Prof Klaus Osterrieder, Dean
A farm boy’s veterinary dream comes true

CityU Dairy Farm
Ground Breaking Ceremony

Dr Denis Yau
Journey to becoming a poultry veterinarian

CityU Biomedical Scientists discover super-enhancers that switch on breast cancer genes

Collaboration with Trappist Dairy, a Hong Kong Institution

Working with our farming community,
Interview with John Lau, Hong Kong pig farmer
Dean’s Message

Dear Colleagues, Supporters and Friends of our College and CityU,

Welcome to the Jockey Club College of Veterinary Medicine and Life Sciences at City University of Hong Kong!

It has been a pleasure and honour to serve as Dean of this young college at City University of Hong Kong. Since my arrival in July of last year (and after getting out of mandatory quarantine), a lot has happened at JCC. As is evidently customary in this town and university, things happen at lightning speed and high intensity, taking a breather always is for another time and another place.

First, JCC was preparing for two accreditation visits by the Australasian Veterinary Boards Council (AVBC) and the Royal College of Veterinary Surgeons (RCVS) that took place in February of this year. Following a remarkable team effort that demanded full engagement of students, staff, faculty and college leadership alike, we together rose to the challenge and presented with pride (and some apprehension) to the accrediting bodies what distance JCC and its BVM programme have traveled. There is still some part of the journey to complete, but we feel we are on a good trajectory to reach the major goal of JCC in 2023: the accreditation of our BVM programme that would allow our graduates to practice veterinary medicine in Hong Kong and beyond. The education locally of “home grown” veterinarians for the local and regional marketplace is the founding principle of JCC and we have our eyes on that major prize all the time.

To achieve this and our other goals in JCC, we are acutely aware that what makes a place and particularly a university strong is people. Therefore, our focus has been and will be on recruiting the best students, the best staff, and the best faculty. If we attract high-calibre individuals to work, learn and teach in our college, we establish an environment in which everyone can continue to thrive and start or further their career. Obviously, the past two years have been challenging on many fronts and have made mobility especially challenging. But we are confident that the end of the pandemic is near and that it will become a distant if unpleasant memory. Despite the difficulties, we have been successful in continuing to recruit excellent students, staff and faculty that will be instrumental for us to follow our vision and accomplish our mission.

Next to the human factor, infrastructure is another very important parameter for any successful enterprise. We are proud to have begun construction of our own CityU Dairy Farm, the one and only to operate within city limits. The farm is scheduled to be completed by the end of this year after we broke ground as recently as November 2020. Heifers are expected to populate the farm shortly thereafter and we will have our own milk produced in the spring of 2022, less than 18 months after the first movement of earth in Lam Tsuen. I am particularly excited about our dairy farm because it will be a unique and premiere site for student education. We are also looking forward to CityU’s Jockey Club One Health Tower. This 13-storey building in the heart of the campus will be home to JCC and house the better part of our research and teaching laboratories. This building exemplifies how we view ourselves: cutting-edge and forward-looking. This massive investment is testament on what can be achieved if everybody puts their effort towards a common goal and we are all looking forward to our move in the spring of 2023, not even two years from now.
As I said before, the JCC is young. Founded in 2014, the College is comprised of four academic departments that work together to provide our students with a solid foundation in the natural and life sciences that forms the basis for the development of outstanding health professionals – in the veterinary profession and beyond. Next to the BVM programme, a comprehensive 6-year undergraduate programme, there are two BSc and one MSc programmes coordinated by the Department of Biomedical Sciences in JCC. In addition, one BSc programme in the Department of Neuroscience is to be launched in the next triennium and an MSc in Public Health will commence in 2022.

Following the Humboldtian ideal, we know that excellent teaching is built on excellent research. I am particularly proud that we have so many outstanding scientists in JCC that lead through innovation and discovery. Continuing on the path of One Health research, encompassing so many different areas in the life sciences and animal welfare, is our continued pride and we will continue to work on maintaining this essential engine in our college. We know that we have to be prepared and generate the scientific basis on which our modern societies are built. Our place as a leader in veterinary medicine and life sciences has never become more evident as during this ongoing pandemic. Many members of our college have contributed to elucidating, understanding and combatting COVID-19, be it through mathematical modeling, uncovering transmission chains between humans and pets, deciphering the virus’ virulence factors to engineering vaccines and therapeutic approaches.

Lastly, all our accomplishments are unthinkable without our many friends, partners, stakeholders and supporters. Nobody can be strong on their own in this highly interconnected and competitive world. I am very thankful to our strategic partner, Cornell University, and our constant and generous supporter, the Hong Kong Jockey Club, but also to individuals that through their financial and/or moral support have carried us to this point in our evolution. It is my hope that we can continue on this path and be successful eventually.

Sincerely,
Klaus Osterrieder
院長的話

親愛的院長同事、支持者和友好：

歡迎蒞臨香港城市大學（城大）賽馬會動物醫學及生命科學院！

我有幸承擔城大這所年輕學院的院長，自我去年九月來港完成副校長職，時至今日，賽馬會動物醫學及生命科學院已有不少發展。這個城市和這所大學一向追求卓越，我們赫然已邁入新時代和新里程。

賽馬會動物醫學及生命科學院大會籌備澳新獸醫管理局（ AVBC）及英國皇家獸醫學院（RCVS）於今年二月的評核考察。多得一眾學生、教職員及領導層的努力，我們自豪地在這些機構展示獸醫學士課程與日俱進。我們仍需努力，但2023年宏願已初現於望：今秋獸醫學士課程已獲認可，讓我們的畢業生在港及海外投身獸醫業。賽馬會動物醫學及生命科學院成立宗旨，就是為香港及亞洲區就業市場培訓「本土」獸醫，這成果令人熱切期待。

為了達成賽馬會動物醫學及生命科學院的宏願，我們深切明白提升大學的關鍵是人，所以我們一直致力羅致一流的學生和教職員。當院系不論在教學、工作或美國人才濟濟時，就能營造一個讓大家茁壯成長的環境。過去兩年雖然困難重重，人才流動更見挑戰，但我們相信信情可至尾聲，挑戰也會隨之過去。在這個艱難時候，我們仍能錄取優秀的學生和教職員，推動我們追隨目標和實現使命。

除了人才之外，任何企業成功另一關鍵是設施配套。我們為開始興建香港唯一的城大乳牛農場深感自豪，農場去年十一月舉行動土儀式，預計今年年底完工，很快會迎接乳牛入內，並於2022年春天生產我們的自家製牛奶，從國家連接林村計劃起只花不夠18個月。我對這個乳牛農場滿懷期待，因為它將是一所獨一無二的教學設施，我們也期待城大賽馬會健康一體化大樓落成。這座位於校園中央的13層大樓將是城大賽馬會動物醫學及生命科學院所在，配備我們先進的研究和教學實驗室。這座建築物呈現出我們的尖端和前瞻，這項寶貴設施見證了只要人人為之共著目標奮鬥終有所成，2023年春天至今已不夠兩年，令人萬分期待。

正如我所說城大賽馬會動物醫學及生命科學院年青有為，這所於2014年成立的學院由四個學系組成，攜手為學生提供自然科學及生命科學的根基。基礎有助將來成為獸醫及其他方面的傑出醫護專業。除了全面的六年制獸醫學士課程外，城大賽馬會動物醫學及生命科學院的生物醫學系也提供兩個理學士課程及一個理學碩士課程。此外，神經科學系的理學士課程計劃在三年內推出，而公共衛生學理學士課程則在2023年展開。

根據洪堡教育理念，優質教學建基於優質研究，我特別自豪我所學院雲集一眾優秀科學家，一直帶領創新和發燒。我們會繼續在健康一體化研究的軌道上，蹄跡滿志地涉獵生命科學及動物福利各個範疇，繼續維持學院這個核心動力，因此要為這個現代社會提供科學基礎。我們在動物醫學及生命科學的領導地位，於這次疫情前所未有的重要，多位院系成員研究數學建模、發掘人與動物傳播機制，為設計疫苗和療法破解病毒致病因子，協助世人了解和對抗新型冠狀病毒。

最後，沒有我們的友好、夥伴、持份者和支持者，我們不可能有今天的成就。我們在這個互相連繫又競爭激烈的世界上，沒有人可以獨善其身，我感激合作夥伴美國康奈爾大學及慷慨善長香港賽馬會，也感謝每位朋友在財政或精神上支持我們進步至今，願我們繼續走下去，最終得享成果。

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A farm boy’s veterinary Dream Comes True 農場小子圓夢當獸醫

What did you think about when you were nine years old?

“I did not decide to become a veterinarian. I simply believed that I would become one someday,” he says with a smile.

At only nine years old, Professor Klaus Osterrieder, Dean of the Jockey Club College of Veterinary Medicine and Life Sciences (JCC) and Chair Professor of Virology and One Health in the Department of Infectious Diseases and Public Health, already knew that he would one day become a veterinarian.

He recalls growing up on a dairy farm in Germany, where his parents also raised pigs and chickens. Such an environment, however, does not automatically turn a child into a veterinarian. His younger brother, for instance, was more interested in agricultural machinery and technology. Klaus, on the other hand, simply enjoyed hanging out with the animals, cows in particular. At four years old, he began to do chores around in the cowshed, feeding calves and milking cows every early dawn.

The young Klaus was not in a rush to make his veterinary career happen. He studied various languages such as German, English, French and Latin in high school. He then majored in agricultural science at university, and only applied for veterinary school the following year. Just as he had imagined when he was nine years old, he took naturally to the path to veterinary medicine.

Studying virology to tackle infectious diseases of animals

All veterinary medicine students had to complete internships, and while his classmates undertook theirs in animal practices, Klaus interned at the Department of Microbiology at his alma mater to stay close to his wife, who was in her late pregnancy - a choice which later opened the door to his future virology study.

“I think virology is really interesting because a lot of major infectious diseases worldwide, such as foot-and-mouth disease, canine parvovirus and Marek’s disease are caused by these small agents. Some of them, much like bacteria, fungi and parasites, affect both animals and humans. Virology allows me to study how pathogens cause disease and find solutions, a line of work which continues to fascinate and excite me” the dean said.
The virologist, who has travelled to Kyrgyzstan to study the problems of the local horse population and to Mainland China and African countries to conduct field research, spends most of his time in the laboratory studying ever-evolving viruses. Viruses have also attracted him to Hong Kong. “Not only is Hong Kong an East-meets-West international city, avian flu and SARS have their origins here. This is why I’ve been in anticipation of the opening of a veterinary school in Hong Kong,” he shared.

Becoming the dean at the time of a pandemic

Professor Osterrieder was initially offered the position of JCC’s Dean back in 2014, but he unfortunately had to shelve his career plans in Hong Kong due to a serious bicycle accident. Six years later, he was again presented the same opportunity and he eventually took on the role as Dean of JCC in July of 2020.

While established veterinary schools have a lot of history to offer, Professor Osterrieder finds the start-up nature of JCC exciting. “As part of such a new enterprise, you can create new possibilities for the fledgling school. It is great that our colleagues at Cornell University also help us design the curriculum according to local requirements so Hong Kong can optimally train its own veterinarians,” he shared.

Believing that veterinary schools around the world should be imbued with local elements, he stresses that JCC advocates public health and aquaculture principles, which are particularly important in Asia. “Having said that, a veterinarian must also always possess a global vision. It is very important to see issues in light of what’s happening around the world,” the professor added.

CityU’s dairy farm refreshes his childhood memories

The newly appointed dean’s short-term goal is to get the school’s Bachelor of Veterinary Medicine (BVM) programme fully accredited by the Australasian Veterinary Boards Council (AVBC) and the Royal College of Veterinary Surgeons (RCVS). To achieve this, he must recruit the best faculty from around the globe. “Only when we have the best talent here can we provide the best education to our students in the long run and make a difference to society,” he said.

Though the pandemic has made recruitment challenging, many local developments are in full swing. For example, the Jockey Club One Health Tower, expected to be completed in 2023, will provide the school first-class teaching and research facilities. The dean’s long-term goal is that within 20 years, JCC will become one of the best 20 veterinary schools in the world.

Professor Osterrieder also looks forward to the opening of the dairy farm built by City University of Hong Kong in Lam Tsuen, Tai Po. “I am so excited to participate in the construction of Hong Kong’s first dairy farm in decades. After all, cows are my favourites and have been lifelong friends. I’ll make sure that they can live happily on this farm,” said the former dairy farm boy with great satisfaction on his face.
教授教授

教授為德國柏林自由大學病毒學教授及美國康奈爾大學病毒學兼任教授，專門研究動物及人類的耐受力，流行性感冒及冠狀病毒感染。他曾出任柏林感染生物學及免疫學中心（ZIBI）及ZIBI研究院總監。


他說：「我覺得病毒學很有趣，因為很多重要傳染病如 sıù病，大小病毒、馬立克病均由細菌、真菌和寄生蟲等小宿主引起，會同時影響動物和人類，病毒學讓我研究這個病原體如何引起疾病，以及尋找解決方法，這一連串工作令我十分着迷。」

這位病毒學家曾在飛到吉爾吉斯研究當地馬匹異象，有時跑到中國內地或非洲國家實地考查，但他更長時間留在實驗室研究不斷演變的病毒。病毒也令他對香港十分好奇，他說：「香港不單是中西文化匯聚的國際城市，又是禽流感和豬流感的源頭，所以我一直很留意香港開辦獸醫學院的消息。」

兩度獲聘　在疫情問任職

其實數教授於2014年曾獲教授為賽馬會動物醫學及生命科學院院長，但他當時不幸在一次嚴重車禍中受傷，被迫解除於2020年7月，他跟城大獅醫學院的緣份再次出現，最終獲港政府任命為獸醫學院院長一職。

雖然著名獸醫學院歷史悠久，他卻對成立不久的城大獸醫學院充滿憧憬，他說：「我認為，它成立不久，你可以創造很多可能性，我們也有幸得到美國康奈爾大學的支持和設計課程，讓香港可以培養出本地獸醫。」

他認為世界各地的獸醫學院應有本地特色，因此城

大賽馬會動物醫學及生命科學院特別重視對亞洲
十分重要的公共衛生及水產養殖，但他強調：
「雖然本地元素很重要，但我們要緊記獸醫必
要有國際視野，要掌握世界各地發生的動物醫
學問題。」

林村乳牛農場　回復童年回憶

上任不到的數教授的短期目標是要塑造大獸醫學
學士課程獲得澳大獅醫管理局理事會（AVBC）及
英國皇家獅醫學院（RCVS）認證，他為此要從世
界各地招聘一流教授人才，他說：「唯有我們雲
集了最好的人才，才能長遠為城大學生提供最好
的教育及貢獻社會。」

雖然目前新型冠狀病毒疫情為海外招聘帶來重重
挑戰，但很多本地大台都在如火如荼進行，例如
2023年啟用的賽馬會健康一體化大廈將為學院提
供一流的教學設施，他希望未來賽馬會動物醫學
及生命科學院在20年內成為世界首20位獸醫學
院。

當年愛牛如命的農場小子，今天最興奮的快將
見證城大區於林村的乳牛農場啟用，他一臉
滿足說：「能夠參與興建香港幾十年來第一個乳
牛場，我真的覺得十分興奮，最重要的是，牛是
我最喜歡的動物，我視為一生好友，我會確保牠
們在這個農場快樂樂樂生活。」
A milestone was recently passed, symbolised by the Ground Breaking Ceremony of CityU’s Dairy Farm at Lam Tsuen which took place in November 2020. The event was attended by President Way Kuo and his team of Vice-Presidents and provided a good opportunity for all those present to witness the development of the dairy farm.

