

“The Most Important Resource; Human ingenuity”

Article from ‘The AICC(WA) and ECU Annual Lunch’ 10 March 2016 at Bankwest in Perth WA

Dr Dan Shechtman is an Israeli scientist, who was bestowed with the highly-esteemed Nobel Prize for his discovery of quasicrystals. Born in Tel Aviv, Israel, he did his B.Sc. and M.Sc. in Mechanical Engineering and Material Engineering, respectively from Technion – Israel Institute of Technology and later on completed his Ph.D. in Materials Engineering from the same institute.



From L to R: Mr John Cluer, Chief Executive, Australia-Israel Chamber of Commerce (WA), Ms Donna Dalby, State Manager, Business Banking, Bankwest, Associate Professor Andrew Woodward, Dean, School of Science, Edith Cowan University, Nobel Laureate Distinguished Prof Dan Shechtman, Department of Material Science & Engineering, Technion, Israel and Professor Ron Oliver, Deputy Vice-Chancellor (Teaching, Learning and International) and Vice-President, Edith Cowan University

The AICC(WA) was honoured to present Dr Dan Shechtman to address the ECU Annual Executive Lunch on the topic “Demographics, Entrepreneurship, and the Future of the World”. AICC(WA) Chief Executive John Cluer noted that it was a special request of ECU Vice Chancellor Professor Steve Chapman to bring Dr Shechtman to Perth and that the Chamber took great delight in fulfilling the request. The sentiment was further echoed by Deputy Vice Chancellor Professor Ron Oliver, whose introductory remarks endorsed the National Agenda for Innovation and Science (NISA) and advocated for a greater focus on the commercialisation of research.



(Left:) Ms Donna Dalby, State Manager, Business Banking, Bankwest. (Right:) Professor Ron Oliver, Deputy Vice-Chancellor (Teaching, Learning and International) and Vice-President, Edith Cowan University

Hosted by Bankwest, Donna Dalby, State Manager Business Banking showcased the bank's wonderful facilities and profiled Bankwest funding activity to enhance the capacity of WA Business. The event was co-sponsored by CDM Australia.

Dr Shechtman shared his fondness of Perth, recalling his first visit in 1987. On that occasion he had attended a meeting of the International Union of Crystallography to share his new findings in crystallography. He had recently discovered the "icosahedral phase", which opened the new field of quasicrystals. Quasicrystals have low thermal and electrical conductivity but have interesting properties which can make them useful for various applications. Some scientists initially opposed his discovery, however over time his view was confirmed and accepted, and he was subsequently conferred with the Nobel Prize in Chemistry. It was his meeting in Perth that became the first turning point which led to the acceptance and recognition of his discovery.

Dr Shechtman's address was however on the topic of technological entrepreneurship, and his thirty year journey in pioneering tertiary education in commercialisation and business start-ups for academic and industrial research. Dr Schechtman introduced his topic by noting that business development and entrepreneurship is risky. At the time he developed his new course, it was a new concept for the Technion, however, the Israeli model of business education and subsequent model of academic technology transfer is now mainstream across all Israeli society.



Nobel Laureate Distinguished Prof Dan Shechtman, Department of Material Science & Engineering, Technion, Israel



Presenting demographic profiles, Dr Shechtman demonstrated that world demographics are changing rapidly and the need to deal with the consequences is urgent. Israel has a high proportion of young people to sustain economic growth. Australia's population is more evenly distributed, but at risk due to a lower birth rate. It does however still compare favourably to other nations who will become contingent on migration or other factors to sustain sufficient levels of employment for a viable economy. Dr Shechtman proposed that technological entrepreneurship is an essential facility to create new employment opportunities and stimulate economic growth. Referring to Australia's experience of economic prosperity based on the extraction and sale of natural resources, and growing market volatility, he cautioned that "the most important resource of any country is human ingenuity".

The five ingredients he listed to achieve successful business growth are;

- Having the infrastructure to provide a basic education to all sectors of society, including the underprivileged
- Placing an emphasis on engineering and science within education systems
- Having a structure of good Government policy and support
- Ensuring a free market economy and removing barriers of entry
- The absence of corruption in funding channels and decision making (competitive neutrality)



Dr Shechtman also cautioned that these dynamics alone are not enough. Promoting the spirit of entrepreneurship and start-up capability is also necessary, and this is a culture that can be fostered and taught. Motivated by personal experience, Dr Shechtman set about establishing and promoting lectures on this topic, which have now touched about ten thousand Technion students, many of whom have contributed to Israel's "Start-Up Nation" economy.

Being an export market, Dr Shechtman observed that from day one all Israeli businesses are not just developed for domestic consumption, where there is an ineffective economy of scale, but rather takes a global sales outlook into its design. He also emphasised that the ability to fail in entrepreneurship is a learning experience that should motivate a person to try again, and an inventor should not be penalised or discouraged by a start-up that does not succeed.



