A C P M B N E W S L E T T E R

THE ASSOCIATION OF CHINESE PROFESSORS IN MANITOBA

曼省华裔教授协会

HTTP://WWW.ACPMB.ORG

FEBRUARY 2016

Welcome Message from the President

Dear members and friends of ACPMB,

This 2016 Newsletter comes to you with best wishes for the Chinese New Year and Lantern Festival from the Association of Chinese Professors in Manitoba (ACPMB).

(*Continued on next page →*)

Greetings from the MLA for Fort Richmond

Happy New Year! I am delighted to celebrate this special moment with the Association of Chinese Professors in Manitoba (ACPMB).

Fort Richmond has one of the fastest growing Chinese populations in our province. The number of Chinese professors who are working at universities across the province is increasing, and we are proud to welcome such valuable academics to Manitoba. The Chinese community contributes to the strength of our community, and brings cultural, professional, and economic growth and development to Fort Richmond.

The Association of Chinese Professors in Manitoba provides an excellent networking opportunity among professors, and promotes an important exchange of knowledge and collaboration in research and education. Throughout my 13 years of public service, I have seen substantial growth in post-secondary education, and I am proud to support scholars from across the globe who are making their home in our wonderful community.

I wish you success and happiness as you build a bright future here. Happy Year of the Monkey!

Current Board of ACPMB

· President:
Canming Hu
· Past President:
Jiuyong Xie
· President-Elect:
Qiang Zhang
· Secretary:
Kan-Zhi Liu
· Members:
Jun Cai (Website)
Victor Cui (Treasury)
Yi Li (Communication)
Wei Xing (Newsletter)

Honorary board members:
Yuewen Gong
Simon Liao
Qingjin Peng
Xikui Wang

Welcome Message from the President (Continued)

Our annual newsletter is a way in which the association ties together Chinese scholars studying, working, or visiting at universities in Manitoba, Canada. Other yearly activities of the ACPMB include: Chinese New Year dinner party, tenure and promotion info meeting, Chinese moon festival dinner party, grant application info meeting, and exchange activities with academic institutions in China. Supported by our members and organized by the ACPMB board, these activities bring and bond us together as a unique academic network in Manitoba. I would like to take this opportunity to thank you for your contributions. Our appreciation also goes out to our universities and the Chinese Embassy, and in particular to Mrs. Rhonda Friesen, Manager of the International Office at the University of Manitoba, and Dr. Weiya Xu, Chinese Education Consul in Toronto, for their unswerving support and encouragement for the ACPMB.

As a science professor, I would like to share with you an interesting study:

每年秋季, 加拿大雁都要排成 V-形, 飞往南方。可是, 曼省的鸟儿, 没有曼省的华人教授的智慧和品德, 它们是如何组成大雁协会, 也在异国它乡的旅程中合作互 惠的呢？ 2015 年, 欧洲一群学者脑洞大开, 把 GPS 绑 在鸟腿上, 揭示了其中的奥秘, 答案发表在著名的《美 国科学院院刊》.

Here is what the study found

Cooperation in animals is an enigma because it contravenes the basic notion that evolution favors selfish genes that promote only their own well-being. Bird migration in organized V-shaped or echelon formations constitutes such a cooperation dilemma. We show that birds cooperate by taking turns and precisely matching the time they spend in the advantageous trailing position and the disadvantageous front position. This time-matching is done on a pairwise level. Furthermore, we found evidence that the animals' propensity to reciprocate in leading has a substantial influence on the size and cohesion of the flight formations. This study shows that direct reciprocation can enable cooperation between animals in a natural context. (www.pnas.org/cgi/doi/10.1073/pnas.1413589112)

原来，奥秘在于鸟儿们有规则地轮流带头和尾随，轮流担当对抗气流的任务。它们频繁又迅速地变换位置，以致合作带 来的好处立竿见影。这一发现，揭示了互惠互益的协会行为，如何在自然界形成，并得以演化持续。

For a non-profit network like the ACPMB, we are in a pretty similar situation; every member's voice is essential and every member's involvement and service are vital for the sustainable and beneficial presence of the ACPMB. Let's work together, just like migrating birds on their journey, helping each other to enable cooperation between us all!

