

HKU-led Biologists Identify the Switch for Neuroglobin Gene as Potential Target for Alzheimer's Disease


A research group led by Dr Tan-Un Kian Cheng of the School of Biological Sciences, with members including HKU-Imperial College London Joint PhD graduate Dr Law Pui-pik (Department of Paediatrics and Adolescent Medicine) and PhD alumni Dr Tam Kin-tung and Dr Zhang Wei (School of Biological Sciences), in collaboration with Professor Richard Festenstein at the Clinical Sciences Centre, Imperial College London, and Professor Sjaak Phillipsen at Erasmus University, Rotterdam, has discovered a crucial part of the genetic machinery that switches on the neuroglobin gene. This discovery opens up a new opportunity in treating Alzheimer's disease (AD), which is currently incurable, such as with the development of gene therapy.

Neuroglobin has previously been shown to reduce the severity of damage due to stroke and AD in mice and to be negatively associated with two major risk factors of AD in humans (age and female sex). Although studies have focused on the functions of the neuroglobin gene since its discovery in 2000, little is known about how the gene is being regulated.

Dr Tan-Un's research team spent six years addressing the mechanism that controls the switching of the neuroglobin gene. They found that there is a segment of DNA that interacts with the neuroglobin gene by means of a protein called GATA-2 in human neuronal cells. The results showed that the novel DNA segment is powerful in switching on neuroglobin expression. Removal of either GATA-2 protein or the DNA segment from the cells led to a substantial decrease in neuroglobin expression. The study was published recently in the journal *Nucleic Acids Research*.

The discovery of the neuroglobin switch opens up new opportunities in treating AD, such as gene therapy. The team's future research will focus on the identification of factors that will enhance the 'switch' mechanism of neuroglobin in the brain, as the researchers believe that further understanding the 'switch' mechanism of neuroglobin in the brain will be crucial in modulating not only neurodegenerative diseases such as AD but also a variety of human diseases.

(This article is adapted from http://www.hku.hk/press/news_detail_15358.html.)



(from left): Dr Law Pui-pik,
Dr So Mei-yu, Dr Tan-Un Kian Cheng,
Chan Siu-kei (lab technician),
Dr Tian Zhipeng and Dr Tam Kin-tung.

PhD Candidate Gains Exposure through Museum Expansion Project in French Polynesia for Dissertation Research



Tomfohrde preparing museum labels for display

School of English PhD candidate Carmen Tomfohrde contributed a hands-on application of her research during more than seven weeks in French Polynesia, where she assisted museum development for Te Ana Peua ('The Open Cave') – the museum at Vaitahu, Tahuata, Marquesas, French Polynesia. Tomfohrde joined an interdisciplinary, international team, which included five Marquesans, a University of Hawaii archaeologist (project director Dr Barry Rolett) and a museum curator (Dr Eric Kjellgren, director of the American Museum of Asmat Art, Minnesota, USA), as well as additional members of the Vaitahu community.

Accessible only by boat, Tahuata has no hotels, restaurants, banks, or hospitals, and Tomfohrde had no telephone or hot shower during her stay on the island.

The Te Ana Peua museum serves an important cultural function for the local community, as well as educating hundreds of cruise ship passengers who visit the island on brief shore excursions approximately once every three weeks. The museum enables Marquesan art and material culture, already featured in museum collections elsewhere in the world, to be exhibited on home soil. The Te Ana Peua collection includes both archaeological findings from the island as well as newly commissioned pieces.

The summer 2016 museum expansion project included the development of seven new exhibits: on ancient adze manufacturing and exchange; ancient canoe anchors; Marquesan fish hooks; recent archaeological discoveries; earliest settlements on Tahuata; archaeological methods; and the 'tiki of Poupou', four ancient stone 'tiki' heads discovered through archaeology in 1998 and newly loaned to the museum during the commencement of the summer 2016 museum expansion project.