Speaking at the ceremony, President Kuo said “this is a small step by CityU, but we hope this small step can help Hong Kong society make tremendous progress under the umbrella of One Health”.

Covering just over 10,000 square metres, this training farm will be one of the jewels of the veterinary programme at CityU, allowing students to learn about dairy cattle husbandry and health as well as milk production. As the first dairy to be established in Hong Kong for several decades, it will also be the only active dairy farm in Hong Kong when it opens in early 2022. Meanwhile, teams from JCC and the Campus Development Office and the Communications Department work furiously not only to ensure that the buildings are designed and built to the highest standard but that we continue to be good neighbours to the villagers of Lam Tsuen village, where the farm is located.

The ceremony was also attended by the new Dean of JCC, Professor Klaus Osterrieder, as well as JCC faculty and BVM students.

Dean Osterrieder added that “not only will this be the first dairy farm established in Hong Kong for several decades but it will likely be the last one to be established here for some time”.

城大最近踏入里程碑，位於大埔林村的乳牛農場於2020年11月舉行動土儀式，城大校長郭位教授及一眾副校長出席典禮，所有來賓得以見證乳牛農場的發展。

郭校長在典禮致辭時說：「雖然這是城大的一小步，但我們期望這一小步為香港在健康一體化的宏圖中帶來重大變革。」

這個佔地一萬平方米的新教學農場將是城大獸醫課程中一個亮點，學生可以學習乳牛畜牧及乳牛健康，並得到生產牛奶的經驗。這不是香港數十載以來第一個乳牛農場，到2022年啟用時更是城中唯一一個運作中的乳牛農場。同時，賽馬會動物醫學及生命科學院、城大校園發展及設施管理處、傳訊及公開處會通力合作，確保這個教學設施以最高標準設計及建築，跟農場所在的林村居民和諧共處。

出席動土儀式的包括賽馬會動物醫學及生命科學院新任院長賀施德教授、其他教授及獸醫學士學生。

賀施德教授說：「這個乳牛農場不單在香港幾十年來唯一一個，也可能在一段時間內後無來者。」
The prestigious Calvin W. Schwabe Award has been bestowed upon Professor Dirk Pfeiffer, Chow Tak Fung Chair Professor of One Health and Director of the Centre for Applied One Health Research and Policy Advice at City University of Hong Kong (CityU).

Given by the Association for Veterinary Epidemiology and Preventive Medicine, this annual award honours Professor Pfeiffer’s lifetime achievement in veterinary epidemiology and preventive medicine.

Calvin W. Schwabe is known as the father of veterinary epidemiology and One Health. In 1966, he established the world’s first department of epidemiology and preventive medicine in a veterinary school, which was at the University of California, Davis. While there, he set up the Master of Preventive Veterinary Medicine programme, which remains the longest-running veterinary epidemiology programme in the world.

As a specialist in veterinary epidemiology, Professor Pfeiffer ranks in the top 2% of the world’s most highly cited scientists in the veterinary sciences field, according to metrics compiled by Stanford University, reflecting his high academic standards and substantial influence in the world.

The research of Professor Pfeiffer, who joined CityU in November 2016, focusses on the prevention and control of infectious diseases of global significance, such as avian influenza and African swine fever, using advanced quantitative epidemiological methods with a special emphasis on the translation of science into policy.

Professor Pfeiffer has held numerous memberships of advisory committees and expert panels around the world, including with the Food and Agriculture Organization (FAO) of the United Nations, the World Organisation for Animal Health (OIE), the European Food Safety Authority, the UK Government’s Animal and Plant Health Agency, and the Animal Health Surveillance Governance Board for England and Wales, UK.

He currently chairs the Applied Epidemiology Technical Working Group of the OIE/FAO Network on Avian Influenza and he is a member of both the Global Pool of Experts on African Swine Fever...

Professor Pfeiffer holds a 20% appointment as Professor of Veterinary Epidemiology at the Royal Veterinary College in London, the world’s top-ranked veterinary school (QS World University Rankings 2021), and he has been an Adjunct Professor at the China Animal Health and Epidemiology Centre since 2014.

“I am deeply honoured to receive this prestigious award in veterinary epidemiology. I want to emphasise that I have been fortunate to work in many countries around the globe conducting epidemiological research, training epidemiologists and engaging with government policymakers as well as other stakeholders. It has been incredibly motivating and rewarding to have had the opportunity to directly or indirectly touch the professional lives of a large number of people from around the world,” said Professor Pfeiffer.

香港城市大學（城大）賽馬會動物醫學及生命科學院周德豐講座教授（健康一體化）兼健康一體化及政策應用研究中心主任Dirk Pfeiffer教授獲頒享有國際的施瓦伯獎（Calvin W. Schwabe Award）。

獸醫流行病學和預防醫學協會 (Association for Veterinary Epidemiology and Preventive Medicine) 頒發這個年度殊榮予Pfeiffer 教授，表彰其於獸醫流行病學和預防醫學範疇的終身成就。

卡爾文·施瓦伯被譽為獸醫流行病學及健康一體化之父。他於 1966年在美國加州大學戴維斯分校獸醫學院成立全球首個流行病學及預防醫學系；由他一手創立的獸醫預防醫學碩士課程，也是全球歷史最悠久的獸醫流行病學課程。

Pfeiffer教授亦為世界各地機構擔任顧問和專家小組成員，包括聯合國糧食及農業組織 (FAO)、世界動物衛生組織 (OIE)、歐洲食品安全局、英國動物衛生局，及英國的英格蘭及威爾斯動物健康監督管理委員會等。

他目前是OIE/FAO禽流感網絡轄下應用流行病學技術工作小組主席，全球研究非洲豬瘟專家組網絡成員、FAO OIE 全球漸進控制跨境動物疾病框架轄下亞洲地區非洲豬瘟常設專家小組成員，以及OIE新冠病毒顧問小組永久成員。

此外，Pfeiffer教授為英國皇家獸醫學院擔任20%的獸醫流行病學教授工作。該學院位於倫敦，是QS世界大學2021年排名最頂尖的獸醫學院之一。他亦由2014年起，出任中國動物衛生與流行病學中心客座教授。

Pfeiffer教授說：「我對獲頒這個獸醫流行病學權威獎項深感榮幸。我有幸在全球多個國家研究流行病學，培訓這方面的專家，並與一眾政策制定者和持分者接觸。這些與世界各地專家直接或間接交流的機會，促使我奮勇向前，並令我獲益良多。」
Collaboration with Trappist Dairy a Hong Kong Institution

Hong Kong has more than a century of history of dairy farming with the first herds established in Pok Fu Lam in the late 19th Century. Unfortunately today, there are no active dairy farms remaining which makes the establishment of CityU’s dairy farm at Lam Tsuen all the more significant. Fortunately, Hong Kong still has a strong demand for fresh milk and as a result, CityU was able to partner with Trappist Dairy, one of the few local dairy processing companies still operating in Hong Kong. On 19 October 2020, CityU formally signed a Memorandum of Understanding with Trappist Dairy. The MOU was a prelude to a collaboration with Trappist Dairy whereby CityU Dairy Farm milk will be transported to the Trappist Dairy milk processing plant for pasteurization and packing. Given the relatively small scale of our teaching farm with its 24 milking cows, CityU is very grateful to partner with Trappist Dairy on this milestone project.

與十字牌牛奶合作

自薄扶林乳牛場於19世紀末創養了第一批乳牛，為香港帶來超過一個世紀的乳牛業歷史，可惜今天這些乳牛場已不再營運，因此，城大在林村成立的乳牛場變得十分重要。多得香港人對鮮牛奶有極大需求，令城大得以跟本地少數牛奶製造商之一十字牌牛奶合作。2020年10月19日，城大與十字牌簽署合作備忘錄，為雙方合作鋪路，城大乳牛場將會運送牛奶到十字牌牛奶生產廠房，進行殺菌和包裝。雖然我們的教學農場只有24頭乳牛，規模較少，但十字牌牛奶仍然願意跟城大攜手展開這里程碑項目，我們感激不已。
Officiating at the signing were President Way Kuo, Provost Alex Jen, Chief of Staff, Prof Richard Yuen, Vice President of Administration, Mr Sunny Lee, Dean of the Jockey Club College of Veterinary Medicine and Life Sciences, Prof Klaus Osterrieder, and Director (Development for Veterinary Medicine), Dr Howard Wong. Representing Trappist Dairy were Mr Paul Ko, General Manager, and Ms Ann Ho, Head of Finance and Human Resources.

主持簽署儀式的包括城大校長郭位教授、學務副校長任廣禹教授、秘書長袁國傑教授、副校長（行政）李惠光先生、賽馬會動物醫學及生命科學院院長賀施德教授、動物醫學發展總監王啟熙獸醫。十字牌牛奶代表包括總經理高健邦先生及財務及人事總監何嘉賢小姐。
Trappist Dairy: A Taste of Humanity

Trappist Dairy, a 100% homegrown brand and one of Hong Kong’s three oldest milk factories, has been with the Hong Kong people since the farm’s founding in the 1950s. Its cross-shaped logo and brand name suggest its Catholic origins.

The people behind the farm—the Trappists—are from the Trappist Haven Monastery Catholics from France. Officially known as the Cistercian Order of the Strict Observance, they run a number of cloistered monasteries across the world, as well as different self-financed businesses, including Trappist Beer in Belgium and Trappist Cookies in Hokkaido, Japan.

In the 1950s, the Trappists came to Hong Kong and founded Our Lady of Joy Abbey in Lantau Island. After receiving cow donations from other monasteries and followers, it began producing and selling fresh milk from its dairy farm, generating additional income for the monastery and providing healthy drinks to the community.

The farm’s bottled fresh milk was initially only available to residents of Peng Chau before it was successfully sold outside Lantau. This business continued until the late 1980s, when the monastery decided to expand and relocate the plant from the island to meet the huge public demand while it looked after its aging monks. After raising sufficient funds, Trappist Dairy was established as a joint venture in Tai Sang Wai, Yuen Long, to manage the new milk production plant and dairy farm. Father Stanislaus Jen, its first general manager, oversaw the dairy business during the day and worked on scripture translations at night. He lived in the staff dormitory, safeguarding the plant all day.

Following the development of the Yuen Long plant, the Trappist Dairy products became more diversified. In addition to bottled milk, it launched carton milk drinks in different formulations and flavours. Its high-calcium and low-fat milk options responded to the healthy trend, the limited Macha and purple sweet potato flavours celebrated the creative millennials, while the ready-to-heat ginger-flavoured milk has warmed people during winters in recent years. These products have been popular in the market.

For six decades, something very distinctive has been giving Trappist Dairy its unique flavour: humanity, reflected not only in the brand’s original aspiration to give back to society, but also in the dedication of its senior staff. For one, many of its production and logistics personnel have been working in the company for over 20 years. Some managers who have been with the company for over 30 years had only retired last year. Trappist Dairy was also said to have once reproduced a small batch of its long-discontinued sesame-flavoured milk to fulfil a faithful customer’s dying wish symbolising and reflecting the brand’s humanity.
十字牌"鮮奶"自創立以來，一直伴隨香港人成長。

十字牌源自法國的天主教修會姚篤會（Trappist Monastery），在全球各地開設修道院，採隱修形式，架構自負盈虧，由修士開展不同業務，例如比利時有修道院設酒、日本北海道有餅乾等。於上世紀五十年代初，姚篤會會士來到香港在新硤山興建修道院，命名聖母神樂院，其後得到其他修會和教友捐贈乳牛，並開始在牛場生產鮮奶自給自足，並進行銷售以維持生計，亦希望能提供健康的飲品給香港人。

由最初供應給坪洲一帶的士多及居民，隨後更排除萬難，把樽裝新鮮牛奶銷售到大嶼山以外的地方。這個事業一直經營至八十年代末，為滿足大眾市民對『十字牌』鮮奶熱熱的需求和負責的修士開始年紀老邁，修會決定籌集資金將牛場和廠房搬遷至郊區。最後新址選定於元朗大生圍，神樂院牛奶廠有限公司以合資形式因而成立負責管理新奶廠，牛場之營運，公司首任總經理為任達義神父。任神父在任期間一直穿梭於大嶼山及大生圍兩地，日間忙於牛奶廠的事務，晚上繼續為教會的事工翻譯經文，而他本人當時亦居於廠房內的員工宿舍內，日夜守護牛奶廠。

元朗廠房時期的後續發展，十字牌產品愈趨多元化。除了樽裝，還推出盒裝鮮奶，不同配方和口味的牛奶飲品；例如因應巿場潮流，加入高鈣低脂的選擇；九十年代更創製期間限定味道奶品，包括綠茶及紫薯味等；近年每逢冬天，便推出充滿暖意的薑奶，提倡顧客翻熱飲用，以助御寒，銷售反應相當不俗。

六十多年來，十字牌牛奶背後一直蘊藏著一份與別不同的味道——『人情味』，這不僅源自於品牌回饋社會的初心，更反映於團隊中一眾資深員工身上。不少生產部或物流部同事至今已為公司效勞超過二十年，而陪伴著元朗牛奶廠超過三十多年的廠長更是去年才退休。另一例子如據悉當年牛園廠更曾為一位將近彌留之忠實顧客小批量製作一款已停產多年的芝麻奶，讓他能重拾昔日回憶，了卻多年心願。這些故事與細節難以勝細道，但處處都是品牌人情味的體現。
Working with our farming community

Mr John Lau, Hong Kong Pig Farmer

Starting from this issue, we will introduce someone closely related to Jockey Club College of Veterinary Medicine and Life Sciences (JCC) in each edition of this newsletter. This time, we are introducing a highly learned pig farmer: John Lau.