Can-Ming HU, President, 2015/2016, ACPMB

Visit of ACPMB Members to GXUST

From May 18 to 20, 2015, Dr. Jiuyong Xie, the then-president, and five other senior scholars of the ACPMB, Drs. Yuewen Gong, Canmong Hu, Simon Liao, Qingjin Peng and Liqun Wang, visited Guangxi University of Science and Technology in Liuzhou, China, and explored possible academic collaborations with their hosts. Drs. Xie and Liao also gave talks on their research projects.

Exchanges between U of M and GXUST

Assisted by the ACPMB, on Dec 2, 2015 the Vice-President of Guangxi University of Science and Technology (GXUST), Yao Jinguang, signed a cooperative agreement with Dr. James Blatz, Associate Vice-President (Partnerships) VPRIO, and visited the College of Nursing at U of M.

Collaboration between ACPMB and Shandong Province

The current President of the ACPMB, Dr. Canming Hu, signed an agreement on Dec 17, 2015 with Dr. Feng Shi, the visiting representative of the Association of Science and Technology, Shandong Province, aiming to enhance collaboration between these two associations.

On February 28, 2015 ACPMB arranged a party to celebrate the 2015 Chinese New Year. Around 50 ACPMB members and their families attended. The Education Office of the Consulate General of PRC in Toronto kindly sent elegant calendars with ancient Chinese paintings as well as Chinese tea boxes as gifts to all attendees.

Celebrating the Chinese New Year of 2015

Dr. Xu, the Education Consul from the Consulate General of the PRC in Toronto, visited Winnipeg and had dinner with some members of the ACPMB at the Southern Land Restaurant on August 23, 2015.

ACPMB web page has been updated for the member profiles

By Jun Cai

The official website of the Association of Chinese Professors in Manitoba (ACPMB) is http://acpmb.org. Here you can find almost everything related to the association, including bylaws, ACPMB-organized events (past and future as well as photo archives), membership database, and annual newsletters. This is also a window to announce activities (gatherings, workshops, and seminars) coming in the near future. Please visit this online home of the association from time to time to see what's new in Manitoba's community of Chinese professors.

2015 Moon Festival Party at the Winnipeg Winter Club

曼尼托巴省华裔教授协会（ACPMB）于 2015 年 10 月 18 日在温尼伯冬季俱乐部举办了中秋晚餐联谊会。这次活动得到多伦多领事馆教育处的支持，曼尼托巴华裔教授，工程师与教育部留学基金委（CSC）资助在曼省学习的师生五十多人参与。协会秘书长柳勘质教授做主持， 协会主席谢久永教授介绍了华裔教授及其协会在曼省的发展历程及未来期望。曼大物理系胡灿明教授的报告详述他在与 CSC 学生和与华裔教授的交往中获得的灵感及其对他发明微波探测仪的助益，以此鼓励大家增进沟通。商学院的崔鸿教授则针对时下众创新潮，论述了商业创新的加速发展及其对公司的重要性。大家在轻松愉悦的自主晚餐中获得热烈充分的交流

China Scholarship Council Scholar Association in Manitoba (CSCSA)

The China Scholarship Council Scholar Association (CSCSA) in Manitoba is composed of visiting professors and graduate students from universities in China and students registered in graduate programs at the University of Manitoba. The CSCSA members are funded by the China Scholarship Council (CSC) to conduct their research and related fieldwork such as agriculture, engineering, geology and medicine at University of Manitoba. The Education Office at the Consulate General of the PRC in Toronto has charge of CSCSA, and provides communication and financial support for CSCSA members to organize and attend events that benefit their studies and daily life in Winnipeg. With the support of the Education Office at the Consulate General of the PRC in Toronto, the CSCSA organized the 2013 new year's celebration to promote communication between each member, and participated in the 2014 China National Day in Winnipeg and the 2015 Innovation Forum of the Association of Chinese Professors in Manitoba (ACPMB) to build and enhance the network with Chinese professors working in Manitoba and those involved in educational cooperation between China and Canada.
(By Xinyang Sun)

CSCSA group photo taken at the Fort Garry campus, University of Manitoba (by Geifei Liu)

Welcoming the Year of the MONKEY!

