Director’s welcome

It gives me great pleasure to welcome you to this edition of the Australia-China Joint Research Centre in Future Dairy Manufacturing newsletter.

Since our last newsletter, we have continued to build our research, collaborations, staff and profile – all of which I look forward to sharing with you over the next few pages here.

Our relationship with Soochow University and the China National Cereals, Oils and Foodstuffs Corporation (COFCO) has developed further into cooperations that will lead to innovations and joint research projects. We were pleased that the Director of COFCO’s Nutrition and Health Research Institute (NHRI), Dr Xiaoming Hao, publicly commented on the importance of the NHRI and Monash University collaboration, and his vision for our further collaboration, in light of the growing demand in China for imported dairy products.

Included in our international visits was the Cheese Symposium China. Through this three day symposium, our joint researchers, industry partners and government representatives investigated the advanced capabilities and innovative dairy technologies to co-develop into high-value, high-tech applications. We were fortunate to visit Mengniu Dairy, where access to the UHT dairy drink plant and a tour of the current cheese site were some of the highlights.

We were delighted that we could reinforce this relationship when two delegations from Mengniu Dairy visited our research laboratories. The delegations included Dr Weizu Yu, Vice President of R&D and Innovation, Jie Zhang, Process and Technical Director of R&D Innovation, Jason Chen, R&D Director of Mengniu Dairy China, and Xiaochun Wang, Executive Director Burra Foods Australia.

The Centre’s research capacity has been rewarded with two outstanding awards. At the ICemE Global Awards that took place in Manchester (UK) I was delighted to accept the award in the Food and Drink category. We also took home the Business Higher Education Round Table (BHERT) Award in the Outstanding Collaboration in Research and Development category.

Professor Cordelia Selomulya, Director

Cordelia Selomulya appointed Director of Food Engineering and Agriculture Technology

Professor Cordelia Selomulya has been appointed the Director of Food Engineering and Technology at Monash University. In her role as Director she will provide leadership within the Faculty of Engineering for the development of partnerships in research translation and education programs with the Monash Food Innovation (previously known as Monash Food Innovation Centre) and associated Monash Food Incubator.

Moving ahead, plans include the development and implementation of food and engineering research and education with the Faculties of Information Technology; Medicine Nursing and Health Science, Pharmacy and Pharmaceutical Sciences; and Science.
The Nutrition and Health Research Institute (NHRI), a research arm of China’s prestigious National Cereals, Oils and Foodstuffs Corporation (COFCO), is a collaborative partner in the Australia-China Joint Research in Future Dairy Manufacture.

NHRI Director, Dr Xiaoming Hao, had high praise for the Monash Food and Dairy Centre and the quality of dairy products produced in Australia.

“The demand for imported dairy products into China is currently on the rise, and Australian products are viewed very favourably,” Dr Hao said.

It was this dual reputation both in Australian research and industry production that was a catalyst for COFCO NHRI to join with Monash University to undertake specific research projects.

“The reason for choosing Monash Food and Dairy as an alliance partner was firstly based on the international reputation of Monash University’s chemical engineering research. We were aware that Monash University has been investing in building their research capability in food engineering.”

“Secondly, Monash has built strong relationships with many Australian food companies, especially in the R&D area, and this was important for us as it creates a good foundation for deeper cooperation”, Dr Hao said.

COFCO is the largest cereal and grain food company in China. The establishment of NHRI makes it the first institute in China that focuses on health and nutritional research that examines the impact on Chinese people.

“NHRI has organised a talent group that is highly-educated, energetic and creative and has become an important research power in the State Key Food and Grain Research Programs”, Dr Hao said.

COFCO holds the majority shares in Mengniu Group, which is one of the top ten diary brands worldwide.

“This gives us a chance to combine the dairy industry advantages and dairy R&D power together.”

“Being a part of the Australia-China Joint Research Centre with Monash adds to our research knowledge and collaboration.”

Having Professor Chen Xiaodong of Soochow University and Professor Cordelia Selomulya from Monash as co-founders of this alliance brings together leading international researchers and industry. It provides the opportunity for great collaboration”, Dr Hao said.
New innovation centre launched in China

In April 2018, COFCO NHRI and JD.COM Shangke Information Technology Co. Ltd. launched the COFCO-JD.COM Food Consuming Trend and Supply Chain Joint Innovation Center.