Since childhood, John has loved raising animals and particularly enjoys keeping them healthy, believing that only healthy animals are able to reproduce. He has since turned this passion into a business, in which he continuously seeks to improve animal farming techniques and mass breeding. His calling is supported by an impressive education pathway: a bachelor’s degree in biotechnology from the University of London followed by a master of scientific technology and entrepreneurship at Nottingham University. After obtaining his degrees, he returned to Hong Kong to establish the Hong Kong Supreme Agriculture Company.

About five or six years ago, he purchased a farm from a retired pig farmer and started improving the farm environment, still rooted in his belief that only healthy pigs would generate a handsome business return. However, when he first took over the farm, he found the task of improving it to be as daunting as building an oasis in a desert. He began importing everything from overseas, including the Kagoshima Black Pork species, feeds, machinery, vaccination, and even farm management models.

Based on the same principle, he also employed a veterinarian from Denmark to run his farm. It is Hong Kong’s first and only private farm run by a veterinarian, as John believes a veterinarian can help improve the environment of a farm, while also bringing professional knowledge such as biosecurity into Hong Kong farming industry.

John is supportive of JCC’s veterinary medicine programmes, believing that they would be beneficial to Hong Kong’s farming industry. He also takes an active role, inviting BVM students to intern at his farm and teaching them pig farming techniques.
我們由今期開始，每期會介紹一位與獸醫學院關係密切的
持份者，今次首先介紹的是一位高學歷豬農，John Lau。

John由細到大喜歡飼養動物，他的樂趣是把動物飼養得健康
健康，因為他認為健康的動物才能繁殖，纔把興趣轉化
為商業運作，不斷改善飼養技術，再開始大量繁殖。他的教
育背景支持這個理念，他在英國倫敦大學完成生物科技學
士學位，再在諾定咸大學獲得科學技術及創業的理學碩士。
學成回港後開設香港優質農業有限公司。

大約五、六年前，他從一位退休豬農場主手中買下農場，並
沿用這個理念改善豬場基本環境。他相信讓豬隻健康生長
才有更好商業回報。然而，他接手初期，改善農場環境猶如
在沙漠興建綠洲，他開始從外國引入各種東西，由日本六
白黑豚豬種、飼料、機器、疫苗，甚至農場的管理模式，都是
他從外國引進香港。

也是基於這個概念，他從丹麥請來了一位獸醫，這是香港
第一個也是當時唯一由獸醫管理的私人農場。因為John深
信獸醫不單可改善農場環境，也可以把生物保安等專門知
識引進香港農業。

因此，他覺得城大獸醫課程對香港農業有莫大幫助。John
也身體力行讓獸醫學生在他的農場實習並親自教授學生
養豬要點。
Clinical Skills at CityU
城大臨床技能實驗室

We are delighted to announce that as of 2020, the new Clinical Skills Laboratory has been opened at CityU. This project has been led by Dr Rebecca Parkes in the Department of Veterinary Clinical Sciences.

What is a clinical skills lab?

‘Clinical skills’ is a broad term that refers to any practical skill a vet may need in practice. This can range from competent, safe animal handling to administering injections and surgery. But how can we teach students to develop these skills in a welfare-friendly way? This is where the skills lab comes in. Clinical skills labs allow training in simple practical skills, more complex clinical and procedural skills, communication skills, and can be used for practical assessments.

Skills labs have been developing for many years and are now the home of high-tech models and cutting-edge educational research, allowing vet schools globally to improve veterinary education and animal welfare. For example, before taking their first steps as surgeons, vet students will be taught simple practical skills such as identifying correct surgical knots before progressing to suturing silicone skin models. When they have reached a suitable level of proficiency, they will be taught simple surgical techniques on low-fidelity models. Once these skills are mastered, they can then perform mock surgeries on a highly realistic synthetic surgical dog model (the Syndaver® canine) that can even bleed like a real animal! Only then will the students be considered safe and competent to perform surgery.

Clinical instructor Dr Catherine Cormack demonstrates blood sampling to 3rd year BVM students using a model limb and fake blood.

This photo shows several stations set up for independent practice. The horse can be used for blood sampling, injections and horse handling, the surgical table for practicing simple surgical procedures, and the Jack Russel dog for injections, animal handling and ophthalmoscopy.
on live animals. Not only does this training before encountering live animals improve animal welfare, but it reduces student anxiety as they can be confident in their skills, and therefore worry less about ‘getting it wrong’ or harming animals.

**What tools does CityU have?**

CityU’s lab has a range of models, from simple, low-fidelity skin suture pads and toy animals from IKEA (extremely versatile and found in labs around the world!), to cutting-edge mock surgical animals, model sheep, a horse and a cow.

Syndaver® dog – Synderalla, the Syndaver® dog, is highly sophisticated and allows students to practice surgery on replaceable organs that feel – and bleed! – just like the real thing. Synderella can also be used for practicing intubation and anaesthetic monitoring.

Dystocia cow – Our cow will be named this year by our veterinary students. She boasts a life-size, weighted and jointed calf which can be placed inside a mock uterus to allow students to practice the essential skill of calving. Most cattle can give birth unassisted, but if something goes wrong, it’s an emergency requiring the vet to reposition the calf and assist the cow in giving birth. Our cow model allows students to practice this skill until they are proficient so that they are competent when they encounter issues in real life.

Horse – our horse model allows students to practice horse handling, injections, blood sampling, and diagnostic procedures required to diagnose colic, which is a potentially life-threatening group of conditions causing abdominal pain in horses.

**New Developments**

Our clinical skills lab is not only for teaching and learning, but also for research. Faculty members Dr Parkes, Dr Kate Flay research assistant Miss Jannie Wu are developing 3D printed models for teaching students how to determine the age of sheep by examining their teeth. This is critical in livestock
Clinical Skills at CityU

Dr Parkes is passionate about teaching and educational research and would like to see the Clinical Skills laboratory become a regional leader in veterinary education. She is currently involved in designing a bigger, better clinical skills lab in the new JCC tower. Dr Parkes has also recently been awarded a grant by the Council on International Veterinary Medical Education, which is part of the American Veterinary Medical Association, to study innovations in clinical skills teaching developed globally in response to COVID-19. The global clinical skills community has been forced to adapt to many challenges in the past eighteen months, and these adaptations are likely to reveal many ways in which we can improve our teaching as we move forward.

A rectal examination is a crucial part of many physical examinations involving dogs. However, as the procedure is invasive and may be uncomfortable for the animal, students practice first on models which have different pathologies.

This IKEA dog (ubiquitous in clinical skills labs globally) has been modified so that students may practice ultrasound-guided cystocentesis, a procedure where a sterile urine sample is taken directly from the bladder, using an ultrasound machine for guidance (the drip line seen here provides extra fluid for the ‘bladder’).

管理，但很难在港教，因为那里目前没有羊！该模型最近在国际兽医学院的年度兽医研讨会中展示，会议于今年在英国萨里大学举行。

我们有幸宣布城大全新临床技能实验室已於2020年成立，该项目由兽医临床科学系Rebecca Parkes教授博士。

临床技能实验室是甚麽？

“临床技能”是一个广义术语，指的是兽医在临床所需的实用技能，范围涵盖处理动物时安全可靠的技能，以至注射药物和进行手术的技巧。但我们如何将这些技能以符合动物福利的方式教导学生呢？这就需要临床技能实验室，它除了提供简单实用技能训练外，亦教授学生较复杂的临床程序技能、沟通技巧，实验室亦可用於实践性评核。

技能实验室经过多年发展，如今云集高科技模式和尖端教育研究，让世界各地的兽医学院提升兽医教育和动物福利。例如，兽医学生正式实习前需学习简单实用的技能，包括先学会识别正确的外科结，才学习缝合矽胶皮肤模型，让他们熟能生巧时，便进一步练习应付低保真模型的简单手术技能，掌握了这些技能就可以为合成手术狗模型（Snyder® 寇）施行模拟手术，这种高度仿真的模型会像真实动物般流血！这时，学生才
城大臨床技能實驗室

算得上能為動物進行安全可靠的手術。這種訓練不僅能改善動物福利，亦可減少學生的焦慮心情，令他們對自己的技能建立信心，到接觸真正動物時便不怕自己出錯而擔心會傷害動物。

城大有甚麼設備？

城大實驗室有一系列模型，包括簡單、低保真的皮膚縫合板、用途廣泛及深受全球實驗室歡迎的宜家家居玩具動物，以及先進的模擬手術動物，如人工羊、人工馬和人工牛。

Syndaver®人工狗—這隻名為Synderella的Syndaver®人工狗仿真度極高，它的可更換器官逼真到擁有感受和會流血，能讓學生練習手術技巧，還可用於練習插管和麻醉監測。

難產牛—今年我們的獸醫學生以Dystocia（難產）為題，為這隻人工牛命名，它的大小、體重和關節與真實小牛無異，可放置於模擬子宮內，訓練學生為母牛接生的基本技能。大部分母牛都是自己分娩，但萬一分娩過程出錯，危急關頭便要獸醫改變小牛姿勢，從而協助母牛分娩。學生可藉這隻人工牛練習技巧，到熟能生巧時便能在現實處境上大派用場。

人工馬—我們的人工馬讓學生學會處理馬匹、為牠們注射藥物及採集血液樣本，以及學會診斷馬匹紊

最新發展

我們的臨床技能實驗室同時用作教學和研究，城大教授Parkes獸醫博士、Kate Flay 歸醫及研究助理Jannie Wu小姐正在製作3D打印模型，讓學生學會如何從綿羊的牙齒確定牠們的歲數，這技能對畜牧管理十分重要，但由於香港沒有綿羊，因此難以教授這門知識。這模型最近於獸醫學院委員會國際會議中展示，這個年度會議今年由英國薩

Parkes獸醫熱愛教學和研究，她期望這間臨床技能實驗室能帶領中港澳動物學發展，她正參與設計位於賽馬會健康一體化大樓一個更大型先進的臨床技能實驗室。她最近獲獲香港中華獸醫協會的國際獸醫學院委員會資助，研究全球針對新型冠狀病毒開發的創新臨床技能教學。全球臨床技能專家在過去18個月努力應對各種挑戰，當我們昂首向前時，這些經驗將在多方面改善我們的教學水平。
The Veterinary Medical Centre of City University of Hong Kong (CityU) together with the Jockey Club College of Veterinary Medicine and Life Sciences organised a canine breeding training programme for the Customs Canine Force in early July 2020, the first pilot canine breeding course offered by CityU for a local enforcement agency. The programme helps the Force reduce overseas training costs and provides content that is better suited to local needs.

Professor Way Kuo, CityU President, and Mr Hermes Tang Yi-hoi, Commissioner of Customs and Excise, officiated at the certificate-presentation ceremony in the Customs Headquarters Building on 10 July, marking the completion of the one-week programme.

Guests attending the ceremony included Professor Michael Yang Mengsu, Yeung Kin Man Chair Professor of Biomedical Sciences at CityU, Dr Howard Wong, Director (Development for Veterinary Medicine) of the CityU Jockey Club College of Veterinary Medicine and Life Sciences (JCC), Dr Duncan Hockley, Executive Director of CityU Veterinary Health Group Ltd, Ms Louise Ho Pui-shan and Ms Ida Ng Kit-ching, Deputy Commissioner and Assistant Commissioner (Boundary and Ports) of Customs and Excise Department, respectively.

President Kuo said at the ceremony that the collaboration allowed Customs and Excise Department officers to be trained locally, helping to reduce the resources and time spent on overseas training, while its content catered for local needs better.

"Localisation of education and training remains one of the goals of CityU’s Jockey Club College of Veterinary Medicine and Life Sciences.”
Mr Tang expressed his gratitude to CityU for providing the Customs Canine Force with a professional canine breeding training programme, which covered advanced breeding techniques, selection of breeding pairs, pregnancy, whelping, nutrition and puppy management. The Customs Canine Force have recently announced the happy arrival of 6 puppies that will join their training force.

The Customs and Excise Department signed a Memorandum of Understanding with CityU’s School of Continuing and Professional Education (SCOPE), providing a credit-transfer arrangement with Hong Kong Customs College to promote continuous learning among customs officers. The Canine Breeding Training Programme is another cooperation with the department within a short time, marking the establishment of a good partnership. Dr Wong said he hopes that this will be the beginning of fruitful cooperation between the two institutions.

Dr Howard Wong, Director (Development for Veterinary Medicine)

“The JCC has been a long time coming and is the first and only vet school in Hong Kong. CityU feels a sense of responsibility to the community, and I am delighted that this has resulted in this training programme, which will benefit Hong Kong people for years to come.”

Several law enforcement agencies with working dog units also attended the ceremony. The event provided a good platform for the participants to exchange ideas on canine handling and training, fostering future joint breeding programmes, and enforcement co-operation.