Oil painting by Kan-Zhi Liu
Poem by Xi Yang

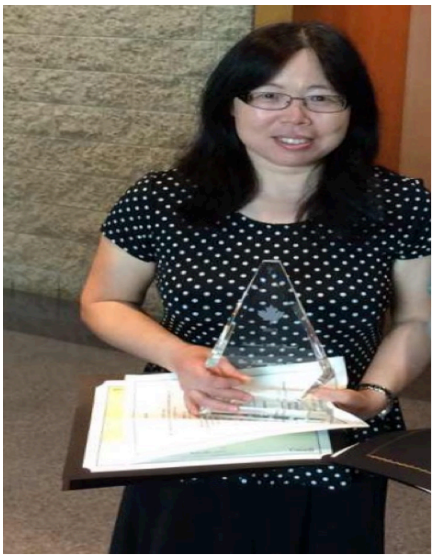
又到新春开眼界
重来大圣更精神

浓淡几枝添雅趣
缤纷一片动春心

"It takes ten years to make a sharp sword": a solid Chinese philosophy with a real Canadian story

Dr Xiangguo Qiu, a world expert in the fight against Ebola

Nobody knew that Ebola was going to sweep through West Africa and knock on the doors of North America and Europe last year. In the fight against this deadly virus, Dr Xiangguo Qiu, a research scientist at the National Microbiology Laboratory (NML) in Winnipeg and an adjunct professor in the Department of Medical Microbiology, University of Manitoba, played an important role in saving patients' lives with her antibody cocktail. Currently, about 30 patients have been treated with the cocktail, and most of them have survived.



Dr Qiu's research: ZMapp and VSV-EBOV Vaccine Development

The Ebola virus was first found in 1976 in a village in the Central Africa jungle near the Ebola River, from which the disease takes its name, and infection by the virus had always been regarded as "no treatments, no vaccine". Infection with the Ebola virus (EBOV) causes severe hemorrhagic fever in humans characterized by internal and external bleeding, a syndrome resembling shock, and multi-organ failure, resulting in up to a 90% death rate. Outbreaks are sporadic and unpredictable, occurring in the humid, tropical rainforests of sub-Saharan Central Africa. Ebola killed 1,093 people out of a total of 1,393 cases over 13 separate outbreaks between 1976 and 2013, but was seen as a minor public health problem in Africa compared to other pathogens, such as HIV and malaria. This changed in the wake of the 2014 outbreak in West Africa, which was unprecedented both in its geographic scale and the number of affected victims. Beginning with the death of the index case, a 2 year-old toddler in southeastern Guinea in December 2013, this outbreak has now resulted, as of January 2016, in the deaths of 11,315 people out of a total of 28,638 infected cases. This outbreak has made history in every aspect in terms of the length, geographical magnitude, total deaths, case numbers, etc. This is also the first outbreak in which a significant number of health workers, including prominent local and international doctors, have contracted and succumbed to the disease. To date, 513 out of 881 infected health care workers have perished in the line of duty from this disease, diminishing the already-weak medical infrastructure in a region that can ill afford such costly losses.

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People have asked Dr Qiu one question many times in the past: "why do you study Ebola since there is no Ebola in Canada?" Right after the 9/11 attack in the USA, the Canadian government launched a program called the "Chemical, biological, radiological-nuclear and explosives (CBRNE) threats initiative (CRTI)". The purpose of this program was to fund a series of projects in order to develop medical countermeasures in the case of a bioterrorism event. The Ebola virus was among the most lethal infectious agents known at that time, producing sporadic outbreaks of severe and highly lethal hemorrhagic fever in humans and nonhuman primates (NHPs). Owing to the high morbidity and mortality rates in natural outbreaks, lack of prophylactic and treatment options, aerosol transmission potential, and highly virulent nature, Ebola viruses had been identified as both NIAID Category A Priority pathogens and CDC Category A Agents of Bioterrorism. The Special Pathogens (SP) Program at the National Microbiology Laboratory (NML) was funded to carry out projects under the first CRTI call: developing vaccines and therapeutic monoclonal antibodies against the Ebola virus.

