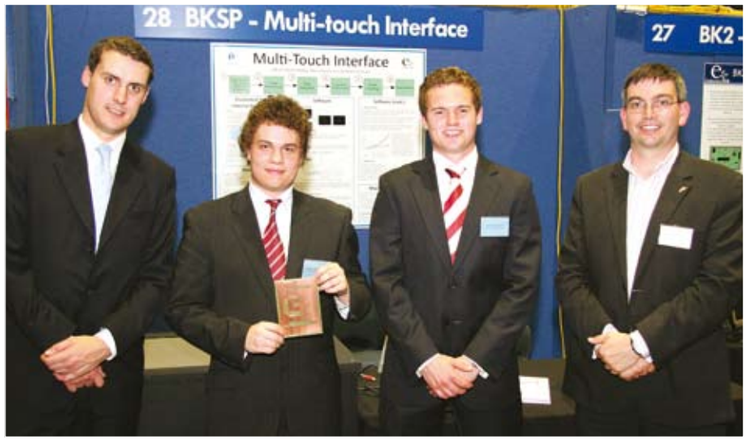
EVENTS

Endeavour 2008

The Endeavour exhibition showcase was held in October. Melbourne Ventures awarded the prize for the project with the Best Commercialisation Potential.

The winner of the prize this year was the BKSP Multi-Touch Interface Team. Daniel, Robert and Adam developed an interactive touch screen to create a more interactive and intuitive computer interface. Their developments resulted in a screen that can track up to 80 touch points, at a significantly lower cost to anything on the market at present. Congratulations to the team.

Endeavour is the culmination of a year-long project, undertaken by Electrical & Electronic Engineering students in the final year of their undergraduate studies. Projects cover a range of different fields including biomedical engineering, communications, control and robotics.



From left to right, Team BKSP Robert O’Bryan, Daniel Angley, Adam Nankervis and Melbourne Ventures CEO Charlie Day

Ausbiotech

The Ausbiotech 2008 conference was held in October at the Convention Centre in Melbourne. The theme of the international conference was ‘Building a Bioeconomy’. Premier John Brumby took the opportunity to officially announce the investment in Fibrotech Therapeutics at the conference dinner. This was a highlight for both the research and the commercialisation team working on the project at the University of Melbourne.

Melbourne Ventures exhibited at the conference for the first time, in conjunction with MCCP (Melbourne Consulting and Custom Programs). Many University of Melbourne researchers attended the stand, fielded enquiries, and demonstrated their research. Thank you to all who attended and participated in the exhibition. In particular, we would like to thank the MUVES (Melbourne University Virtual Environments for Simulation) Team for demonstrating their ear surgery simulator over the course of the conference. MUVES draws together the university’s expertise in surgery, anatomy, computer science and software engineering, image processing, biomedical engineering, cognitive and behavioural psychology and educational research. Thank you to Professor Stephen O’Leary and his team.

Thank you also to our donating sponsors Melbourne School of Land and Environment and the Dookie Campus .

The Ausbiotech conference will be held at the new Convention Centre in Melbourne in 2009. Melbourne Ventures will exhibit at the conference in 2009, in conjunction with input from the Medical and Engineering faculties.

KCA Annual Conference

This year’s Annual Conference of Knowledge Commercialisation Australasia (KCA), held in Sydney in November, touched on two challenges for the commercialisation environment which will have lasting impact in 2009 and beyond: the Government’s response to the Cutler Review of the National Innovation System, and the appeal in the Federal Court case UWAvGray. Important developments in both cases are now not expected until the first quarter of next year.

“The uncertainty created while we wait for resolution on these issues is unhealthy for both universities and industry”, said Melbourne Ventures CEO, Charlie Day. “Even though the University of Melbourne has put in place strong programs and policies to address the relevant areas, the risk of longer-term damage remains. We plan to work closely with our stakeholders in industry and government to ensure that Australia’s nascent technology transfer industry is appropriately supported.”