This joint research centre is a practical step in the strategic cooperation framework agreement signed by COFCO and JD.COM earlier in 2018. Through this research, collaborators from both partners can cooperate to examine food consumption trends, supply chain innovation, talent exchange, platform cooperation and other related areas.

Both teams plan to cooperate in accordance with the principles of openness, sharing and reciprocity. The sharing of JD.COM data (non-ID) on food consumption and food category development, with consumption trend insights from COFCO NHRI, will be a highlight for the joint centre.

Dignitaries who attended the foundation ceremony included the Vice President of COFCO Group Zhou Zheng, who welcomed attendees to the event. He expressed that the collaborations would achieve valuable results that would see the joint centre succeed and become an industry benchmark.

Also in attendance was COFCO NHRI Director, Dr Xiaoming Hao, Assistant General Manager of COFCO Land Holdings Limited Zhou Peng, Vice President of JD.COM Pei Jian, Vice President of Global Supply Chain Innovation Centre and Head of Ecological Cooperation in JD.COM division Wei Haixing.

Pei Jian from JD.COM noted the partnership would enable the development of a new field in agriculture and food research. From consumer insights to industry research, this centre will create a full-channel and unbounded retail ecosystem.

From Monash to a Dairy Disneyland - Dr Lin visits partners in China

Dr Ruohui (Lin) Lin visited COFCO NHRI and Mengniu Dairy in Hohhot in August 2018.

Lin was there to facilitate the organisation of the upcoming Cheese Symposium in Beijing and the following site visits of Mengniu Dairy in Beijing and Hohhot. Dr Yong Wang (NHRI) and Mr Joshua Ma (Mengniu) introduced the researchers to Dr Lin and discussed the future collaborations.

In 2018 COFCO ranked 122 on the Future 500 and is in the top three companies in the grain and agricultural industry. Its robust research arm NHRI (Nutrition Health Research Institute) was established in 2011. With 332 employees at an average age of 32, the dynamic, passionate and multidisciplinary team aims to transform customer demands with innovation, science and technology. Of this young team, 20% have overseas experience and 70% of them have a Masters or PhD degree.

Lin was particularly impressed by the innovation-driven working culture and the open, collaborative mindset.

“The NHRI does not limit their work within COFCO or within China. It offers a fee-for-service research, chemical and nutritional analysis service and innovation capabilities to both Chinese and International customers. Australian companies could learn from this approach,” Lin said.

In Mengniu, Lin visited the Mengniu R&D Headquarters in Hohhot, where the largest liquid milk factory in China is located. Mengniu’s current largest shareholder is COFCO, which holds 19.3% of its shares and plays an indelible role in promoting Mengniu’s internationalisation. France’s Danone, which owns 9.9% of Mengniu, was also the world’s second-ranked dairy company in 2017. Arla Foods, Denmark, is the third largest shareholder holding 5.3%.

“What surprised me the most was that Mengniu designed the factory to be a milk theme park similar to Disneyland”, Lin said. Tourists or consumers can take a guided tour to visit the milk production process, learning the history of Mengniu, and appreciate the outstanding achievements in the development of the company, including the production of 34 boxes of UHT milk per minute, automatic freezing, and automatic storage.”
Australian government representatives visit COFCO NHRI

Earlier in this year, Ms Jane Urquhart, Head of Division of Science and Commercialisation Policy, the Australian Department of Industry, Innovation and Technology, Ms Joanna Bunting, Counsellor of the Australian Embassy in China, and Ms Chen Hongyu, Senior Research and Analysis Officer of the Australian Embassy in China, visited the COFCO Nutrition and Health Research Institute.

During the visit, Jane Urquhart and her team visited COFCO’s Biotechnology Center, the Nutrition and Metabolism Center, the Consumer and Market Research Center, and the Food Quality and Safety Center. Ms Urquhart spoke highly of the collaborative research project and the opportunities it facilitates.