The Customs Canine Force demonstrates working with the Force dog

城大動物醫學中心與賽馬會動物醫學及生命科學院去年七月初為海關搜查犬課提供「繁殖犬隻訓練課程」，是城大首次為本地執法機構開辦犬隻繁殖課程，協助相關部門節省海外訓練開支，並提供更切合本地需要的課程內容。

城大校長郭位教授及海關關長鄧以海先生於2020年7月10日在海關總部大樓主持課程證書頒發典禮，為期一星期的課程圓滿結業，郭校長於典禮上致辭。

出席典禮的嘉賓包括城大生物醫學系楊建文講座教授（生物醫學）楊夢甦教授、賽馬會動物醫學及生命科學院教育及發展總監王啟熙獸醫、城大動物醫學有限公司執行董事Duncan Hockley獸醫、海關副關長何珮珊女士及助理關長（邊境及港口）吳潔貞女士等。

郭校長於典禮上指此次合作讓海關人員得以在本地受訓，課程內容更切合本地需要。

郭位校長

“城大動物醫學及生命科學院其中一個目標，就是將動物醫學教育及培訓本地化。”

鄧先生感謝城大獸醫專家為海關搜查犬課人員提供專業繁殖犬隻訓練課程，指該課程涵蓋先進的繁殖技術、如何配對、犬隻妊娠、接生技術、營養學以及幼犬護理等多方面知識，受訓海關學員將開始自行繁殖工作犬。海關搜查犬課最近更新事項，六隻新生小狗正式加入他們的培訓隊伍。海關搜查犬課將與這些犬隻通力合作。

香港海關2020年6月與城大專業進修學院簽訂合作協議，著重學分轉換的合作備忘錄，鼓勵海關人員持續學習，而「繁殖犬隻訓練課程」則是雙方在短期內的另一項合作項目，標誌雙方建立良好夥伴關係，王獸醫期望雙方將有更多合作。

王啟熙獸醫，教育及發展總監

“城大動物醫學及生命科學院籌備已久，是香港首間及唯一一間獸醫學院。我們肩負著回饋社會的使命，我期望這個訓練課程對香港社會帶來長遠裨益。”

多個執法機構工作犬單位代表亦出席證書頒發典禮，出席人士互相交流犬隻護理和培訓經驗，加強跨部門工作犬繁殖計劃和執法行動的合作。
DR KATE FLAY
Pastoral Livestock
Health Expert Leads
Ruminant Health Initiatives
at the JCC

Ever since I was a child helping my dad to muster flocks, drench lambs and care for livestock, my passion has been for sheep and cattle. Becoming a veterinarian gave me the ability to work with the animals I loved, while also helping farmers improve their productivity and farming systems. Rural New Zealanders have a real ‘can-do’ attitude, abundant community spirit and sense of pride for their farms, something I was lucky to be a part of while I was in clinical practice. However, after a couple of years working as a vet, my career took an unexpected turn when I was approached by former mentors at Massey University and encouraged to apply for an academic position in Pastoral Livestock Health.

The timing of this was serendipitous, as shortly after I started a Professor’s retirement resulted in an increase in responsibility; I led the deer teaching at Massey and became the scientist-in-residence of the Massey Deer Unit. I undertook a PhD whilst in my full-time academic role. My doctoral research focused on productivity and wastage in commercial New Zealand flocks, funded by Beef + Lamb New Zealand,
The C. Alma Baker Trust and Massey University Research Fund. In addition, I continued to teach sheep and cattle medicine and surgery, both to undergraduate students and as continuing professional development for vets working in clinical practice.

As is often a source of entertainment overseas, there are far more sheep in New Zealand than people, thus the primary industries are an integral part of the New Zealand economy. My research has focused on generating data that informs management decisions to improve animal welfare and optimize productivity. My research involves working closely with commercial farmers and their flocks. Working with large commercial flocks, does however, provide its challenges. For example, one study required twice daily lambing observations where all new-born lambs were caught, tagged and recorded (before being returned to their mothers) – my team caught 2,500 lambs just in one year of the study, great exercise as they are kept outside in large paddocks! Other studies have required the use of drones, as the paddock terrain is too challenging to navigate on motorbikes, yet the paddocks are too large to check in a timely manner by foot.

My research has generated great interest from farmers, both in New Zealand and abroad. I’ve really appreciated this, as it’s given me ample opportunity to continue working with farmers and the wider industry internationally, on a day-to-day basis. I think, since my research is conducted on commercial farms and targeted towards problems that are relevant to industry, farmers have confidence that my team’s results are directly applicable to their own systems and so they want to know more. My work on ewe wastage has been particularly impactful, as we identified a simple measure that was predictive of wastage (mortality and culling), and that was body condition score (BCS). BCS is a measure of the condition of a sheep (1=thin, 5=obese), and is assessed by feeling the lumbar region (backbone) of the animal. Ewes with a BCS of 3.5 had a reduced risk of wastage, resulting in the recommendation to farmers to focus on BCS of their ewes to address this issue. Ultimately, this will result in reduced mortality/culling and greater longevity of sheep. I’ve also been involved in research on ewe udder health, which identified reduced survival and poorer growth in lambs whose mothers had udder defects. The outcome of this project was the creation of a simple scoring system that farmers can use to help select appropriate ewes for breeding, improving outcomes for their lambs.

As a veterinary scientist, I feel privileged to have the opportunity to perform research that will have meaningful impacts on animals, both farmed and feral, and the people that care for them. I’m looking forward to exciting new projects that I have started here, and continuing work that will benefit animals globally.
從小幫爸爸趕牛織羊和照料其他牲畜，我一直對牛
兒和羊兒情有獨鍾，成為獸醫讓我得以跟自己深愛
的動物共事，同時協助農夫提高生產力和農業系
統。新西蘭的農村居民總是坐言起行，既有群體精
神，亦以自己的農場自豪，我很慶幸自己在臨床實
習期間成為他們的一分子。然而，當了幾年獸醫
後，一位以前在梅西大學的導師聯絡我，鼓勵我應
徵一個「牧畜健康」學術職位，因而改變我的事業
發展。

這是一個偶然的時機，我剛開始時教授便退休，責
任也就增加了，我在梅西大學領導一個鹿學課程，
成為梅西大學鹿學系的常駐科學家，還在全職教書
期間修讀博士學位，我的博士研究重點是新西蘭鹿
業的生產力和損耗，並得到新西蘭牛羊肉業協會、
C. Alma Baker信託及梅西大學研究基金會贊助，我
同時繼續向本科生和持續專業進修的執業獸醫，教
授牛羊醫學和外科。

外國人常戲言新西蘭的羊比人多得多，因此新西蘭
的初級產業對全國經濟十分重要。我的研究重點是
生成數據，從而管理決策層建議改善動物福利和
提高生產力，包括跟商業農夫及他們的牲畜緊密合
作。跟大型商用牲畜共事並不容易，例如我們其中
一項研究要每日兩次觀察產羊過程，我們要捕捉初
生羔羊，為牠們標記和記錄才送回母羊懷抱，我的
團隊在一年研究期間捕捉了2,500頭羔羊，在廣闊
牧場這樣工作是極佳的體力訓練！我們做其他研究
則要使用無人機，因為電單車無法在這種牧場地
形駕駛，而牧場面積又大到難以隨時步行而至。

我感到很安慰的是，我的研究引起新西蘭和國外
農夫極大興趣，我因而得以繼續與全球各界的農
夫日常合作，我認為我的研究關於商業農
場，針對與業界相關的問題，因此這些農夫相信
我們團隊的工作成果可以應用在他們的系統上，
因而對我們的研究更感關注。我對母羊損耗的研
究工作特別重視，因為我們確認了一個損耗（死
亡率和撲殺）的簡單方法，這就是體態評分
（BCS），體態評分測量動物腰部（脊椎）計算羊
的狀態（1=瘦，5=肥胖）。體態評分為3.5分的母
羊較低的機會較低，農民因而知道要改善母羊的
體態評分，最終減低羊的死亡率或撲殺，並延長
牠們的壽命。我也曾參與研究母羊乳房健康的研
究，發現有乳房疾病的母羊所生的羔羊不單較難
生存，成長條件亦較差，這項研究成果為農民帶
來一個簡單評分系統，有助他們挑選合適的母羊
進行繁殖，從而改善新生羔羊的健康。

作為獸醫科學家，我有幸從事裨益畜牧動物和
野生動物的研究，亦協助人們照顧這些動物，我
期待在賽馬會動物醫學及生命科學院展開這些有
趣的項目，繼續造福世界各地的動物。

Dr Kate Flay joined City University of Hong Kong in July 2020 as an
Assistant Professor in Production Animal Health.

After graduating with a Bachelor of Veterinary Science, with distinction,
from Massey University in New Zealand, she entered rural veterinary
practice and worked with a range of production livestock
and companion animal species. Following this, Kate returned to Massey
University in 2015 as a Lecturer in Pastoral Livestock Health in the School
of Veterinary Sciences. At this time, she also completed her PhD, focused
on wastage and productivity of commercial ewes. During her time at
Massey, Kate was also involved with the wider veterinary industry,
serving on the Society of Sheep and Beef Cattle Veterinarians of the New
Zealand Veterinary Association Committee and the Continuing
Professional Development Advisory Group.

Dr Kate Flay 於2020年7月加入香港城市大學，擔任經濟動物健康
助理教授。

她於新西蘭梅西大學以優等成績獲得獸醫學學士學位後，開始投
身鄉郊獸醫執業，對象為各種經濟牲畜和寵物，再於2015年回到
梅西大學獸醫學院擔任牧畜健康學講師，期間完成博士學位，專
門研究商業母羊損耗和生產力，同時更積極投身獸醫業，除了加
入新西蘭獸醫協會委員會轄下綿羊和肉牛學會，並參與持續專業
發展諮詢小組。
CITYU JCC & SPCA (HK) SIGN A MOU TO PROMOTE TRAINING AND EDUCATION IN ANIMAL HEALTH & WELFARE

On 18th November 2020, CityU and SPCA (HK) signed an historic Memorandum of Understanding expressing the willingness of both parties to promote a partnership to advance their shared goals in training and education, improving animal health and welfare, and benefitting the local community. Signed by JCC Dean, Klaus Osterrieder, and SPCA Executive Director, Alice Choi, at the Wan Chai headquarters of SPCA, the MOU formalises the existing professional, collegial and collaborative bonds between JCC CityU and SPCA.

The Society for the Prevention of Cruelty to Animals (HK) is the longest standing animal welfare non-governmental organisation in Hong Kong. The Society provides a wide range of clinical veterinary services to members alongside community programmes including animal rescue and adoption, shelter and community outreach programmes, and a wide range of animal birth control programmes for cats and dogs. The SPCA has long supported the education of veterinary surgeons, veterinary nurses and paraprofessionals and the development of shelter medicine in Hong Kong and throughout China as a key component of improving companion animal welfare in the region.

2020年11月18日，城大賽馬會動物醫學及生命科學院及香港愛護動物協會簽訂合作備忘錄，以示雙方有意加強在培訓和教育的夥伴關係，推動雙方改善動物健康、動物福利及造福社會的共同目標。

城大賽馬會動物醫學及生命科學院院長賀施德教授與香港愛護動物協會執行總監蔡寶兒女士，在香港愛護動物協會灣仔總部代表簽署，正式確立雙方的專業和學術合作。

香港愛護動物協會是香港最歷史悠久的動物福利慈善機構，為社會大眾提供一系列臨床獸醫服務和社區活動，包括動物救援和領養、動物庇護所和社區外展計劃，以及各種貓狗節育計劃。香港愛護動物協會長期支持獸醫、獸醫護士和輔助專業人員的教育，並支持香港和內地動物庇護所的發展，對於改善亞洲區動物福利十分重要。
We welcome the recent arrival of Dr Alan McElligott, Associate Professor of Animal Behaviour and Welfare at JCC. Here Alan, introduces his research foci and what makes him tick:

My most recent research has focused on diverse species (e.g. kangaroos and broiler chickens) and quite different topics, yet the overall goal is to enhance their welfare. During sabbatical leave for one semester in 2019, I carried out research on captive, tame kangaroos in Australia (1). The work was inspired by some of our own earlier research on goats (2) and work on dogs by other research groups.

Over the last 20 years, there has been a great deal of interest in assessing the effects of domestication on animal behaviour. Developing a deeper understanding of our various domesticated species also has important implications for improving their husbandry and welfare. To this aim, many people have carried out research on dogs (especially) but also for example, horses, pigs and cats. Some of our own work on goats has had similar goals. Generally, domesticated animals are thought to have enhanced communication abilities with humans, compared to their wild cousins, and there is some evidence to that effect. However, I was not totally convinced of this explanation for various behaviours displayed by common domestic species, because the vast majority of the work had been carried out only with domestic animals. I would suggest that we cannot determine the effects of domestication on animal behaviour if we only or mostly study domestic animals. How can we possibly know what wild animals are capable of doing if we do not test them in an appropriate setting? So, that is why I decided to go to Australia and carry out research with three different species of kangaroos.

DR ALAN MCELLIGOTT
Associate Professor of Animal Behaviour and Welfare

In this type of animal behaviour experiment, in which the interactions between animals and humans are a key focus, it is really important to try to work with tame animals that are habituated to people and therefore relaxed around them. That means that when an animal is tested for some type of behavioural ability, and they fail to show it, the negative result is truly because of the lack of the behaviour and not because it was too nervous or stressed in the experiment to begin it.
For kangaroos, we used an experiment known as the “unsolvable problem task” to determine if they would seek to engage with humans to help them solve a problem. Essentially, the animals were trained to get a small piece of food out of an open plastic container, the container was then closed, and their behaviour towards a human standing nearby (me) was then monitored. Our research revealed that kangaroos turned to gaze at the human present when trying to access food that had been made inaccessible. The animals also showed gaze alternations by looking back and forth between the inaccessible food and the human. While this behaviour may seem simplistic, it is usually only expected for domesticated animals and definitely not for wild species with no history of domestication, such as kangaroos. Thus, it is clear that deliberate communication with humans by animals is not a direct result of a long domestication history but instead can be learnt, when animals that are kept captive and have a history of positive interactions with humans. Indeed, I would speculate that in a social mammal species (such as kangaroos) they are probably adapting behaviours that they may already use with other kangaroos, but given the lack of research on basic of kangaroo social interactions, we do not yet know the answer to that.

So, you might ask, why is this research even relevant to animal welfare? The answer is this: Although kangaroos are iconic Australian endemic fauna, adored by people worldwide, they are also considered pests by many. We hope that this research draws attention to the cognitive abilities of kangaroos and helps foster more positive attitudes towards them. Kangaroo harvesting is widespread and when this is done, I believe it should be carried out as humanely as possible.