In addition, new elements were created and installed: window and door frames cut with chainsaws from Polynesian rosewood and sanded, then waxed to a smooth and lustrous sheen; a newly constructed doorframe inset with 'tiki' carvings by local artist Fati Fii; a new installation of coconut tree trunks supporting a table ledge; and additional renovations to existing displays. Work for the museum expansion project included selecting, preparing, arranging, and installing objects and artefacts for display, and creating trilingual (Marquesan, French, and English) exhibition labels.

Tomfohrde's in-progress dissertation examines impacts of Christian missionaries on culture in Polynesia, 1797-1830. With dual backgrounds in visual art and literary studies, Tomfohrde emphasises visual and verbal aspects of culture change in her interdisciplinary PhD research.

The village of Vaitahu was the initial settlement of the London Missionary Society's William Pascoe Crook in 1797. Though Crook's efforts had little impact, later Roman Catholic missionaries left a lasting transformation; the island is now dominantly Catholic.

Participating in the museum expansion project gave Tomfohrde an opportunity to experience the negotiations between eclipsed histories and their associated cultural heritage, and contemporary practices of engaging material culture.

Originally from the United States, Tomfohrde is an awardee of the Hong Kong PhD Fellowship Scheme established by the Research Grants Council.



A delegation including the President of French Polynesia, Édouard Fritch (in red) and High Commissioner René Bidal (in flower garland) visits the museum

HKU-UCL Education Research Student Exchange Programme

The Faculty of Education actively liaises with prestigious universities overseas to set up exchange programmes for research postgraduate students. In the past few years, the Faculty had organised visits by students to institutions in Australia, Russia, South Korea, the UK, and the US, and received students from these institutions under reciprocal arrangements. Funding is provided to cover students' return airfare and accommodation. Students have the opportunity to share their own research with the local student body, to consult academics of the host institution in their related areas of study, and to participate in seminars, workshops, and social events. The programmes not only benefit the students selected for exchange, but also enrich the learning experience of other students who interact with their counterparts from different countries.

Ling Hua Loon and Keisha Siriboe, both PhD students, were selected for the Faculty's exchange programme with the Institute of Education, University College London (UCL) in the last academic year. They visited UCL in June 2016 and would like to share their experience:



From Ling Hua Loon

From one world-class university to another. That's how I describe my recent student exchange from HKU to the Institute of Education, UCL in June 2016. With UCL ranking 1st for Education in the QS World University Rankings 2016, and HKU not far behind at 6th (1st in Asia), I certainly looked forward to the trip.

During the visit, I was very lucky to have the chance to meet Professor Adrian Furnham, who has published many articles and books in my research area. He responded immediately to my email to schedule an appointment just before he was to fly off the next day. His advice was one of the invaluable takeaways from my trip, not to mention getting his autograph in his book which I had brought along with me!

It was also a happy occasion to meet up again with Gideon Sappor, one of the doctoral exchange students from UCL who had just visited HKU a few weeks earlier. Gideon invited me to visit his primary school, where I could observe first-hand how children are taught in another country. Through interacting with the children, teachers and parents, I gained deeper appreciation of the diversity of teaching and learning.

My special thanks to all the people at HKU and UCL who made this student exchange possible. The mutual exchange opportunities for students from different universities certainly help to enrich the learning experience at HKU and make it world class.

From Keisha Siriboe

It was an honour to represent the HKU Faculty of Education in this trip. The exchange programme provided opportunities to attend academic events at UCL and learn about the EU education system from leading researchers in early childhood and primary education. I met with academics in UCL, as well as noted professors from the University of Cambridge and University of Oxford. Due to the cold weather, I also spent a significant amount of time in the library of the Institute of Education.