Niu Xinghe, Chief Engineer of the institute, welcomed Jane Urquhart and her delegation, and briefly introduced the history of the COFCO group and the research institute, research and development innovation, international cooperation, and the construction of the second phase of the dual creation base. Dr Niu hopes that opportunities for further project cooperation continue to increase. Qu Kairui, from the Consumer and Market Research Center, gave a detailed introduction to the China-Australia Dairy Joint Research Centre.

Simulating food digestion with a ‘near real’ human digestive model

A technology platform that simulates food digestion with a ‘near real’ human digestive model has been accomplished by researchers at Soochow University and COFCO NHRI.

The platform, that combines specialists instrumentation and technology, was developed by Professor Xiaodong Chen at Soochow University. 3D printing technology was used to simulate the physiological morphology of the human oesophagus, stomach and duodenum in the biomimetic digestive system. The transmission of the chyme in the system was simulated by the gas and a roller drive.

The COFCO NHRI has established methods for the digestion of foods such as dairy products in the biomimetic digestive system. It can now simulate the changes in the digestive tract of proteins, fats, carbohydrates, vitamins, minerals, heavy metals, prebiotics and probiotics in different people.

They have currently obtained 11 patents. This technique will not only reduce in vivo experiments, but will also significantly shorten the research time of functional foods. Moreover, it is environmental-friendly, not subject to ethical restrictions, and cost-effective.

In the next step, Mengniu Dairy China will use this technology together with COFCO NHRI to develop more functional dairy products that will promote the development of the China-Australia Dairy Joint Research Centre.
Professor Cordelia Selomulya had great pleasure accepting a prestigious Business Higher Education Round Table (BHERT) Award at a gala ceremony held in Melbourne.

Monash Food and Dairy took home the Outstanding Collaboration in Research and Development category. Specifically, the Monash team were congratulated for their achievements in extending the shelf life of Australian dairy exports, including infant formula, while meeting stringent safety and quality benchmarks. The Award also acknowledged Monash Food and Dairy’s evolution from having solely a dairy focus to encompass other foods and pharmaceuticals, and its strong engagement and collaboration with industry in China.

In 1998 BHERT initiated a series of Awards to reinforce the importance of business university partnerships in innovation, R&D and teaching. These prestigious annual awards recognise outstanding achievement in collaboration between the sectors of business and higher education.

Director of the Australia-China Joint Research Centre in Future Dairy Manufacturing, Professor Selomulya said that winning this Award’s in its 21st year is a great honour for the Monash Food and Dairy team.

“To have our research and collaborations, especially with Chinese research and industrialists, recognised is most fulfilling, and I am already aware that our success has been widely shared on Chinese media sites – that is how important this collaboration is”, Professor Selomulya said.

The Award also was in recognition of the Monash Food and Dairy’s research efforts to develop new processing and technologies, and provide Australia’s dairy companies with innovative powders that can be sold at a premium, and novel ingredients like milk protein concentrates, specialty proteins, and whey products.

More information here (https://www.bhert.com/awards.html)

RESEARCH: New development of the in vitro digestion/absorption technical platform released in China

In 2018, one of our research and development collaborators, XD-Prohealth Instrument (Suzhou) Ltd, China, manufactured a brand new generation of the human digestion/absorption model (Generation IV) (see page 4 for some background on the research team). This is a cutting edge technical platform that has incorporated not only the human stomach and duodenum sections, but also implemented an innovative idea for looking at the processes in small and large intestines. Biochemistry aspects of the processes are well incorporated with appropriate secretion and mixing mechanisms. The system is now available commercially from the company. Most recently, a university in Wuhan, China, purchased this technical platform and hosted the a technical training course on how to operate the machine and how to conduct research in this area with the engineers from the manufacturer. The short course together with on-site testing of some of the food materials of practical interest were successful. The work was originally developed at the University of Auckland in 2003, with the first PhD student graduating from Monash University, all supervised by Professor Xiao Dong Chen. The first prototype of a rat stomach was also investigated at Monash University in the period between 2007-2009. After many years of hard work, the platform is now maturing and incorporates more automated technology. It is now a hot topic in research involving digestion and absorption. The new platform covers not only the field of food and nutrition, but also that related to the oral delivery of medicinal products.
Meet our researchers

**Mr Jonathan Chew Yik Wai**

Jonathan Chew Yik Wai completed his undergraduate studies at Monash University and was awarded a Bachelor of Engineering in the field of Chemical Engineering (Hons I) in 2015.