In terms of broiler chickens, we studied commercial groups of 25,000 to 27,000 birds. The key result we found is that the output of chicken distress calls over the first 4 days of their lives can used to predict their growth rates and mortality levels over the following 28 days (3). That means that chickens that are showing greater signs of distress are more likely to grow more slowly and are more likely to die. Monitoring the welfare of such large groups of animals is usually very challenging but we have shown that it is possible by monitoring an important part of their vocal repertoire. Our overall result also shows the importance of providing the best care possible even to tiny broiler chickens that are only a few days old.

Our research revealed that kangaroos turned to gaze at the human present when trying to access food that had been made inaccessible.

The output of chicken distress calls over the first 4 days of their lives can used to predict their growth rates and mortality levels over the following 28 days.


我們的研究顯示當袋鼠無法獲得塞裝中的食物時，便會回頭嘗試。

你也許問這研究跟動物福利有何關係，答案是雖然袋鼠是深受世人歡迎的澳洲標記，但我們希望這研究能令人們更了解袋鼠的背景，培養出對袋鼠的尊重，防止袋鼠被捕獲。此外，我們研究了25,000至27,000隻肉雞，確立我們可以從中獲取更好的實驗材料，推斷出其後28天的成長速度和死亡率（3）把這份資料編制成報告，並在動物保護的實驗中獲得更高的影響力。再者，我們發現可以從中獲取更高品質的實驗材料，這對保護動物和改善濕地環境都有重要的作用。所以我們研究袋鼠是為了更好的福祉，而非動物本身。
Money Pet Memorial Scholarship
Money 寵物紀念獎學金

The passing of a pet can be a traumatic time for most families and Money had been the beloved of Stan and his girlfriend for over 11 years. Unfortunately, late last year, Money passed away due to cancer. While Stan and his girlfriend were very heart broken for their loss of Money, Stan felt that it is important to contribute to veterinary education development, and hence Stan contacted the Jockey Club of Veterinary Medicine and Life Sciences and with the help of CityU Development Office he established the Money Pet Memorial Scholarship for full-time UGC-funded local undergraduate students of our Bachelor of Veterinary Medicine programme in November 2020. The scholarship provides acknowledgement and encouragement for veterinary students who have obtained outstanding academic performance.

The fortunate recipients of Dr HO’s scholarship were Year 1 students, Chan Tsz Fung, Cryan and Wong Wai Ki, Natalie. Both students are taking the BVM degree as their 2nd degree and were therefore not eligible for entrance scholarships as these are for first time degree candidates only and thanked Dr Ho for his generosity.

The College would like to thank Dr Ho on behalf of the university for this generous gift and hope that the support it will provide to aspiring veterinarians will be of some comfort in the years ahead.

Dr Stan Ho is the CEO of Lianhe Ratings Global (the international arm of China’s second largest credit rating agency) and an Adjunct Professor in Economics and Finance at CityU.

Wong Wai Ki, Natalie
Chan Tsz Fung, Cryan
Dr Michael Doube, Associate Professor in Anatomy at the Department of Infectious Diseases and Public Health, remembers how most of his class would take notes with pen and paper when he started teaching a decade ago. Today, his classroom pauses are filled with the clacking sound of students typing and rushing to upload their notes to the cloud, reminding him that he is now in a new era of veterinary medicine.

This sense of promising novelty was what made him excited to join the Jockey Club College of Veterinary Medicine and Life Sciences two years ago. Not only was he entrusted to contribute to a local anatomy curriculum for Hong Kong students, he was also involved in the planning of a 250-square-metre anatomy laboratory for the Jockey Club One Health Tower. “A new
veterinary school like this offers me many opportunities to help shape a learning environment that fits the needs of this generation, and uses new technology to solve previously difficult-to-solve problems,” he said.

One poignant memory of his vet school days was the unpleasant smell of mixed cadaver and preservation chemicals from the dissection room. Now, he has the opportunity to ensure that the new generation of students don’t have this experience by using state-of-the-art ventilation systems in the anatomy laboratory at City University of Hong Kong. He also ensured that each anatomical table is lit properly and the lab is equipped with an in-light camera to provide an alternative overhead view of the surgical field, enabling other students to watch on-screen.

Dr Doube’s research is concentrated on imaging and bioimage informatics of skeletal tissues. “I think the best way to understand anatomy is not by dissecting an animal, but by imagining them whole. With this, you don’t have to change its organ and tissue relationship. You just leave them as they are,” he shared.

To do that, the university’s anatomy laboratory is equipped with light microscopes and X-ray microtomography scanners to make 3D images of small bone specimens. It also has sensitive cameras to detect fluorescent molecules, and special chambers to preserve tissue samples for hours to days. All of these have allowed his students to experience learning anatomy using first-class facilities. “With today’s ever-changing technology, it’s time for us to leave the past in the past and embrace future developments in anatomical exploration,” the professor concluded.

Michael Doube博士醉心研究骨絡組織成像和生物圖像信息學，他說：「我覺得要了解解剖學最好的方法不是將一隻動物剖開，而是將牠整套成像，這樣你就不用改變牠的器

官和組織關係，用最自然的方法認識動物。」

为此，城大解剖實驗室配備光學顯微鏡、製作骨骼標本3D電影的X光微斷層掃描儀，偵測熒光分子的敏銳相機，以及將組織樣本保存數小時至數天的特別庫，讓學生以一設施學習解剖學，他一臉滿足說：「今天科技日新月異，我們是時候要推陳出新，以探索解剖學的新發展。」
Over millions of years, we have learned, with relative success, to overcome significant life-threatening obstacles, to evolve and to adapt in our way of living. We have faced numerous diseases and pandemics over the past centuries and somehow managed to find our way through them. This is what we are meant to do as human beings but we also help other species and our environment to adapt and progress along with us. None of these challenges are new to us, and indeed, there will be more to come. The very recent pandemic of COVID-19 re-emphasized two known facts that life is as fragile as it has always been, and our resources are shrinking, which means we have no option but to adapt intelligently.

I am a veterinary epidemiologist who has dedicated my career to finding “intelligent” solutions to real-life problems in the area of production animals and One-Health. In all of the projects that I have been a part of, I always asked one question either of myself or my colleagues and that is “so what?”. This question may sound rather offensive to some, but as an epidemiologist, I feel this is precisely my responsibility to pose this unattractive question. Although humans thrive on curiosity, I believe that in our world of veterinary medicine, we need to become much more prudent in developing our research platforms. By “prudent”, I mean we must choose the most efficient way of using available resources to solve the practical problems that our hard-working farmers and clients are struggling with. I continue to put farmers’ needs as a high priority for my research and teaching activities.

Over the past 13 years, I have worked along with farmers, veterinarians, governments and academic colleagues trying to assist them in better formulating their production-and health-related questions, conceptualizing their ideas, and foreseeing the potential outcomes of their hard work. I use the pieces available in my epidemiological toolbox to design our studies, collect the resultant data,
數萬年來，我們克服過不少生死一線的重大危機，我們的生活方式得以與日俱進，最近幾個世紀又面對各種疾病和疫症，最終都能一一跨越，這是我們作爲人類的責任，但同時亦要幫助動物界和大自然一起適應進步。這些挑戰對我們並不陌生，而且會陸續有來，最近新型冠狀病毒疫情重現兩個眾所周知的事實，就是生命向來脆弱，而我們的資源漸漸萎縮，意味着我們別無選擇，只能明智應對。

我是一名獸醫流行病學家，畢生致力於動物生產及健康一體化領域明智地解決現實問題。我過去每次參與研究項目，總會向自己或同事提出一個問題：「那又如何？」可能有些人覺得這問題有點冒犯，但作為流行病學家，我覺得提出這類質詢正是我的責任。人類因為好奇而進步，我相信在獸醫世界，我們發展研究平臺時更要謹慎，我所指的「謹慎」是我們必須以用最有效的方法將現有資源解決困擾農夫和家畜的實際問題，我的研究和教學工作一直優先針對農夫需要。

過去13年，我一直與農民、獸醫、政府部門和學術團體協助農民改善生產和健康相關政策，將他們的構思概念化，預測他們的農作成敗。我以流行病學工具設計我們的研究，將收集得來的數據結果妥善分析，我的研究包括：

在一個大型項目中，我研發出一種具成本效益的新工具，用來控制加拿大乳牛場的牛白血病，我們結合大桶牛奶中抗牛白血病病毒的抗體滴度與統計模型，在缺乏個別動物樣本的情況下，預測乳牛場牛群之間的牛白血病流行率。這項工具使用方便，我們因而為當地農夫設計出控制及根除計劃。

在一個健康一體化項目中，我結合細菌生長模型和模擬技術，創造一個定量微生物風險評估模式，以評估人類進食生肉時接觸抗微生物大腸桿菌的風險。我在意大利任職聯合國糧食及農業組織（FAO）期間，參與了風險評估和監測模式的研究，我控制像口蹄疫的跨境動物疾病。我目前與賽馬會動物醫學及生命科學院的家禽健康診斷團隊有個合作項目，志在改善香港家禽健康和家禽生產系統。

作為賽馬會動物醫學及生命科學院新成員，我十分享受跟一眾同事和夥伴攜手合作，以更負責和永續方法實現大家改善動物健康和動物生產的共同目標。

Omid Nekouei 歐米德博士於2020年10月加入香港城市大學，出任循證動物醫學及流行病學助理教授。

他於伊朗德黑蘭大學獲動物醫學學士學位（DVM），再於加拿大愛德華王子島大學獲獸醫流行病學博士學位，研究流行病學及牛白血病控制。他於加拿大加爾加里大學進行博士後研究，評估抗微生物藥物耐藥性細菌從牛和雞傳染給人類的風險後，回到愛德華王子島大學任博士後研究員，研究重點成為產動物傳染病的流行病學，其後於渥太華任加拿大政府獸醫流行病學家，再於意大利出任聯合國糧食及農業組織獸醫流行病學家。

Omid近年專注研究各種動物傳染病、微生物風險評估和流行病學數據統計建模和分析，在他的職業生涯中，他向本科生和研究生教授流行病學和生物統計學方面經驗豐富。

and analyze them more efficiently. A few examples of my research are as follows. In a large project, I developed a novel, cost-effective tool to guide the control of bovine leukaemia in dairy cattle farms in Canada. We combined the antibody titres against bovine leukaemia virus from bulk-tank milk with statistical models to predict the within-herd prevalence of bovine leukaemia on dairy farms in the absence of individual animal samples. Using this user-friendly tool, we developed a customized control/eradication plan for the local farmers. In a One-Health project, I combined bacterial growth models and simulation techniques to create a quantitative microbial risk assessment model to evaluate human exposure to antimicrobial-resistant E.coli through meat consumption. During my term with the Food and Agriculture Organization of the United Nations (FAO) in Italy, I contributed to developing risk assessment and surveillance models for effective control and eradication of transboundary animal diseases, such as foot-and-mouth disease (FMD). Currently, I’m working with our poultry health ambulatory team at JCC on multiple projects to improve poultry health and production systems in Hong Kong.

As a new and proud member of the JCC community, I enthusiastically continue to work with my colleagues and stakeholders to realize our common goal of improving animal health and production in a more responsible and sustainable manner.
I had never thought of becoming a veterinarian, let alone one dealing with chickens after obtaining my Veterinary Medicine degree in 1986.

Studying civil engineering was my dream, but after my beloved grandpa passed away from liver cancer when I was 18, I aspired to study pharmacy instead hoping to someday develop anti-cancer drugs. With good secondary school grades, I was sent by my school to Taiwan for university. I did not know, however, how to list my preferred degree programmes then. From the 10 choices, I chose all pharmaceutics, but a veterinary medicine. This unintentional turn of events paved the way for my veterinary career.

After graduating from National Taiwan University, eventhough I was received my qualified veterinarian as a practical vet in Taiwan, it was not valid in for colonial Hong Kong. At that time, mainland China was initiating market economic reforms, dealing with food and clothing problems. Seeing an opportunity in the food production industry, I joined a Thai animal feed and breeding company with the help of a senior’s referral. The company obtained the first foreign trading license in China, and this was where my work in the animal husbandry and feed industry began.
Finding growth in the poultry farm

Apart from overseeing the health and production of chicken and pigs in the farm, I was also responsible for the proper care of the chicks and piglets before delivery. I also trained the sales team and veterinary technicians, and offered technical consultation to customers. What the farm head taught me on my first day of work became my motto: "Learn from the chickens!" Chickens do not lie. By observing their behavior, they will tell you what books will never teach you. The key is to learn how to communicate with them.

The farm head once asked me to look into the high mortality rate at the farm. Referring to a poultry disease handbook, I managed to diagnose infectious bursal disease (IBD), and addressed it with immunization. This protected the next generation of chickens and ensured better farm production. While teaching me about husbandry management in general, this farm work had been a great opportunity for me to apply my veterinary knowledge on disease prevention, diagnosis and medication. I also learned how to assist animal farms in establishing a biosecurity system, as well as how to deal with farmers, on their level, something veterinarians are not well taught.

Joy from helping animals

Recalling all these memories with my old colleagues brings me endless joy. It is not a joy derived from personal accomplishments, but one inspired by having empowered farmers and technicians with my advice on poultry health improvements. It is a joy rooted in having, foremost, helped other people, by caring for the chickens.