From L to R: Mr John Cluer, Chief Executive, Australia-Israel Chamber of Commerce (WA), Nobel Laureate Distinguished Prof Dan Shechtman, Department of Material Science & Engineering, Technion, Israel and Mr Martin Eyer, General Manager, CDM Australia

Commenting on the venture capital market, Dr Shechtman noted that some expected development and turn-around times are too condensed and that a longer-term view is often needed for the true impact of commercialisation to take effect. He pointed out the success of Israel's development through Government investment and the role of the Chief Scientist. A reinvestment into new business development by successful entrepreneurs, a process to identify strategic partners, and the role of "intrapreneurship" were also contributing ingredients to Israel's economic success.

Dr Shechtman is a unique Nobel Prize laureate with a broader commercial vision. He has moved beyond sharing his expertise in science towards creating a global groundswell in economic development and capacity. His dedication towards creating a new generation and a new culture that transforms academic discovery into business capability has assisted to spearhead Israel into an economic powerhouse. His efforts have extended well beyond Israel to assist other nations achieve the same.



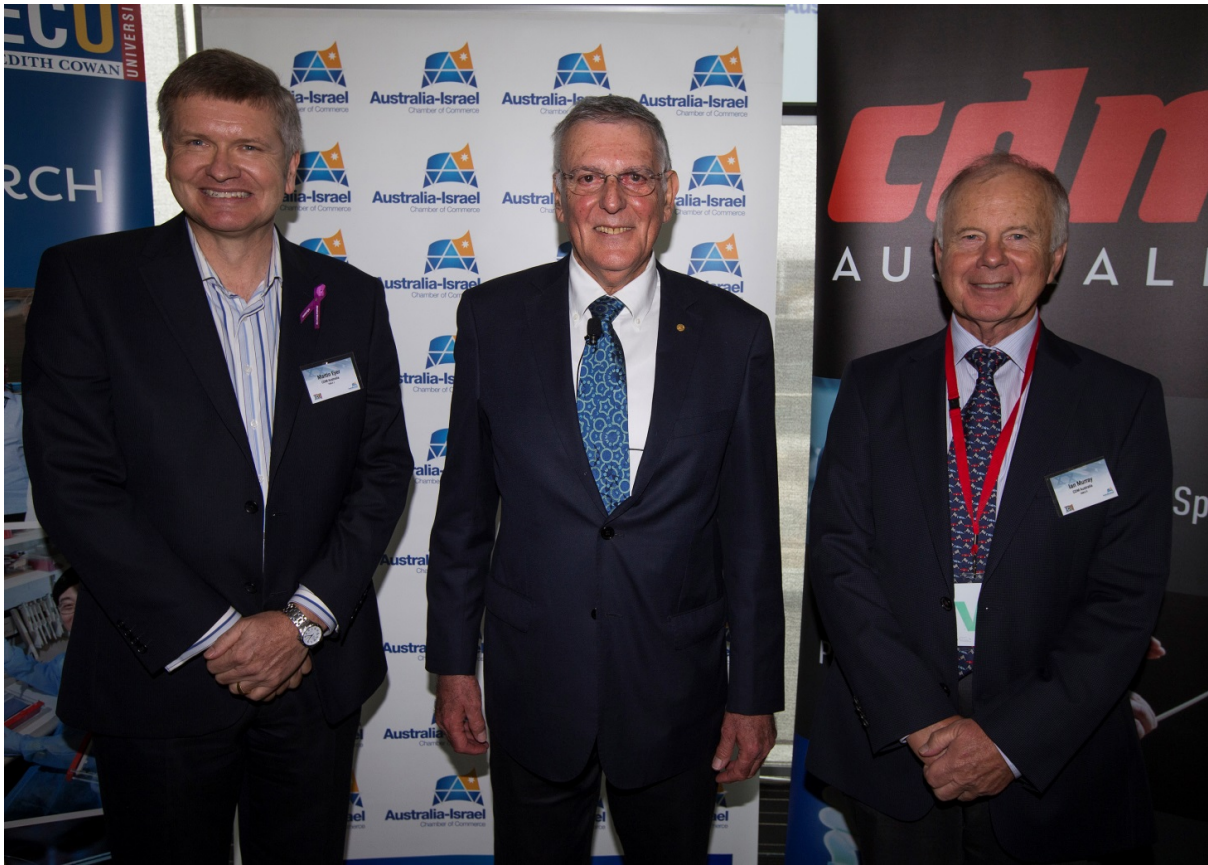
Professor Ron Oliver, Deputy Vice-Chancellor (Teaching, Learning and International) and Vice-President, Edith Cowan University and Nobel Laureate Distinguished Prof Dan Shechtman, Department of Material Science & Engineering, Technion, Israel



Associate Professor Andrew Woodward, Dean, School of Science, Edith Cowan University, Nobel Laureate Distinguished Prof Dan Shechtman, Department of Material Science & Engineering, Technion, Israel



From L to R: Mr Martin Eyer, General Manager, CDM Australia, Nobel Laureate Distinguished Prof Dan Shechtman, Department of Material Science & Engineering, Technion, Israel and Mr Camillo Della Maddalena, Managing Director, CDM Australia



From L to R: Mr Martin Eyer, General Manager, CDM Australia, Nobel Laureate Distinguished Prof Dan Shechtman, Department of Material Science & Engineering, Technion, Israel and Mr Ian Murray, Manager Enterprise Solutions, CDM Australia