He commenced his PhD studies at Monash University in 2016 working under the supervision of Dr Meng Wai Woo on a joint initiative project between Bega and Monash.

His project focuses on minimising the impact of processing on the nutritional quality of powdered infant formula by optimising and improving the manufacturing and storage conditions.

The manufacture of infant formula includes multiple production stages that include thermal processing (e.g. pasteurisation, evaporation and spray drying), which lead to the interaction between amino acids and carbohydrates present in infant formula. This affects the nutritional quality by reducing the bioavailability of lysine which, is an essential amino acid for the growth and development of the infant.

This interaction, known as the Maillard reaction, is highly dependent on a variety of factors such as the reactants, pH, temperature, water activity and physical state of the system. Therefore, by monitoring the development of the Maillard reaction during manufacture and storage, an improved understanding of how the different processing stages and storage conditions affect the reaction can be used to develop better production strategies that focus on producing infant formula with improved nutritional quality.

**Dr Meng Wai Woo**

Dr Meng Wai Woo is an Associate Professor at Auckland University.

His research expertise is on the spray drying process, with research interests including the development and manipulation of the spray drying process and its product formulation to produce functional food powder. He is also active in Computational Fluid Dynamics (CFD) simulation research. In recent years, Dr Woo has worked closely with the food industry in areas including confectionery panning, fruit dehydration, dairy powder manufacturing and low GI powder production. He is an Assistant Editor for the journal Drying Technology, published by Taylor and Francis.

**Ms Grace Talbot-Walsh**

Grace Talbot-Walsh is a postgraduate student in her final year of a PhD at Monash University.

Through her PhD Grace has worked closely with the Australian dairy industry in the field of product development. She recently attended the INRA 10th Cheese Symposium in Rennes, France.

A wide variety of presentations were given over the course of the 3-day conference in the areas of technological change, breakthroughs and innovations, quality and safety, and analytical methods. Grace presented a poster for the Analytical Methods session titled *The effect of pH on starch incorporation in processed cheese and its characteristics*.

This poster won 3rd prize for best poster.
Professor Jie Xiao

Professor Jie Xiao is based within the School of Chemical and Environmental Engineering at Soochow University China, where he also holds the position of Deputy Head of School.

Professor Xiao is a Chief Investigator at the Centre, where he leads a research team examining multi-scale modelling of the spray drying process, collaborating with Auckland’s University’s Dr Meng Wai Woo. Professor Xiao is also lead researcher in the development of a computer simulation platform for an in-vitro digestive systems that can potentially be used in the future to analyse the digestive behaviour of dairy products (see page 4).

Professor Xiao received his BS degree in Industrial Automation (2001) and MS degree in Control Science and Engineering (2004) from Zhejiang University, Hangzhou, China. In 2010, he was awarded his PhD in Chemical Engineering from Wayne State University, Detroit, MI, USA. Before joining Soochow University, he was a postdoctoral research associate at Washington State University for two years.

Professor Xiao’s research focus includes multiscale systems science and engineering with applied studies in spray drying systems, heat exchanger fouling and cleaning, functional coatings, and bio-inspired chemical engineering.

He has published more than 50 refereed journal papers, 12 conference papers, and three book chapters. Among them, 16 first author or corresponding-author papers were published in top three Chemical Engineering journals, including seven AIChE Journal papers. He has delivered more than 70 talks at world-leading Chemical Engineering conferences and universities, including a distinguished guest seminar at Monash University, two keynote talks, and 14 invited talks.

As one of the 16 awardees nationally, Professor Xiao was selected in the prestigious 2016 Australia China Young Scientists Exchange Program supported by the Australian Academy of Technology and Engineering and the Ministry of Science and Technology of China. He has also been recognised by the American Institute of Chemical Engineers (AIChE) as an Elected Senior Member (2014) and has been selected by the Jiangsu Provincial Government, China as the Highest Level Talent for Innovation (2014) and the Key Personnel in an Innovation Team (2013). He is a youth council member of the Chinese Society of Particuology and a selected member in the Process Modeling and Simulation Division of the Chemical Industry and Engineering Society of China. In 2012, he was awarded Jiangsu Professor (Provincial Distinguished Professor Program) by the Jiangsu Provincial Ministry of Education and High-level professional talent in Suzhou by Suzhou Municipal Government, China.