While helping poultry farms around the world has brought me considerable joy, it meant that I made limited contribution to my hometown Hong Kong, however, I am now part of CityU’s Centre for Applied One Health Research and Policy Advice (OHRP). I am excited to finally share my knowledge and experience with my hometown. Wherever I am though, I will stay committed to improving animal health and biosecurity in poultry farms.
我從未有過一絲成為一位獸醫的念頭，在1986年修畢獸醫課程後，也沒想過今日的我居然與《雞》結上不解之緣。

18歲那年，敬愛的爺爺因肝癌離世，一心想讀土木工程的我，念頭轉往藥學系，希望研發出可以治療癌症的藥物。中學學校成績還算可以，於是校方提名我保送臺灣大學，不懂填志願的我，十個可填的志願中，八個藥劑，一個獸醫，最後一個是人醫，把第三志願填了台大獸醫系。當年的保送均以第三志願上大學，誤打誤撞就此與獸醫結緣。

在臺灣大學獲得獸醫學士並考取當地的獸醫師執照後，在那些還是英屬殖民地時代的香港，沒法在港執業。當時改革開放的大陸，需要解決溫飽問題，家禽工程有我的發展空間，學長的引薦下，加入了一家總部在泰國，而在中國取得第一個外資註冊商號的飼料和養殖企業，從而進入了畜牧養殖飼料行業。

許多的點滴，每每回憶時或與老同事敘舊時提及都是回味無窮的。心中的喜悅不是因為個人的名也不是利，而是因為看到雞農接受了我的改善雞群健康建議，並把雞群管理得更健康了，也看到服務的場主和技術人員從面無血色到喜上眉梢，才深刻體會到助人助雞為快樂之本。

協助各國養雞場的不少朋友，獲得了可觀的利潤，想想對自己出生地的香港，所盡的力道卻微不足道。因為香港城市大學賽馬會動物醫學及生命科學院的成立，我因此加入了香港城市大學健康一體化及政策應用研究中心。懷著激動的心情希望把所學和經驗回報家鄉父老，倦鳥知返，但在雞場裡的我還是堅持那份信念，保障雞群的健康必須要提升飼養管理和生物保安的相關工作。

記得某天公司養雞場場長因為死亡率大，
Parasitic Findings in Dogs & Rabbits & Other VDL updates
狗及兔發現的寄生蟲及城大檢驗中心最新資訊

The CityU Veterinary Diagnostic Laboratory plays an important role in providing veterinary diagnostic services to veterinarians throughout Hong Kong as well as contributing to teaching veterinary students and supporting research projects. During the course of case investigations, novel and interesting pathogens are frequently identified. Over the past four years since the laboratory opened, CityU VDL has found evidence of intra-erythrocytic parasites in dogs, parasites within the eye of a rabbit, abberant migrating parasite larva, and distemper viral inclusions within white blood cells. A range of these interesting diseases are presented here.

Hepatozoon canis infection in a dog

*Hepatozoon canis* is a tick-borne protozoan affecting dogs in many countries. Organisms consistent with *H canis* were seen within neutrophils in the blood smear of a Hong Kong dog (figure 1) by Dr Daniela Hernandez Muguiro. Initial diagnosis of hepatozoonosis was done after the detection of intracytoplasmic ellipsoidal-shaped gamonts in leukocytes. *Hepatozoon canis* was confirmed by PCR. Subsequently ticks collected from the dog were sent to Australia by Dr Andrew Ferguson for identification (figure 2). The ticks were morphologically consistent with both male and female *Rhipicephalus sanguineus*. *H canis* DNA was detected in the tissues of the ground-up ticks by realtime PCR.

![Figure 1: Ellipsoid gamonts consistent with Hepatozoon canis are present within the cytoplasm of three leukocytes (circled) on the blood smear of a dog.](image1.png)

![Figure 2: Image of ticks collected from the affected dog morphologically identified as Rhipicephalus sanguineus. The tick on the left is unengorged and about 4 mm long, the centre image shows the smaller tick riding on the engorged tick, the image on the right is an engorged tick about 15 mm long.](image2.png)

Babesia species infection in dogs

There are two types of tick transmitted intra-erythrocytic parasitic *Babesia* species affecting the red blood cells of dogs in Hong Kong: *B gibsoni* and *B canis*. Three subspecies of *B canis* are recognised: *B canis canis*, *B canis vogeli*, and *B canis rossi*. All three are morphologically indistinguishable but *B canis vogeli* was recently identified by PCR testing at CityU VDL and Dr Daniela Hernandez Muguiro observed the organism within red blood cells of the same sample and captured these images (figure 3).

![Figure 3: Parasitic piroplasms within the red blood cells of a dog (arrows) confirmed as B canis vogeli by PCR testing.](image3.png)
Encephalitozoon cuniculi in the eye of a rabbit

*Encephalitozoon cuniculi* is an opportunistic, emergent, zoonotic, microsporidian parasite infecting a number of different species of mammals and humans. It can infect both domestic and laboratory rabbits, resulting in chronic interstitial nephritis, granulomatous encephalitis and phacodisclastic uveitis.

A two-year-old, female spayed rabbit was present for veterinary attention and had a six month history of uveitis. Treatment with anthelmintics and antibiotics had been ineffective so eye enucleation was performed and the eye submitted for histopathology.

Histopathology by Dr Fraser Hill found inflammation centred on the iris and ciliary body (figure 4). Inflammatory cells and debris spilled into the aqueous humour and posterior chamber and were adhered to the lens and cornea. Gram stains revealed gram positive spores within the inflammatory infiltrate and lens consistent with a diagnosis of *Encephalitozoon cuniculi* uveitis.

Aberrant Dirofilaria immitis in a cat

A three-year-old male neutered Domestic Short Hair cat presented with weight loss and vomiting. On physical exam there was a well encapsulated mass present in the right scrotal area so the mass was excised and submitted to CityU VDL for histopathological examination by Dr May Tse. The mass was composed of dense infiltrates of inflammatory cells surrounding cross sections of adult nematodes consistent with *Dirofilaria immitis* (heartworm) (figure 5).

The cat is an atypical host for heartworms and infection is acquired by mosquitoes acting as the vector for transmission. Heartworms in cats may migrate to other parts of the body, such as the brain, eye and spinal cord, systemic arteries and subcutaneous tissue. Inflammation can result when the adult worms die in the tissue.

While heartworm infection is endemic in dogs in Hong Kong and monthly heartworm preventative medication is a safe and effective preventive option, cats living in Hong Kong should also be considered for treatment programmes.

Canine distemper virus infection in dogs

Canine distemper virus infection is a significant cause of disease in dogs in Hong Kong, especially young puppies. Vaccination instituted at a young age and continued throughout life is effective in preventing infection. If pups become infected before vaccination is undertaken, they can develop a nasal discharge, pneumonia, vomiting and diarrhoea and sometimes
neurological symptoms. In some cases aggregates of viral nucleocapsids can be seen as round to oval irregular inclusions in the cytoplasm of white blood cells (figure 6).

COVID 19 testing
CityU VDL has validated a COVID 19 PCR assay for cats and dogs. The test uses the same controls utilised for human testing and CityU VDL participates in the Centre for Health Protection Quality Assurance Programme to ensure test accuracy and validity. If an owner wishes to ensure their pet has no evidence of COVID 19 infection, this test can be utilised. Testing of pets owned by COVID 19 infected humans is undertaken by the Hong Kong Government's AFDV Veterinary Diagnostic Laboratory.

CityU VDL offers a wide range of tests and has made a valuable contribution to identifying and confirming the presence of a range of pathogens affecting various species.

狗隻感染犬肝膿病
犬肝膿病是一種感染多國狗隻的維原蟲病，Daniela Hernandez Muguiro 歐醫在本地狗隻的血液樣品中發現其嗜好性白血球內與犬肝膿病一致的生物（圖1）。歐醫在其白血球中發現胞質內椭圓形肝膿蟲卵黃，因而初步診斷出肝膿蟲，再以聚合酶鍵反應（PCR）測試確定為犬肝膿蟲病。歐醫持續從狗隻身上收集膿蟲，再送至在澳洲的Andrew Ferguson 歐醫進行辨識（圖2），這些膿蟲樣本與維原蟲屬性缺血紅細胞猴體形一致，透過即時聚合酶鍵反應在首批膿蟲組織中檢測出犬肝膿蟲病DNA。

狗隻感染犬焦蟲症
紅細胞內寄生蟲會影響狗隻的紅血球，香港有兩種傳播這種寄生蟲的焦蟲：小焦蟲和大焦蟲，大焦蟲共有三個亞型：B canis canis、B canis vogeli及B canis rossi，二者在形態上難以分辨，但城大動物醫學檢查中心根據以往聚合酶鍵反應反應測試辨識出B canis canis，Daniela Hernandez Muguiro 歐醫在一個樣本的紅血球中發現這生物，並截取以下圖像（圖3）。

兔子眼睛感染兔腦炎微孢子蟲
兔腦炎微孢子蟲是一種藉著突發，人畜共患的微孢子寄生蟲，可以同時感染家兔及實驗兔，導致慢性間質性腎炎、肉芽腫性腦炎和晶體溶解性葡萄膜炎。

獸醫治療一隻兩歲已經癱的雌性兔子時，發現牠已感染六個月的葡萄膜炎，由於腸蟲藥和抗生素一直無效，獸醫為她進行眼球摘除手術，並將眼球進行組織病理學研究。

Dr Fraser Hill 歐醫以組織病理學化驗發現腫瘤集中在虹膜和睫狀體上（圖4），炎性細胞和碎屑滲入眼房液和眼後房，並黏附在晶狀體和角膜上。歐醫透過革蘭氏染色在炎性浸潤和晶狀體發現革蘭氏陽性孢子，與兔腦炎微孢子蟲的診斷一致。

貓隻感染異常心絲蟲
一隻三歲已絕育的雄性小點短毛家貓因體重下降又出現嘔吐而求診，經身體檢查後在貓右陰囊位置發現一個包膜腫瘤，獸醫將切除的腫瘤送到城大動物醫學檢查中心，由謝凱聲博士進行組織病理學化驗，該腫瘤的成年心絲蟲横切面佈滿密集炎性細胞浸潤，與心絲蟲一致（圖5）。

貓隻並非心絲蟲的典型宿主，要經由蚊子傳播而感染，貓身上的心絲蟲可以遷移至其他身體部位，如大腦、眼睛、脊髓、全身動脈和皮下組織，成年心絲蟲在組織中死亡就會導致炎症。

香港的狗隻容易感染心絲蟲，讓狗隻每月服用心絲蟲藥物是安全和有效的預防方法，香港貓主不放也讓貓隻接受這種治療。

狗隻感染犬瘟熱病毒
犬瘟熱病毒感染是香港狗隻生病的主因，以年幼之小狗最易因此生病，讓狗隻自幼持續接種疫苗有助牠們預防感染，若小狗在接種疫苗前受到感染，會出現流鼻水、發熱、嘔吐和腹瀉，有時會出現神經系統症狀。某些情況下，病毒核衣殼會在白血球細胞質中的圓形或多形不規則內涵物聚集（圖6）。

新型冠狀病毒測試
城大動物醫學檢查中心通過試驗貓狗檢測新型冠狀病毒的聚合酶鍵反應測試，該測試使用與人體試驗相同的控測，由城大動物醫學檢查中心參與衛生防護中心的品質保證計劃，確保測試準確度和效率。

寵物主人可以用這個測試確定寵物沒有感染新型冠狀病毒。而香港特別行政區衞生及防護署的獸醫化驗室會為新型冠狀病毒確診者的寵物提供檢測。城大動物醫學檢查中心一系列檢測服務，致力為各種動物檢測影響健康的病原體。
CityU VMC is proud to be currently the only local veterinary hospital to offer clinical trials for dogs and cats suffering from cancer.

A clinical trial is a study on a new promising treatment to assess efficacy/safety before the drug can be commercialised.

At present, we are doing one clinical trial on a new anti-cancer drug and a second trial will start in the next couple of months.

The drug that we are currently investigating is called VM-101 and from preliminary data seems to be very safe and effective and it could successfully treat many types of solid tumours in dogs. Significant side effects in the first cohort of treated patients were not seen.

VM-101 is a canine adipose tissue derived Mesenchymal stem cells (MSC) expressing a therapeutic gene (cytosine deaminase variant; CD::UPRT) that enables localized and controlled conversion of a non-toxic prodrug (5-flucytosine) to a toxic anti-cancer agent (5-flouracil). The localized release of the anti-cancer agent around tumour cells results in high concentration in the tumour and a low or insignificant level of active drug in the body (as demonstrated in numerous pre-clinical animal studies.)

In this way the engineered stem cells are able to maximise the effectiveness of the active chemotherapy on the tumour, while sparing the body from systemic side effects.

The technology behind the treatment is quite advanced and sophisticated and the drug is quite expensive. However, we are very pleased to offer this drug free of charge in the trial.

Before to be able to be enrolled in the study, some specific patient criteria, need to be fulfilled, so not every pet with cancer can be enrolled.

If you are interested in this study or you have a pet with a malignant tumour and you would like more information on the possibility to be enrolled in this study, please contact Dr Antonio Giuliano at antonio.g@cityuvmc.com.hk.
城大動物醫療中心是香港目前唯一為癌症貓狗提供臨床測試的動物醫院，當某種藥物推出市場前，會以臨床測試研究其療效和安全，我們正為一種新抗癌藥物作出第一次臨床測試，第二次測試將在幾個月後開始。

我們正研究的藥物為VM-101，前期數據顯示藥物十分安全有效，能夠治療多種實性癌，而第一批接受治療的患者並無明顯副作用。

VM-101是由犬脂肪組織衍生間質幹細胞（MSC）表現的治療基因（胞嘧啶脱氨酶變體CD::UPRT），能將無毒前體藥物（5-氟尿嘧啶）局部控制，轉化為有毒抗癌藥物（5-氟尿嘧啶）。抗癌藥物會在腫瘤細胞周圍局部釋放出高濃度標記及體內微弱的活性藥物水平，如同多項臨床前動物研究結果。

透過這種方法，工程化幹細胞能將對腫瘤的主動化療效果提升至最高，同時避免全身性副作用。

這種治療背後涉及先進複雜的技術，藥物成本高昂，但我們樂於為參與臨床測試的患者提供免費藥物。

不是所有患癌寵物都能參與臨床測試，須符合若干準則才能參加這項研究。若你有興趣參加研究，或你的寵物患有惡性腫瘤，你想查詢參加這次研究的機會，歡迎以電郵聯絡Antonio Giuliano獸醫antonio.g@cityuvmc.com.hk。
**CityU biomedical scientists discover super-enhancers that switch on breast cancer genes**

*Triple-negative breast cancer* (TNBC) is an aggressive type of breast cancer with a poor prognosis and a high fatality rate. Currently, chemotherapy is the major treatment option but the clinical result is unsatisfactory. A research team led by biologists at City University of Hong Kong (CityU) has identified and characterized a set of specific super-enhancers that stimulate the activity of the related critical cancer genes. The research also discovered that the deletion of certain specific super-enhancers can reduce tumor cell growth. The latest findings may help discover new effective drug targets for TNBC patients to improve their chance of survival.