One highlight of my journey was talking to people about the UK's then pending EU membership referendum. As a qualitative researcher, I am drawn to conversations and the stories that people share. I was fortunate to have several discussions about the referendum while in restaurants, libraries, and local pubs. The majority of people I spoke with were convinced the UK would remain in the EU. They shared similar rationales for their convictions – leaving would be too expensive and burdensome on the UK economy. I heard this explanation so often, I became convinced that the issue was moot and the vote was purely ceremonial. You could imagine my surprise once the voting results were tallied, and the needle moved in the opposite direction! A slim margin of votes pushed the UK out of the EU, and no one knew what would happen next. In the span of one day, Brexit became a new catchphrase as people stared on in astonishment.

As an American, that was the moment I started taking Donald Trump and the threat of his presidential campaign seriously.



Fulbright-RGC Hong Kong Research Scholar Awards 2016-17

Three HKU PhD candidates have been awarded the Fulbright-RGC Hong Kong Research Scholar Award 2016-17. The fellowship programme was launched by the Research Grants Council (RGC) in collaboration with the U.S. Consulate General in Hong Kong, supported by commercial donors solicited by the Hong Kong-America Center, to allow doctoral candidates in Hong Kong to conduct their dissertations in elite institutions in the United States. Congratulations go to the following award recipients from HKU:



Li Jia, a PhD candidate in the Department of Social Work and Social Administration, will spend ten months at the University of South California's School of Social Work. Her research focuses on the structural integration, identity negotiation and transnational mobility of Chinese immigrants and their offspring.

Cheung Ka Shing, a PhD candidate in the Department of Real Estate and Construction, will be hosted by the Luskin School of Public Affairs, Department of Urban Planning, at the University of California, Los Angeles for six months. He hopes to become a housing policy specialist to provide useful professional input into housing policy formulation so that affordable housing can be provided more efficiently and fairly for people in need.



Wang Xu, a PhD candidate in the Department of Urban Planning and Design, will conduct research on the employment of rural migrant workers in Chinese cities at Harvard University's Law School for ten months.



(from left) Wang Xu, Li Jia and Cheung Ka Shing

Engineering PhD Candidate Receives Top International EMC Awards



Cao Ying – a PhD candidate in the Department of Electrical and Electronic Engineering and a student of Dr Jiang Lijun – received two prestigious awards from the Institute of Electrical and Electronics Engineers (IEEE) Electromagnetic Compatibility (EMC) Society on July 28, 2016 in Ottawa, Canada at the 2016 IEEE International Symposium on Electromagnetic Compatibility. She received the 2016 President's Memorial Award, presented in memory of late eminent members of the EMC Society Guy de Burgh and Bill Kimmel, for her outstanding work relating radiation physics to the electromagnetic compatibility of advanced circuits. Cao also received the 2016 Best Student Symposium Paper Award First Place for her paper titled 'Top-layer Interconnect Inductive Extraction for the Pre-layout Power Integrity'.

The IEEE EMC Society is the world's largest organisation dedicated to the development and distribution of information, tools and techniques for reducing electromagnetic interference.

RPg Student Reaches Out to Prospective Students in Mainland China

It is a great honour for me to have been invited by the Graduate School to give talks in Hangzhou, Shanghai and Beijing in China on research postgraduate (RPg) studies, together with Professor Ben Young and Professor Danny Chan. In this three-day outreach trip – from October 17 to 19, 2016 – we went to Tsinghua University, Peking University, Shanghai Jiao Tong University, Fudan University, and Zhejiang University. Professor Young introduced the application process and available scholarships for RPg studies on behalf of the Graduate School, whilst Professor Chan covered the details of studying in the Li Ka Shing Faculty of Medicine. For me, it is particularly worth mentioning that I was a member of the audience for a similar talk four years ago, and four years later I became a speaker sharing my study experience in HKU as a current PhD student and Hong Kong PhD Fellowship awardee. In my talk I focused on four facets – research, activities, accommodation and dining – with which I was most concerned about four years ago. After the talk, many students stayed behind to ask us questions, and even



sent emails afterwards to consult me on specific issues. In these emails, many of the students said that they appreciated the information provided in the talks. This positive feedback has demonstrated the fruitfulness of the outreach trip to mainland China. From my point of view, this outreach trip is of great significance as it demonstrates an excellent interaction between HKU and students, which is what I have experienced in the past three years and felt after listening to the talks given by the two professors. The University, especially the Graduate School, regards RPg students as being at the centre of teaching and research, and also provides students with great facilities and substantial support.