Dr Qiu joined the SP/NML in 2003 due to her expertise in monoclonal antibody (mAb) production, a technique to produce antibodies to fight pathogens. Dr Qiu's main goal was to develop an antibody treatment to protect Canadians in case that threat might arise. The original plan was to make mAbs using a vaccine developed by another team. For various reasons, the Vesicular Stomatitis Virus (VSV) Ebola virus vaccine — known as VSV-EBOV, which was originally made in a biosafety level 4 (BSL4) lab — couldn't be generated for over a year by people from the vaccine team in a BSL2 lab. In the end, Dr Qiu was asked to try her luck in making the VSV-EBOV vaccine. She successfully generated the VSV-EBOV vaccine after 2 months of very tedious work. After that, she spent about 2 years characterizing this VSV-EBOV vaccine before handing over to a certified company in Germany for cGMP production. This vaccine has been used on several people due to lab exposure in addition to the 2014-2015 West Africa outbreak. During the outbreak, the Canadian government donated about 800 doses of the VSV-EBOV vaccine to the WHO. Now, the Phase I clinical trial was finished at several sites, and the interim results from the Phase II/III clinical trials with this vaccine have shown that this vaccine is 100% protective. Dr Qiu didn't start her mAb project until 2005, and 1-1/2 years later she made the vaccine. It took her another two years (in 2007) to create a panel of mAbs, characterizing them in vitro and in vivo, and finally found a mAb cocktail-ZMAb which worked extremely well – the best in the world at that time in a guinea pig model (an intermediate model for Ebola infection). Her team was thrilled with the results and Dr Qiu started to plan for testing ZMAb in non-human primates (NHPs), the gold model for Ebola infection. Unfortunately, at the same time, a report from a very famous lab was published in a high-impact journal in which the authors showed that a very potent anti-Ebola mAb did not work at all against Ebola infection in NHPs. This really delayed the mAb project, as most of the experts in the field didn't believe that the Ab therapy would be an option for Ebola infection. It was very hard to get funding support for this project, as the NHP experiment was so expensive, with one experiment with 14 NHPs costing about $200,000 (just for the animals and mAbs; labor and other reagents were not included). It was very frustrating at the time, But Dr Qiu didn't give up. She continued to work on the project in whatever area she could: sequencing the hybridomas for further development (humanizition/optimization) of the mAb cocktail, filling patent applications, making more characterizations, etc. It was another 3 years before people

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In the spring of 2010, one group from the US reported in a conference that purified immunoglobulin (IgG) from NHP survivors of the Marburg virus (another virus from the same family as Ebola) could protect other NHPs against Marburg virus infection. Since then, Dr Qiu's mAb research has progressed at full speed. They tested only ZMAb in NHPs and the results were a big breakthrough in the field, but they were also optimized further to develop the second generation of ZMAb, called ZMapp in 2014, via collaboration with US partners. In their *Nature* paper, which was published in August 2014, Dr Qiu's group showed that ZMapp could provide 100% protection in NHPs even with the treatment initiated 5 days post-infection, which is equivalent to 9-11 days post-infection in humans. After quite some time and extensive debate about whether the experimental drugs and vaccine should be used in humans during the outbreak, the WHO made the decision that some experimental vaccines and treatments should be used. Dr. Qiu was confident but very cautious because the cocktails had never been tried on humans, even though her animal tests on primates, the closest species to human, were very successful. The first try on two American medical workers happened in July of 2014. To many people's surprise, the antibody cocktail worked so well on a very weak patient that the rashes on the patient body disappeared just a few hours after application, and the patient could walk after two doses. This secret "serum", announced to the public by some media at that time, was from Dr Qiu's lab! In China, ZMapp was referred to as a "magical drug". After this, more patients, most of them medical workers, were treated with ZMapp/ZMAb. ZMapp was used on 30 patients during the outbreak, and the results were very promising. PhaseII/III clinical trials have been ongoing in West Africa since Feb 2015. The FDA gave ZMapp fast track approval last August.