Welcome to new staff member Dr Yong Wang

Dr Yong Wang recently joined Monash University’s Department of Chemical Engineering as a Research Fellow.

Previously, Dr Wang was a Research Scientist (Senior Engineer) with COFCO Nutrition and Health Research Institute, Beijing, China.

Dr Wang attained his PhD from a joint program between the China Agricultural University and University of California Davis in 2011.

His research area includes food processing technology (dietary fiber, tomato, sugar, cereal), food properties (rheological/thermal/mechanical properties and non-equilibrium state), product developments (dairy, tomato sauce, beverage, cereals, etc.), and mimicking the human digestion system (chewing/stomach/duodenum). Dr Wang’s has published 28 journal papers and two book chapters, plus has 18 patents applications.

Cordelia Selomulya wins IChemE Global Award

We congratulate Professor Cordelia Selomulya for winning the IChemE Global Awards 2018 - Food and Drink category in November 2018.

Professor Selomulya received the award at The IChemE Global Awards ceremony and dinner, which took place in Manchester, UK.

“It has been a great achievement winning the IChemE global award in the Food and Drink category”, said Professor Selomulya. The award recognised the success for the first of a kind spray-drying technology for the dairy industry.

“Through this technology we can assist our dairy manufacturing partner to more precisely predict and control processing outcomes, specifically improving energy efficiency and waste reduction. Winning this global award was a wonderful achievement for our researchers and industry partner profiling us on the international stage”, she said.

The IChemE Global Awards, in association with Johnson Matthey, celebrate excellence and achievement in chemical, biochemical and process engineering. Finalists demonstrate their professional engineering expertise across a range of industry sectors and projects. Successful finalists this year included: ExxonMobil, Green Lizard Technologies, the Hong Kong Productivity Council, Imperial College London, InterEngineering, Monash University, Recycling Technologies and Universiti Teknologi Malaysia.

IChemE Chief Executive Jon Pritchard said “Once again, we’ve had a wonderful variety of entries to this year’s awards, showcasing innovation, technical progression, and a dedication to advancing the profession to make the world a better place.”
Industry exchange visits

Australia node and Australian industry partners visited Mengniu site in Hohhot and Tongzhou Beijing

Representatives from Bega, Trade Victoria, Unilever Australia and Monash University visited the largest manufacturing site of Mengniu Dairy and R&D centre in Hohhot City, China, where the visitors had exclusive access to the UHT dairy drink plant and a private tour of the current cheese site. Discussions on current cheese consumption in China and how Mengniu positioned themselves in this evolving cheese market was conducted both in the R&D centre and the cheese site. In parallel, Professor Cordelia Selomulya and Dr Yong Wang (COFCO NHRI) led the Monash team on a visit to the Mengniu Dairy in Tongzhou, Beijing, where many yoghurt brands are manufactured.
Mengniu Dairy R&D VP visit Monash to follow up collaboration

Dr Weizu Yu, Vice President of Research and Development and Innovation at Mengniu Dairy, visited Monash University in early March 2019 to follow up with the recent collaborative discussions. Professor Abid Khan, Deputy Vice-Chancellor and Vice-President of Monash, welcomed Dr Yu on behalf of the university.

Professor Khan discussed Monash University’s open innovation ecosystem, Monash University’s extensive global presence, and its close relationship with industry. The relationship between Monash University and its partners is not limited to research, but also encourages interdisciplinary integration, and there are multiple Monash entities in the world. Compared with traditional universities, Monash is very focussed on collaboration and commercialisation.

Dr Yu shared updates from Mengniu Dairy and its rapid growth into a top 10 global dairy industry in the course of 20 years, mainly thanks to close cooperation with business partners. In the future, Mengniu will upgrade its business model from market-driven to innovation-driven, including clearer insights for consumers, adoption of new technologies, and industrialisation of the latest nutritional research results. Mengniu will further strengthen its ties with its partners, not only with suppliers, and with more emphasis on close cooperation with academic and research communities. Mengniu is also considering to support fundamental research.