Zhu Shiwen

PhD Candidate, Faculty of Dentistry

PhD Candidate Wins HK Airlines Sponsorship for Urban Green Space Experiential Learning Project



Lee Ka Shing Ernest, a PhD Candidate of the Department of Geography and the Honorary Resident Tutor of Shun Hing College, won the Hong Kong Airlines' Embrace the World Student Sponsorship Programme 2016/17 for realising his Urban Green Space Experiential Learning Project in Naha, Okinawa, Japan for HKU postgraduate and undergraduate students. Combining geographical knowledge and creative arts, Lee crafted an eco-learning proposal titled 'Embracing the green knowledge and vision 擁抱綠識視野', which integrated the cultural elements of drama performance

and poem creation with unique geography fieldwork in Japan. "Inspired by my doctoral supervisor, Professor C.Y. Jim, Chair Professor of Geography, the experiential learning and appreciation of the multiple benefits of

urban green spaces and trees during overseas landscape tours can hopefully nurture new generations who will be championing a greener and more salubrious Hong Kong and world," Lee enthusiastically explained. This tailor-made programme exclusively sows the seeds in the heart of HKU's participating students to raise social awareness of environmental sustainability and creativity for the future of our city and the world.

Lee's project was one of the three shortlisted university-level proposals among 150 competing schools and non-governmental organisations in Hong Kong (<http://www.hkaembracetheworld2016.com/en/shortlisted-schools-ngos-announcement/>). The project was awarded 20 sets of complimentary flight tickets between Hong Kong and Okinawa, Japan to sponsor selected HKU students for an eco-learning tour. This territory-wide competitive sponsorship programme aims at giving a chance for students to appreciate not only the fantastic travel experience but also the pluralistic cultures they might not otherwise have the chance to see and also to experience learning beyond the classroom and campus.

Workshop on Innovation & Entrepreneurship

The Workshop on Innovation & Entrepreneurship was jointly held by the Graduate School and the Graduate House on October 6, 2016 at Wang Gungwu Lecture Hall. Over 60 students and staff attended the workshop.

Professor Andy Hor, Vice-President and Pro-Vice-Chancellor (Research), said in his opening remarks that innovation and entrepreneurship were the major focusses of our development for the years ahead, and that innovative ideas do not come overnight. Professor Paul Cheung, Director of the Technology Transfer Office, was invited to talk about where innovative ideas came from, followed by Professor Anthony Yeh, Chair Professor of the Department of Urban Planning and Design, who introduced a public platform where students can put their ideas to the test. The platform is made available through the Hong Kong University Student Innovation and Entrepreneurship Competition.

On entrepreneurship, Mr Hailson Yu, Deputy Managing Director of Versitech Limited, a commercial arm of HKU, showed participants a roadmap to start a business. Dr Kelvin Yeung, Associate Professor of the Department of Orthopaedics and Traumatology, shared his experience of starting up a business. Discussion and sharing took place between speakers and participants during the question-and-answer sessions as well as the refreshment break. The workshop provided a lot of useful information and new ideas to all who participated.



Writing Boot Camp 2016



The second Writing Boot Camp workshop – provided specifically for MPhil and PhD students who have begun to write up their theses – was held on October 17-19, 2016. This workshop was again highly successful in providing an environment that supports writing productivity, with input from facilitators, group activities as well as several hours of writing time daily. As part of the workshop, awardees of the Outstanding Research Postgraduate Student Award and Li Ka Shing Prize, Dr Martin Chung and Dr Sui-Po Lee respectively, shared their experiences and tips for successful thesis completion. Workshop participants, who came from eight Faculties, were extremely positive in their evaluation of the Boot Camp experience.

