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AusBiotech 2011: Life science down south

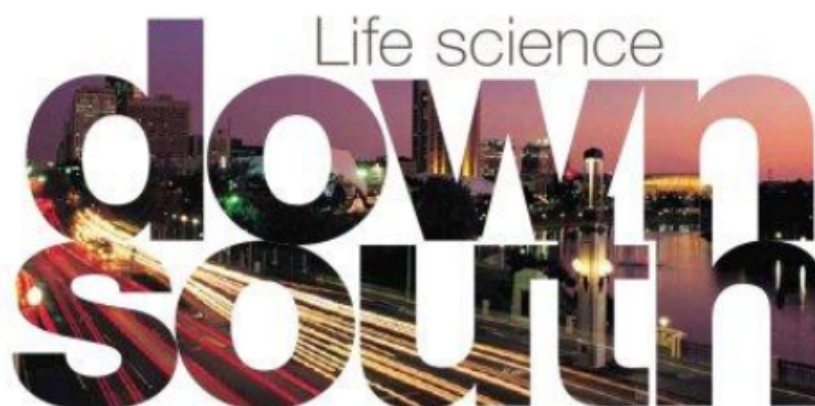
There's been a lot going on in the life sciences industry in South Australia, which is the host state for this year's AusBiotech Conference.

Staff Writers (Australian Life Scientist) | 14 October, 2011 11:41 | Comments | [Like](#)

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While Victoria and Queensland continue to get the lion's share of attention when it comes to biotechnology, South Australia has been quietly beavering away to the point where it is beginning to challenge the eastern states in the biotech stakes.

According to Dr Jurgen Michaelis, CEO of Bio Innovation SA (BioSA), the presence of the AusBiotech 2011 Conference in Adelaide in October will serve to further raise awareness of this vital industry in the southern state.

Biotechnology is one of South Australia's booming sectors, says Michaelis. "In the last year alone, the South Australian biotechnology sector has seen four new bioscience companies established and the industry raised \$25 million in capital in difficult market conditions," he says.

BioSA was established in 2001 by the state government to foster the growth of the bioscience industry, and in the past decade BioSA has facilitated major growth in the state's life science

sector: from 50 to 100 biotech companies; from 800 to 1700 full-time equivalent jobs; from \$100 million to around \$300 million annual trading income; and now \$150 million per annum exports.

According to Access Economics, a consultancy, the last decade has seen SA punch above its weight compared to the two perceived leaders in biotech: Victoria and Queensland.

Even though the South Australian government issued fewer grant dollars to the bioscience sector than the Victorian Government, the bioscience sector in SA outperformed Victoria and Queensland in six out of ten key indicators, including new company formation, biotechnology patents and clinical trials.

South Australia is home to five innovation clusters, including the Thebarton Bioscience Precinct, which is home to one of the largest clusters of medical bioscience companies in Australia. The 12 hectare bioscience and advanced technology hub houses 90 small to medium bioscience and advanced technology companies with many starting their business based on intellectual property originating in the State's public sector research organisations.

Since 1997, the South Australian Government has invested close to \$70 million in the precinct on new facilities, including four purpose-built buildings that are now home to Bionomics, Hospira Adelaide and TGR BioSciences.

The precinct is also home to the \$12 million BioSA Business Incubator, which was established to promote and accelerate the commercialisation of R&D and is the home of early stage bioscience companies, one of which recently passed an FDA audit with flying colours.

Other clusters include the Waite Precinct, which is the heart of plant bioscience, viticulture and land and water management research in South Australia, and the Florey Precinct, which is recognised for its life and medical sciences research.

The Mawson Precinct is a high-tech commercial, research and teaching hub and is recognised for excellence in ICT, defence and biomaterials, and the Flinders Precinct is recognised for its biotechnology, marine and related research activities.

Around the state

Adelaide-based Bionomics is one of the recent big achievers of the Australian biotech sector. With a market capitalisation of around \$170 million (up from \$98 million a year ago), the company has two compounds in clinical trials, one for the treatment of various cancers and another for anxiety and depression.

Hospira operates a state of the art biopharmaceutical manufacturing plant in Thebarton and employs close to 100 local staff. It began life as BresaGen, founded at Thebarton by local entrepreneurs, and was subsequently taken over by the multinational Hospira, which has invested heavily in the site (read more about Hospira on page 56).

Wound healing is another area in which South Australia exceeds. At the Royal Adelaide Hospital, Associate Professor John Greenwood, is developing synthetic skin rebuilding technology for burns victims.

Called a Biodegradable Temporising Matrix, the technology is aimed at providing plastic surgeons with a viable and more cost-effective alternative to existing products that are already available, but which can cost up to \$5,000 per A4 sheet.

In collaboration with PolyNovo Biomaterials of Victoria, Professor Greenwood is developing a product that will cost a tenth of that. Professor Greenwood has formed a company, NovoSkin, to take his technology through pre-clinical and clinical trials (see full story, page 44).

Adelaide-based Signostics has recently expanded in to the European medical market with Signos Personal Ultrasound, the world's smallest ultrasound device. It can be carried in a physician's pocket, compared to the lumbering and more expensive cart-based ultrasounds. Signostics has signed a European distribution deal with Italian distributor SensorMedics and further agreements are expected to follow.

Ellex Medical Lasers is a South Australian company tackling the issue of blindness, in this case Age-related Macular Degeneration (AMD), which affects one in seven people over 50 and is a major health concern with an increasingly aging population.

The company has developed a novel laser device which delivers a controlled nanosecond dose of laser energy into the eye, stimulating a process of cellular regeneration in the retina, the key area of damage in AMD.

According to Michaelis, one of the keys to South Australia's robust biotechnology sector is its diversity. While a significant part of the state's biotechnology industry is centred around medical research, South Australia also has world class agricultural and wine research centres.

Based at the Waite Precinct is the ARC Centre of Excellence in Plant Cell Walls, which was announced just a year ago, and has already garnered over \$30 million in funding from the Australian Research Council as well as from partner institutions in Europe, the U.S. and Australia.

Plant cell walls contain components that are of key interest for renewable energy production, the food industry and pulp and paper industries. The Centre will contribute to bioscience research supporting Australia's important crop industries, valued at over \$8 billion annually.

Over at the Australian Centre for Plant Functional Genomics a team of researchers has developed a way to genetically modify rice plants so that salt is trapped in the roots, improving their tolerance to salinity. Land that accumulates salt tends to have lower rice crop yields and by trapping the salt in the root the technology allows the plant to maintain a salt-free rice shoot.

In many ways wine is South Australia's lifeblood. The industry – one of the more robust wine industries in the world – does not rely purely on sunshine and good soil to produce some of the best wines in the world.

The Australian Wine Research Institute together with Adelaide's Metabolomics Australia allows researchers to analyse organisms at the metabolic levels. South Australian researchers are currently tackling areas such as controlling spoilage by *Brettanomyces/Dekkera*, reduction of volatile acidity and measuring bottle closure performance.

Michaelis says the AusBiotech 2011 Conference will be more than just an opportunity to showcase the strengths of South Australian biotechnology. "It will be a real surprise to many just how far South Australian biotech has come, and how in so many areas we are world class," he says.

"We are looking forward to people coming to Adelaide and realising how important our biotech sector is to the state and to Australia."