Professor Mark Banaszak Holl, the Head of Department, welcomed the visit to the Department of Chemical Engineering, providing an overview of the areas of research relating to dairy, including food processing technology, membrane separation technology, biomass processing and utilization.

Professor Cordelia Selomulya, Director of ACJRC, led the Mengniu Dairy delegates on a visit to the research facility for food innovation at Monash. She also briefed the guests on the background and current progress of the ACJRC, and discussed the potentials of the next cooperation.

The Mengniu delegates also discussed membrane filtration collaboration with Professor Huanting Wang and Professor Xi Wang Zhang, on consumer research with Dr Angeline Achariya, and on nano-cellulose with A/Professor Warren Batchelor.

Mengniu team visit Monash University

In January 2019, Monash Food Innovation were honoured to host Jason (Yun) Chen, R&D Director of Mengniu Dairy China, and Xiaochun Wang, Executive Director of Burra Foods Australia (which was acquired by Mengniu Dairy in 2016).

The Head of the Department of Chemical Engineering, Professor Mark Banaszak Holl and Professor Cordelia Selomulya welcomed the Mengniu Dairy delegation and hosted discussions regarding Mengniu’s 5-year innovation plan and potential collaboration opportunities. As part of the visit, the Mengniu delegation were shown the latest eye tracking, consumer and innovation toolkit.

Jason is not a stranger to Monash Food Innovation. He visited as the Chief Investigator from Mengniu Dairy in July 2017 prior to his new role as Director of R&D in Mengniu Dairy.
Following the successful organisation of the inaugural Cheese Symposium in Australia in 2017, a second symposium, with a focus on the latest research and development in cheese processing, was held in China in October 2018. The three-day symposium was held at COFCO NHRI, starting with an exclusive tour of the facility.

The main event included technical talks showcasing the advanced capabilities and innovative dairy technologies for the industry to utilise and co-develop into high-value, high tech applications. In particular, a special ‘Cheese Exhibition and Wine Tasting’ session was held to promote the industry, during which participants enjoyed traditional Chinese musicians and Spanish dancers. ACJRC students presented their research via a poster session attended by research and dairy industry representatives. The symposium’s final day included a lecture titled Dairy products: Processing and health benefits, which was live-streamed as an outreach initiative to increase awareness to the general public.

A visit to the Mengniu Dairy’s yoghurt manufacturing site in Beijing was arranged. In parallel, a group of industry and government representatives visited the largest manufacturing site and R&D centre of Mengniu Dairy in Hohhot City, China. Here the visitors had an exclusive tour of the UHT dairy drink plant and the current cheese site (see page 8).

The symposium was a huge success thanks to the support of Chinese and Australian organisations including:

COFCO NHRI, Soochow University, Monash University, INRA (France), the Australian Embassy, Chinese Government Ministry of Science and Technology (MOST), State Government of Victoria, The Australian Trade and Investment Commission (Austrade). Dairy industry representatives attended and sponsored the event including Bega Cheese, Fonterra Australia, Mengniu Dairy China, Arla Foods Demark, Dupont, Yili Dairy, Bright Food, Savencia Fromage & Dairy.

The symposium attracted over 100 attendees from 17 organisations including government, industry and research institutions from Australia, China, and France.

The centre also held a student conference in Soochow University in October 2018. The purpose of this conference was to promote the academic exchange between Australian and Chinese young researchers.
Insights into the Victorian dairy industry

At the annual joint symposium we had the opportunity to discuss the significance of Victoria’s dairy industry with Mr Tim Dillon, the Commissioner for Victoria in China.

As part of a panel discussion during the symposium, Mr Dillon highlighted that the dairy industry is vitally important to the Victorian economy, especially in regional Victoria, where many of the jobs in production and processing are located. In 2016–17, there were 3,889 dairy farms in Victoria producing 5.77 billion litres of milk (down eight per cent on 2015–16) from 1.2 million cows. Victorian dairy contributes almost 80 per cent of Australia’s dairy exports with dairy products exported to more than 100 countries.

China is Australia and Victoria’s largest trading partner. In 2017-18, Victoria’s merchandise exports to China were valued at $6.5 billion, up 20% from the previous year, making China Victoria’s largest export market. Dairy exports from Victoria were valued at $1.9 billion in 2017-18, an increase of $160 million (9%) on 2016-2017. China was Victoria’s second most valuable dairy export market, valued at $415 million in 2017/18.