Traditionally, cancer research has been focused on identifying gene mutations in different types of breast cancer. In contrast, how epigenetics affect cancers remains poorly characterized.

**Epigenetic change: another way to induce cancers**

While genetic mutation is a change in one or more parts of the DNA sequence, an epigenetic change also changes a gene’s DNA, but not at the sequence level. Instead, special marks, called epigenetic marks, are added to or removed from the DNA sequence to change how a protein works in the body. And specific epigenetic marks are contained in super-enhancers. Deregulation of super-enhancers can therefore induce high production of cancer driver proteins and promote cancer formation.

To find out how these super-enhancers can affect the growth of TNBC cells, Dr Rebecca Chin, a cancer biologist, and Dr Wang Xin, a computational biologist, both from the Department of Biomedical Sciences at CityU, joined hands together to lead the study. Their findings were published in the scientific journal *Nature Communications*, titled “Defining super-enhancer landscape in triple-negative breast cancer by multiomic profiling”.

Integrating multi-level epigenomic sequencing data for 21 cell lines with gene expression data and clinical information for over 4,000 patient samples, Dr Wang’s team used the method of multiomic profiling to perform in-depth data mining and built a specific super-enhancer-target regulatory network in breast cancer.

**A key regulator of cancer growth**

“Our integrated analyses reveal that the clustering of super-enhancers is sufficient to characterize different subtypes of breast cancer,” said Dr Wang. “Importantly, based on the regulatory network we identify the gene FOXC1 as a key regulator of cancer growth and metastasis which is driven by a TNBC-specific super-enhancer. The FOXC1 is predictive of patients’ survival and help develop therapeutic strategies targeting epigenetic circuits.”

A number of key cancer driver genes (oncogenes) including FOXC1 and MET are known to promote
**FOXC1** was identified as a master regulator of invasion and metastasis in triple-negative breast cancer.

FOXC1被確定為三陰性乳癌侵襲及轉移的關鍵轉錄因子

*(Photo source: DOI number: 10.1038/s41467-021-22445-0)*

cancer growth and are associated with worse survival in TNBC patients. However, very little is known about how these genes being specifically highly expressed in TNBC. “Our network biology analysis uncovers FOXC1 as the master regulator of a large set of genes in metastasis. Using Crispr/Cas9 technology, we further directly demonstrate that super-enhancer drives FOXC1 expression, and importantly, enhances cancer growth in mouse models,” said Dr Chin.

*The CityU-led team’s experiments show that the deletion of FOXC1 super-enhancer reduces the cell growth of 3 breast cancer cell lines (BT549, MDA-MB-231 and MCF10DCIS).*

由香港城大領導的團隊於實驗中將三組乳腺癌細胞系（BT549, MDA-MB-231和 MCF10DCIS）染色，發現去除FOXC1的超級增強子會抑制細胞的生長。

*(Photo source: DOI number: 10.1038/s41467-021-22445-0)*

By performing analysis on in-house clinical samples, the teams also learnt that FOXC1 upregulation is associated with higher tumor grade, cell division rate, and tumor-infiltrating immune cells.

**Another TNBC-specific gene**

The researchers went a step further, and applied the integrated method to discover another new TNBC-specific gene ANLN. ANLN has been shown to be correlated with TNBC recurrence and poor survival rate. Their study found that the deletion of super-enhancer of ANLN could reduce the protein expression and tumor cell growth. “These findings demonstrate the power of leveraging epigenetic landscape to identify novel players in TNBC, paving the way to discover more effective therapeutic targets for this aggressive form of breast cancer,” Dr Chin said.

Breast cancer is the most common type of cancer in women. About 4,600 new cases of breast cancer are diagnosed in Hong Kong each year, of which 10-15% are TNBC. Different from other types of breast cancer, TNBC does not express hormone receptors (namely estrogen receptors and progesterone receptors) and a protein called Her2, and that’s where its name “triple-negative breast cancer” come from. So TNBC is quite "invisible", and it is also difficult to heal as the
香港城大生物醫學家
找出令「三陰性乳腺癌」致癌基因活躍的超級增強子

「三陰性乳腺癌」(Triple-negative breast cancer, TNBC) 是一種棘手和死亡率高的乳腺癌，目前主要治療手段是化療，但效果欠理想。一支由香港城市大學（香港城大）生物學家領導的科研團隊，最近成功找出一組特異的、即針對三陰性乳腺癌的「超級增強子（super-enhancer）」。這些超級增強子會刺激與三陰性乳腺癌有重要關連的致癌基因，使之變得活躍；若除去這些超級增強子，則能減慢癌細胞的增長。該項研究成果將有助科學家針對三陰性乳腺癌研發更有效的藥物，提高患者的生存率。

多年來，乳腺癌的研究大多著眼於找出不同種類乳腺癌的基因突變，但對於「表觀遺傳機制」(epigenetic circuit) 如何影響乳腺癌的課題，卻鮮有深入的研究剖析。

表觀遺傳改變：另一種致癌原因

基因突變是指生物遺傳基因DNA一部分或多個部分的序列突然發生變化，而「表觀遺傳改變」(epigenetic change) 同樣會改變了基因組的DNA，但並非改變了DNA序列，而是從DNA序列上增加或移去了稱為「表觀遺傳標記」(epigenetic marks) 的特殊標記，由此改變了人體內蛋白質的運作。而超級增強子便包含了這種特殊的「表觀遺傳標記」，故此假若超級增強子出現異常調控，便會產生大量可駕動癌細胞增長的蛋白質，從而刺激癌症的形成。

為了找出這些超級增強子怎樣影響三陰性乳腺癌細胞的增長，香港城大生物醫學系的兩位科研人員、癌症生物學家錢明明博士與計算生物學家王鑫博士聯手領導一支聯合研究團隊，尋找真相。研究成果已在《自然通訊》(Nature Communications) 發表，題為〈Defining super-enhancer landscape in triple-negative breast cancer by multiomic profiling〉。

王博士帶領的研究團隊使用「多組學分析」(multiomic profiling) 的方法，對超過4,000名乳腺癌病人的臨床資料，以及多達21個細胞系的多層次表觀遺傳基因測序數據，進行深入的數據分析，成功針對所有不同種類的乳腺癌，找出其對應特異的超級增強子，建立並描繪出一個調控網絡。

癌細胞增長的重要調控因子

王博士說：「我們透過綜合分析發現，單是超級增強子的集群 (clustering) 已足以助我們辨別出不同種類的乳腺癌……更重要的是，根據基因調控網絡，我們發現FOXCl這個基因，是調控癌細胞增長及轉移的關鍵轉錄因子，而FOXCl正是受到三陰性乳腺癌特異的超級增強子的驅動。此外，FOXCl有助預測乳腺
癌症病人的生存率，以及協助科學家針對表觀遺傳迴路（epigenetic circuits）去研究治療的新策略。

目前科研界已知悉一系列的關鍵致癌基因如FOXC1及MET，會刺激癌細胞增長，導致三陰性乳腺癌病人的生存率偏低。然而，究竟為何這些基因在三陰性乳腺癌病人身上會特別活躍，人們則所知甚少。香港城大今次的研究填補了這方面的不足，錢博士說：「我們的生物網絡分析發現，FOXC1是一系列與癌細胞轉移有關的基因的主要調控因子。利用Crirspr/Cas9基因編輯技術，我們進一步直接展示了超級增強子會誘發FOXC1的表達。而更加重要的是，在小鼠的實驗中，我們證實了FOXC1會促進癌細胞的生長。」

透過對病人臨床樣本進行的分析，研究團隊亦發現了FOXC1的「正調控」（upregulation）與癌腫瘤的惡化、癌細胞分裂的速度以及腫瘤浸潤免疫細胞均有關連。

與三陰性乳癌有關的另一個基因

與此同時，研究人員進一步利用綜合分析法，發現了另一個與三陰性乳癌有關的基因ANLN。在過去的研究中，ANLN已被證實與三陰性乳癌的復發及患者的低生存率有關，而今次研究則發現若去除ANLN的超級增強子，可以降低蛋白質的活躍度，從而減少癌細胞的生長。錢博士補充：「這些研究成果顯示，表觀遺傳基因圖譜（epigenetic landscape）對於找出影響三陰性乳腺癌的關鍵因素，具有重大威力，由此可以發掘出新方法，尋找更多針對這種棘手的乳腺癌的有效治療目標。」

乳腺癌是女性最常見的癌症，根據全球癌症數據庫Global Cancer Observatory的數字，2020年乳腺癌佔中國婦女所有新發癌症的19.9%。而所有乳腺癌個案中，大約10至15%為三陰性乳腺癌。三陰性乳腺癌與其他乳腺癌最大的分別是這種癌細胞對雌激素受體（ER）、黃體酮受體（PR）以及一種叫上皮生長素因子（Her2）的蛋白質，都呈現為陰性，因而被稱為三陰性乳腺癌。故此，三陰性乳腺癌較為「隱形」，而且科學家至今未能找到有效的「標靶」作藥物去辨別及消滅這種癌細胞，因此難於治療。

三陰性乳癌的患者通常在40至50歲之間發病，比普通乳腺癌病人的發病時間為早。此外，三陰性乳腺癌細胞轉移所需的時間較短，病人通常在接受治療的5年內會復發。相對於其他種類的乳腺癌，三陰性乳腺癌也較難以預測治療的結果。

錢博士寄望這最新的研究能幫助癌症患者：「我們希望今次的研究成果，能夠為開發出有效治療三陰性乳腺癌的藥物作出貢獻，從而提高病人的生存率。」

香港城大生物醫學系的黃東和胡堅楊是論文第一作者，錢博士和王博士則是通訊作者，而同樣來自生物醫學系的陳居明博士及張亮博士亦有參與是次研究。今次的研究體現了香港城市大學與其他醫學機構的科研團體的跨學科合作的豐碩成果，來自香港伊利沙伯醫院以及廣西醫科大學附屬腫瘤醫院的科學家也曾為研究作出貢獻。
Dr Catherine Cormack

Top Veterinary Graduate from Glasgow shares expertise as Extramural Studies Co-ordinator

I am originally from the north of Scotland and grew up on a large rural estate with dairy cattle, beef cattle, sheep and horses. Having been exposed to farm animals, horses and companion animals from such a young age, it was an obvious decision for me to pursue a career in Veterinary Medicine. I graduated top of my class with a bachelor’s degree in Veterinary Medicine with Honours at the University of Glasgow.

Early in my veterinary career I worked in mixed rural practice in the North and East of Scotland which enabled me to gain a thorough insight into veterinary clinical practice. I soon realised that my main interests were companion animals, pocket pets and reptiles as I felt I was able to investigate, diagnose and treat these cases more thoroughly than for livestock. I moved to the largest clinic in Glasgow in 2009 where I was exposed to a much more varied caseload, which enabled me to further develop my skills in diagnostic imaging and internal medicine. During my time in the UK I also worked for a number of animal welfare organisations such as the PDSA, SPCA, Dogs Trust and Cat Action Trust.

In 2012, I wanted to travel the world and seek a new adventure, so I emigrated to Hong Kong where I worked in several clinics, further developing my skills in pocket pets and reptiles. A considerable proportion of my case load was performing dental procedures in rabbits and rodents as well as investigating and treating complex companion animal medicine cases.

Throughout my career in clinical veterinary practice, I have always enjoyed mentoring trainee veterinary nurses, junior veterinary
surgeons and veterinary students, and when the opportunity to join the JCC arose, I knew that a move to full time teaching would be a natural career progression for me. I joined the Jockey Club College of Veterinary Medicine and Life Sciences in 2019 as the Extramural Studies Coordinator. Initially my role was to develop and coordinate the Extramural Studies programme. In the EMS programme veterinary students are given the opportunity to spend 12 weeks in various animal care facilities such as the Hong Kong Jockey Club, Ocean Park, SPCA, Hong Kong Society of Herpetology Foundation.

Being able to impart my knowledge to the next generation is a real honour and I am glad that students are able to learn from my previous varied clinical experience. I teach students throughout the BVM programme skills such as animal handling and restraint, communication skills and clinical skills. I am also a Problem Based Learning Tutor for the anatomy and physiology courses.

I am a strong believer in teaching students practical knowledge and skills that they will need to know in their veterinary careers and like to use models and simulations to do so. I also believe that effective communication skills are extremely important in maintaining a good professional relationship with clients.

I always like to learn new skills and further develop myself professionally and am in the process of studying with the American Board of Veterinary Practitioners to obtain certification. I also recently published my first article in the Journal of Veterinary Internal Medicine, the top-ranking journal in this field, about a case of a disseminated fungal infection (aspergillosis) in a cat. I also volunteer with TAILS Lantau, an animal rescue organisation based in South Lantau where I live.

I thoroughly enjoy the variety of teaching in the BVM programme and find our students a pleasure to work with. The satisfaction of seeing students go from being apprehensive around horses to being confidently able to handle and restrain them is something I never grow tired of. I hope to be able to continue to play an important role in the development of such vital skills in our students for many years to come.

我来自苏格兰北部，在大型牛苑跟乳牛、肉牛、羊和马匹成长。由于幼小接触牧场动物、马匹和宠物，最后投身兽医职业也很理所当然。我在格拉斯哥大学以优异成绩毕业，获得兽医科学荣誉学士学位。

我刚入职诊疗时，在苏格兰北部和东部郊野混合式工作，因而对兽医临床工作有更切实的了解。我很快明白自己对伴侣动物、小型宠物及爬行动物的兴趣最大，我也会自己对这类动物的病例比农场牲畜更擅长于调查、诊断和治疗。我在2009年入格拉斯哥大学兽医诊所，开始接诊更多种类不同的病例，从而提升我在放射诊断和内科学的能力。我在英国亦服务多个动物福利组织，包括人民宠物医疗（PDSA）、伦敦动物福利基金会（SPCA）、狗基金（Dogs Trust）、爱心行动基金（Cat Action Trust）。

2012年，我决定走出世界广阔视野，后来移居香港，曾在不同诊所工作，因而对伴侣动物及爬行动物的研究更深入。我大部分工作都是为兔子及各种动物由治，及研究和治疗复杂的宠物疾病。

在我的临床兽医生涯中，我享受同仁指导实习兽医学生，初级兽医外科医生及研究生。当我有机会加入城大兽医学院动物医学及生命科研学院，我自然想攀上科学及教育的阶梯，于2010年担任学院的校外课程统筹员。我最初设计及统筹校外课程，让学生在不同动物医院实习12个星期，包括香港赛马会、海洋公园、爱护动物协会及香港公园及爬行动物保护区。
Veterinary Nursing students and the One Health paradigm

Dr Queeny YUEN,
Programme Leader,
Advanced Diploma in Veterinary Nursing

“Veterinary nurses play an essential role in positively influencing our relations with animals and the environment. In particular, nurses are key players in promoting responsible exotic pet ownership. I am confident that these young nurses of tomorrow are proudly and enthusiastically ready to take up those challenges.”