PhD Candidates Receive Universitas 21 Graduate Research Project Grants

With the aim to enable doctoral candidates to develop and implement international research collaborations within its network, Universitas 21 (U21) launched a pilot Graduate Research Project Grants scheme in 2016. The results of the Grants have recently been announced, and three projects led by HKU PhD candidates or supervisors have been awarded:



(From left) Professor Diana Archangeli and Suki Yiu

Project Title:

Representation of Tone and Rhythm in Asian and African languages

Project Team Members from HKU:

Yiu Suet Yee Suki

(PhD Candidate, School of Humanities (Linguistics))

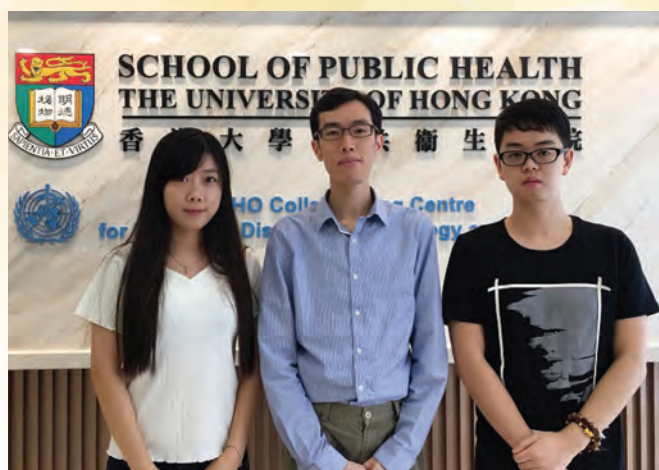
Professor Diana Archangeli

(School of Humanities (Linguistics))

Collaborating Institutions:

The Ohio State University

The University of British Columbia



(From left) Yao Xiaoxin, Dr Herbet Pang and Yan Kang

Project Title:

A Study of the Microbiome on Smartphone Touchscreens in the Households of Psoriasis Subjects

Project Team Members from HKU:

Yan Kang

(PhD Candidate, School of Public Health)

Yao Xiaoxin

(PhD Candidate, School of Public Health)

Dr Hei Man Herbert Pang

(School of Public Health)

Collaborating Institutions:

The Ohio State University

Shanghai Jiao Tong University

University of Glasgow



Alexandra Ridgway

Project Title:

Mobility, Migration and the Family: Establishing the U21 Asia Pacific Graduate Student Network on Family Migration

Project Team Members from HKU:

Alexandra Ridgway

(PhD Candidate, Department of Sociology)

Professor Karen Joe Laidler

(Department of Sociology)

Collaborating Institutions:

National University of Singapore

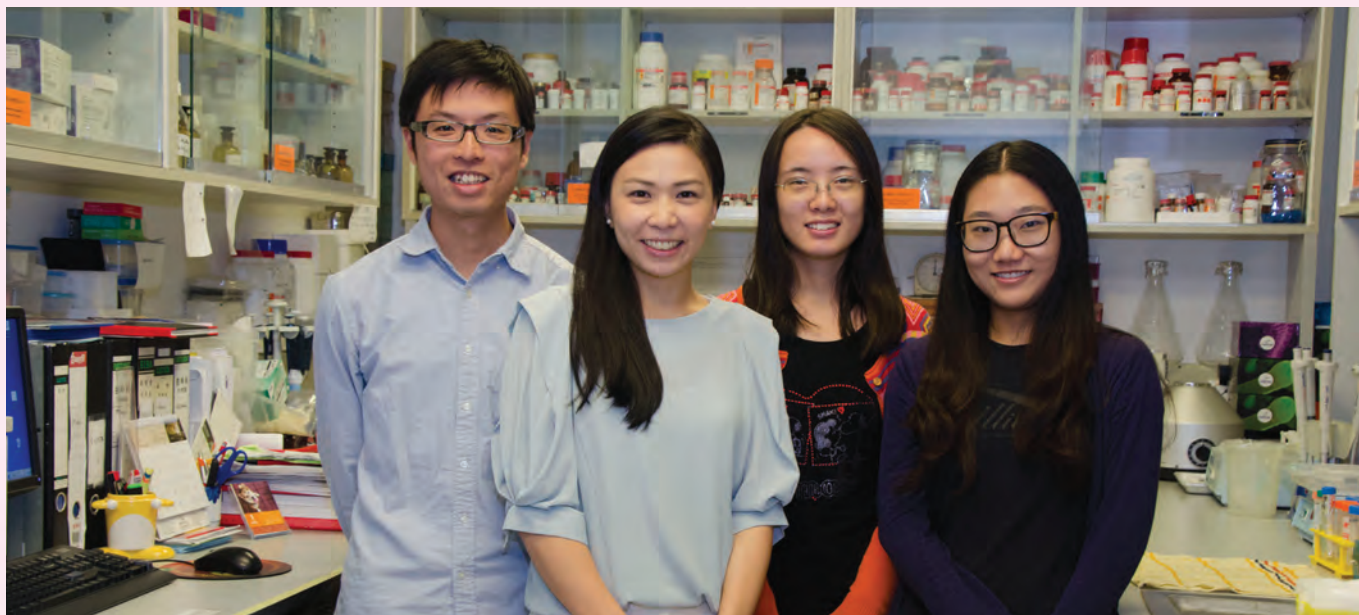
The University of Queensland

The University of Auckland



Professor Karen Joe Laidler

More than Lab Work Required for a Successful Scientist – Alumni Interview with Dr Tang Eva Hoi Ching



Dr Tang (second from left) and her research team

Dr Tang Eva Hoi Ching is affectionately referred to by her colleagues as the ‘fat girl’. The nickname does not refer ironically to her slight proportions: it refers to her research into human metabolism – how people get fat. “There is a lot that we don’t know,” says Dr Tang, Assistant Professor in the Department of Pharmacology and Pharmacy. “A & B can eat the same, but only one of them gains weight. Why? We need to understand how we use energy, how to control lipids in the blood. And we need to study targets inside the cells that regulate lipids.”

For her PhD, Dr Tang studied the working of the heart and blood vessels. After that she felt it was time for a change, so she looked for the equivalent of the ‘road less travelled’. “I didn’t know anything about this field, but it caught my interest. All females want to know about how to avoid gaining weight, especially during pregnancy. That’s something close to my heart as I have two children, the younger one born only nine months ago.”

Despite hearing that competition for job opportunities was fierce at HKU and it was difficult to get research grants, Dr Tang is not easily discouraged, so she sent in an application and soon found a faculty position.

“HKU is both a teaching and research-based university, so the job always involves some teaching as well as research,” she says. “Grants are available and I’ve been lucky enough to get funding for my group. I have a medium size team, so it was not too difficult.”

Men and women have equal opportunities, says Dr Tang, but a woman has to think about her biological clock if she wants a family. This means being prepared to take time out and lose some advantages as her priorities change, making a mother seem less productive than her male colleagues. “There are times when we do get stepped on. I used to get stressed about not climbing the ladder fast enough, but there it is – you need to be positive.”

If she had her time over again, Dr Tang says she would have focused more on networking. “A successful scientist needs more than lab work and scientific skills. We are all in competition with our colleagues, friendly though it is. You need to sell your ideas, and you also need to be able to write. You have to be an all-rounder. I should have spent time chilling out with people, especially when I was overseas. Chinese culture encourages us to study hard and get good grades, and this continues even after we graduate. But you don’t need to be in the lab 24 hours a day. Life-work balance is essential. There’s more to life than work.”

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