Chinese interests are part of this story. In May 2016 the leading dairy international farming company, Inner Mongolia Fuyaun Farming Company Ltd (Fuyuan) took a major shareholding of 79% in Burra Foods. Existing shareholders including the founder, Grant Crothers and Japanese dairy distributor ITOCHU Corporation, have maintained a 21% interest in the company.

“The China Australia Free Trade Agreement (ChAFTA) will further drive trade and investment between China and Victoria”, Mr Dillon said.

Regarding the commissioner’s expectations of Australia-China scientific research, he named the electronic cow identification technology, which can track individual cows, as significant. For milk dairy products this technology will allow consumers to be confident that a product is from a certain region, for example Gippsland or Warrnambool.

In terms of the research emphasis of the government, Mr Dillon said that it is the practices that affect milk quality and the technology of milk processing and dairy product manufacturing that are of most interest. He adds that Agriculture Victoria is responsible for research into the agri sector and it is helping Victorian dairy farmers to improve profitability and productivity while also managing environmental variability through the development of new management practices.

“These practices are designed to support dairy farming systems that are flexible; profitable and productive; responsible to the environment and to animal welfare; and internationally competitive,” Mr Dillon said.

The Agriculture Research division of the Victorian government focuses on four core areas: feedbase and nutrition; animal performance; natural resource management and climate; and farm business management.

When asked about where future efforts should be directed, Mr Dillon believes this will need to focus on adapting and addressing climate change.

Extensive research is already being undertaken by a number of organisations into climate change and its effects upon the dairy industry. Victorian Climate Change Adaptation Program (VCCAP) aims to increase the knowledge and capabilities of government, the agriculture sector, and farming businesses to adapt to climate change.

“As the major greenhouse gases from dairy farms are methane and nitrous oxide, on-farm research is strongly focused on ways to reduce these gases”, Mr Dillon said.

Mr Dillon is a strong advocate of the Australia-China Joint Research Centre in Future Dairy Manufacturing and encourages our collaboration.

About Mr Tim Dillon
Mr Tim Dillon took up his appointment as the Commissioner for Victoria in China in September 2014. Based in Shanghai, Mr Dillon represents Victoria’s interests in China, Hong Kong and Taiwan and manages the Victorian Government Business Offices (VGBOs) located in Shanghai, Hong Kong, Beijing, Nanjing and Chengdu. Mr Dillon’s work facilitates trade and investment opportunities and strengthens bi-lateral relations. Mr Dillon also develops and maintains high level government to government linkages and facilitates strategic collaboration between Victorian and China.

Mr Dillon has extensive experience representing Victoria in Asia having spent more than 10 years living and working in Asia and has a thorough understanding of the region. Prior to his appointment to China, he served as the Commissioner for Victoria in South East Asia and the Executive Director of the Tokyo VGBO. He has worked in both the private and public sectors and has undertaken formal studies in Economics and Asian Studies.
ACJRC seminars

The Australia-China Joint Research Centre in Future Dairy Manufacture was pleased to recently host two international researchers who have shared their latest research as part of our seminar series.

Seminar 1: *Mouthfeel—how texture makes tastes*, Professor Ole G Mouritsen, University of Copenhagen, Denmark

Do you know crunchy potato chips taste the same as the soggy ones? The only differences between these two are the texture of the chips. Texture plays a huge role in the taste perception of consumers.

Food recalls are often made not because of taste/flavour but because of an undesired or unexpected mouthfeel. Professor Mouritsen unveiled the secret of how the texture makes taste by providing the hard-core science behind it and employing interactive demonstrations.

Click [HERE](#) for his podcast and more information.

Seminar 2: *Life Quality Engineering (LQE) Encapsulating Food Practices – Why, How and Future Prospects*, Prof. Xiao Dong Chen, Soochow University, China

In his recent seminar, Professor Chen gave his insights into improving our quality of life through food practices.

In his very engaging seminar, he covered the challenges of maintaining a high quality of life, especially in an ageing population, and how food engineering/practices can play an important role.

Contact us

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