-- Dr Nathalie Mauroo, Module Leader of the Introduction to One Health, on the Advance Diploma in Veterinary Nursing programme

The One Health paradigm sets the core of the College’s overall goal to improve the quality of life and the health of humans, animals and the environment. As the role of the veterinary nurse in animal health care is diverse, veterinary nurses are therefore also key contributors and stakeholders in upholding and promoting One Health in society.

In the final term of the 2-year Advanced Diploma in Veterinary Nursing (ADVN) programme hosted by the School of Continuing and Professional Education (SCOPE) at CityU, students study an academic module entitled Introduction to One Health. As One Health is multi-disciplinary in nature, the module covers a wide range of topics and also serves as a focal point for essential concepts of animal welfare, human-animal bond, zoonoses, disinfection and barrier nursing, preventative healthcare, feeding, anti-microbial resistance, client compliance, biodiversity and conservation. In addition, the module also introduces veterinary nursing students to new knowledge in disciplines such as epidemiology, food safety and hygiene, and public health. The module wraps up with a student group project on the role of veterinary nurses in antimicrobial resistance, for students to unrestrainedly showcase their understanding of the many approaches and shared goals their work entails in bringing about healthy animals, society and environment.
動物護理學學生與健康一體化概念

動物護理學高等文憑課程主任阮穎鶴博士

健康一體化概念總括了城大賽馬會動物護理學及生命科學院的核心目標，就是改善人類、動物和環境的生活品質及健康。動物護理學生在動物保健中貢獻極大，因此成為社會上推動物護理學的重要角色。

學生修讀香港城市大學專業進修學院（SCOPE）的兩年制動物護理學高等文憑課程（ADVN）時，會在第二年研習名為「動物護理學一體化」的學術單元，此學術單元涵蓋了動物福利、動物與人類關係、人畜共患病、疾病隔離及預防、動物飼養、抗菌素耐藥性、客戶十佳、動物多樣性等概念。此外，動物護理學生還可以透過修讀這學術單元涉獵流行病學、食品安全及衛生和公共衛生等學科。學生最後會以小組報告作結，探討動物護理生在動物對抗菌素耐藥性角色，誠戒展開自己如何了解未來工作的不同方法和目標，從而達至動物、人及環境健康。

動物護理學高等文憑課程有幸得到Nathalie Maruoos博士領導，這位獸醫兼博士為學生輩為其學術單元注入豐富的學生健康及流行病學臨床經驗和專業知識。這學術單元推出至今四年，她回到自己初期工作時說：

『當我設計課程和活動內容時，我學生提供健康一體化概念解決未來問題的各種方法，能夠這樣應用自己在動物護理學生的獸醫經驗，我感到很榮幸。動物護理學生會把動物及生態健康的重要實質、最終造福人類健康。』
BVM Student wins Innovation Technology Scholarship

Four students from City University of Hong Kong (CityU) won the Innovation and Technology Scholarship 2021, receiving HK$150,000 each for activities including overseas exchange, local internship and mentorship programmes. The Scholarship will broaden their horizons, enhance their professional knowledge about science and technology, and help them succeed in the fields of innovation and technology.

Nominated by President Way Kuo of CityU, four CityU awardees outperformed many other candidates with their innovative ideas and enthusiasm. They successfully navigated rigorous interviews set by the selection committee and reached the final 25 winners.

Monica Chan Hiu-man, a Year 2 student studying for the Bachelor of Veterinary Medicine, is passionate about animals and saving lives, and thinks the health of humans and animals is equally important. As many epidemic diseases originating from animals affect global public health, she hopes to contribute to society by researching the epidemiology of diseases. At CityU, I learned that big data can be used to monitor epidemic diseases by analysing their features, modes, risk, and other factors related to infections,” she said. Monica founded the Veterinary Medicine Society together with fellow students and has organised activities that promote animal welfare and the One Health concept. She plans to use the Scholarship for academic exchanges at epidemiology institutes in Switzerland and the UK and attend international conferences on research achievements in global public health.

Professor Raymond Chan Hon-fu, Vice-President (Student Affairs), commended the Scholarship recipients for their forward-looking vision, creative mindsets, and aspirations in innovative technology.

“CityU advocates the integration of teaching and research and seeks to nurture creativity. I hope that our student awardees can take this opportunity to acquire up-to-date knowledge in technology through overseas exchange and internship programmes, and realise their aspirations to contribute to the well-being of society,” he said. The Innovation and Technology Scholarship was established by the Innovation and Technology Commission of the HKSAR Government, the Hongkong and Shanghai Banking Corporation Limited; and the Hong Kong Federation of Youth Groups. Supported by companies and institutions engaged in science and technology, the Scholarship provides opportunities for outstanding local undergraduates majoring in science, engineering, healthcare, FinTech, information systems and other related programmes. The objectives are to enhance knowledge, inspire passion for innovation and technology, and nurture careers in industries related to innovation and technology.

Hong Kong City University (CityU) four students won 2021 “Innovation Technology Scholarship”, each receiving a HK$150,000 for activities including overseas exchange, local internship and mentorship programmes. The Scholarship will broaden their horizons, enhance their professional knowledge about science and technology, and help them succeed in the fields of innovation and technology.

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CityU is blessed to have a very supportive veterinary industry working with us hand in hand. One of our perennial supporters is Royal Canin and recently Royal Canin very generously supported five 4th-year BVM students to enroll in a 12 month long veterinary education programme run by the Lincoln Institute in New Zealand. The Lincoln Institute is a training and development company dedicated to helping veterinarians and their teams achieve success. The Leading Edge for Veterinarians programme was specifically crafted to fast track the achievement of professional mastery as well as to facilitate further success for clinicians in general practice. The tools and skills provided in the Leading Edge for veterinarians course ultimately allow for a longer and more fulfilling career as a veterinary surgeon. With 52 weekly modules covering many of the soft skills that veterinarians often struggle with, such as developing confidence, managing veterinary businesses and teamwork and leadership skills, this is an incredible opportunity for our 5 lucky students and we are deeply grateful to Royal Canin for providing this opportunity.

These lucky students are enrolled in the Leading Edge for Veterinarians course of Royal Canin.
VETERINARY LEGAL SERIES

Topic ONE: Informed Consent (29 April 2021)
Speakers: Dr Bernard Murphy & Mr Chris Howse
When obtaining informed consent for a particular procedure or treatment, the risks, benefits and alternatives must be adequately communicated to the client. During the seminar we will discuss the essential elements of informed consent and whether the duty to obtain informed consent can be delegated to other colleagues or other staff (such as veterinary assistants). We will also consider the potential legal and ethical consequences of failing to obtain valid informed consent.

Topic TWO: Dealing with complaints (29 July 2021)
Speakers: Dr Bernard Murphy & Mr Chris Howse
In addition to making complaints directly to the veterinary surgeon and/or the clinic, a dissatisfied client may refer their complaint to several other authorities, including the VSB, AFCD, Consumer Council and Privacy Commissioner. We will look at some common issues giving rise to complaints, how to reduce the risk of complaints materialising, and what to do (and what not to do!) upon discovering that a complaint has been made.

Topic THREE: Dealing with VSB disciplinary issues (Zoom talk 30 September 2021)
Speakers: Dr Bernard Murphy & Mr Chris Howse
The Veterinary Surgeons Board (VSB) is authorised under the Veterinary Surgeons Ordinance to regulate the profession in Hong Kong. An important function of the VSB is to deal with complaints against veterinary surgeons through the VSB’s statutory disciplinary process.
During this seminar we will review the key aspects of the VSB disciplinary process from the initial Preliminary Investigation Committee (PIC) stage, through to the disciplinary inquiry. This will include looking at how to prepare a written response at PIC stage, whether you need to instruct an expert, and how to prepare for a disciplinary inquiry (including preparation for mitigation).

Topic FOUR: Employment issues for veterinary surgeons / Defamation and social media (25 November 2021, format to be decided)
Speakers: Mr Michael Withington, Ms Patrocia Yeung & Dr Bernard Murphy
Employment issues for veterinary surgeons: Veterinary surgeons in private practice are usually employed under an employment contract, or engaged as service providers under a service contract. Often these contracts will contain clauses against non-competition and non-solicitation. A common concern for veterinary surgeons moving practices is to what extent are these clauses enforceable. During this seminar we will look at restrictive contract terms and the enforceability of non-competition and non-solicitation clauses.
Defamation and social media: We will look at the law of defamation and the challenges faced by veterinary surgeons in monitoring and responding to defamatory comments posted on social media. We will consider when and how to respond to such comments and steps you and your practice can take to reduce the risk of clients using social media to post potentially defamatory comments.

Topic FIVE: De-escalating complaints (20 January 2022, format to be decided)
Speakers: Dr Bernard Murphy & Mr Chris Howse
The majority of complaints in veterinary practice arise not because of suboptimal clinical care, but because of communication difficulties between the veterinary surgeon and client. During this seminar we will look at some of the common issues which can result in communication problems and explore measures veterinary surgeons should take to reduce these risks. We will look at the role played by the veterinary assistant in the chain of communication between the veterinary surgeon and client. We will also consider strategies for de-escalating complaints as soon as they arise.

Time: 8:00pm to 10:00pm
Registration: https://www.cityu.edu.hk/jcc/vetlegal
CPD: 1 CPD Point each topic from the Veterinary Surgeons Board of Hong Kong
Fee: Veterinarians: HKD200
Veterinary Nurses/Technicians/Assistants: HKD100
Students/CityU Staff: Free of charge

Enquiries: Tel: (852) 3442 6138  Email: cvmls.cpe@cityu.edu.hk
Mr Chris Howse

Head of Medicolegal team, Howse Williams

Chris Howse was admitted as a solicitor in Hong Kong in 1981 after being seconded by the London office of a city law firm, Richards Butler, to build up its Hong Kong office. He was the Senior Partner and Managing Partner of the Hong Kong office of Richards Butler until December 2011. Following the takeover of Richards Butler Hong Kong by an American law firm he set up Howse Williams Bowers on 1 January 2012 with a large number of partners and solicitors from the Hong Kong office of Richards Butler. The firm is now one of the largest independent law firms in Hong Kong.

Chris is the head of the medico-legal team. He started to undertake medico-legal work in 1985. He has been providing professional advice and assistance to doctors, dentists and other healthcare professionals and to the private hospitals of Hong Kong on a wide range of medico-legal issues for over 30 years. His firm have been panel lawyers for the Medical Protection Society and Dental Protection Ltd since the mid-1980s.

Ms Patricia Yeung

Partner, Howse Williams

Patricia has focused on employment law since qualifying as a solicitor in 2011, and her experience in employment matters is now widely recognised in Hong Kong. Patricia heads up HW’s employment team, which consists of two partners (including Patricia) and three associates. Patricia regularly advises employers and senior executives on both contentious and non-contentious employment matters. Her clients include health professionals, airlines, education providers, insurers and financial services providers.

Patricia’s practice covers a wide range of work, including drafting employment contracts, handbooks and policies, terminations and advising upon the enforcement of post-termination restrictions and confidentiality obligations. She and her team frequently advise on the employment aspects of M&A deals and business transfers.

Patricia also advises upon the employment issues arising from discrimination and harassment, personal data related matters and immigration issues (including prosecutions). She also has experience in assisting employers and employees during the conduct of internal investigations and discrimination and harassment complaints. Patricia has an in-depth knowledge of the Labour Tribunal, having assisted parties involved in Labour Tribunal proceedings for several years. She has also represented both plaintiffs and defendants in both District and High Court actions involving substantial claims for unpaid bonuses, enforcement of restrictive covenants and claims for injunctive relief in Hong Kong, including applications for injunctive relief.

Dr Bernard Murphy

Partner, Medicolegal team, Howse Williams

Both a medical doctor and a solicitor, Bernard specialises in medico-legal issues, acting for a wide range of healthcare professionals including doctors, dentists, veterinary surgeons, in proceedings before the Medical Council, Dental Council and Veterinary Surgeons Board, and in clinical negligence claims and Department of Health investigations. Bernard was admitted as a solicitor in Hong Kong in 2004 and in England and Wales in 2005.

Bernard also acts for hospitals and other institutional and corporate healthcare providers on healthcare legal matters. Before qualifying as a lawyer, Bernard practised medicine for more than ten years, the majority of that time in Hong Kong and China. An Adjunct Assistant Professor, Department of Accident and Emergency Medicine, the Chinese University of Hong Kong, Bernard has lectured on healthcare legal issues for the Chinese University of Hong Kong, Department of Accident and Emergency Medicine, and School of Public Health; City University of Hong Kong; The University of Hong Kong and the Hong Kong Polytechnic University, Department of Physiotherapy.

Mr Michael Withington

Partner, Howse Williams

Michael is experienced in a wide range of commercial litigation, and regularly advises on defamation, privacy issues and disputes involving confidential information.

A large part of Michael’s practice at Howse Williams involves contentious employment matters (acting for both employers and employees), including claims over termination and remuneration, enforcement of confidentiality obligations and post-termination restrictions, discrimination claims and partnership disputes. He advises employers and statutory bodies on internal investigations and disciplinary proceedings. He also has significant experience in conducting and defending judicial review proceedings.

Michael also has extensive insurance experience, particularly in relation to the defence of professional negligence claims and advising on coverage issues.
SHAPING THE FUTURE OF VETERINARY MEDICINE AND LIFE SCIENCES