Dr Qiu has been granted several awards due to her excellent contributions in the development of an Ebola vaccine and the mAb cocktail treatment with ZMAb/ZMapp: 2006 and 2013 Research Merit Awards from Health Canada/PHAC; 2015 Outstanding Leadership in Life Science Award from the Life Science Association of Manitoba; Nominee for the 2015 Ernest C. Manning Awards Program; and the Dr. Frank Plummer Researcher of the Year Award in 2015 for Medical Microbiology, University of Manitoba. She has co-authored over 30 high-impact articles in prestigious journals in the last 3 years, including *Nature*, *Science Translational Medicine*, *Journal of Clinical Investigation*, *PNAS* and *Journal of Virology*! Dr. Qiu is one of the world's foremost experts on antibody treatments and is regularly invited to speak at national and international conferences.

Adventure in Africa

The magnitude of the 2014-2015 Ebola outbreak surprised almost everyone in the world. Another Special Pathogen mandate is outbreak response. Teams have been sent to the field for onsite diagnosis support in almost every filovirus outbreak in Africa since 2000. The first teams in this outbreak went to Sierra Leone in June of 2014, with generally 2 or 3 people in each team. Dr Qiu was also asked to go into the field during the outbreak, while her team was still very busy with research and meeting requests for sending out mAbs. With another doctor, from Ottawa, she was finally able to go on Dec 30, 2015. She had to take several medicines such as anti-malaria drugs before she could go. She also had to bring along a first aid kit, bed net, mosquito repellant and a range of antibiotics. On December 31, 2014, after 36 hours of flight, she arrived in Freetown, Sierra Leone. The next day, New Year's Day of 2015, she took an 11-hour car ride to the Ebola Management Centre (EMC) in Kailahun, where the Sierra Leone Ebola outbreak had started. The road was OK for the first half (built by a Chinese company) of the trip, but the rest was really bumpy and dusty, as the construction work had been stopped because of the outbreak. The weather was hot, and the car didn't have air conditioning. The scene on the way to Kailahun made her feel like she had gone back via time tunnel to the 1960s-early 1970s in China. By the time she arrived at the EMC she was really exhausted, but excited at the same time. "I am here eventually to help, and today is New Year. It has to be a good start of this year", she said to herself. She and her colleague were warmly welcomed by the staff at the EMC, including MSF (Médecins Sans Frontières [English: Doctors Without Borders]) and local people. When they found out that she and her group had been working on the Ebola virus for the past 12 years, and especially the VSV-EBOV vaccine and ZMapp, they were very excited, and many of them took a picture with her, called her the "ZMapp Lady". One of them said: "Oh, aren't you the God to save the people here?" Afterwards Dr. Qiu said, "I felt so happy and wish I had worked even harder to have the treatment for everyone who needed treatment here. It's more rewarding than publishing the paper in *Nature*."

On Jan 2, she and her colleague began their work. The first task was to do lab diagnosis for Ebola, and they worked from 7:30 in the morning to 4:30 pm or later every day, depending on the sample numbers. The lab conditions there were nothing like the lab conditions here in Canada, and so to protect herself and her colleagues, she had to wear personal protective equipment in a tent during hot weather. There were about 450 bodies lying in a graveyard 5 minutes' walk from the EMC Lab, and if one were to walk 10 minutes farther, one would see a river which also serves as the border between Guinea (the country where the first Ebola case was found in this outbreak) and Sierra Leone.The living conditions there were not good, with no hot water for bathing, no air conditioning, and sometimes no electricity if the generators stopped working. The tap water was not drinkable and you could not use it to brush your teeth, and there were all sorts of bugs in the rooms you stayed in, but everybody there still worked diligently. After 30 straight days of the same meals (bread for breakfast, rice and chicken for dinner every day), the same tight clothes, and the same laboratory testing, she came safely back to Canada. While she was happy to be home with her family, she said that it was a good experience and that she would go again if there were a need.