

A Community

Pharmacist
has a
say



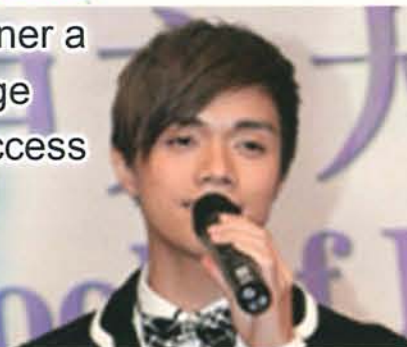
Advice

from the
Professionals



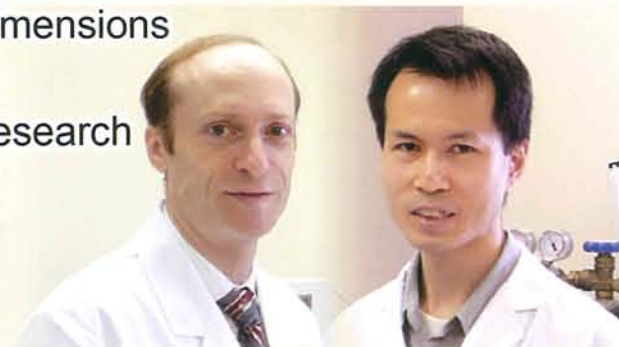
Gala

Dinner a
Huge
Success



New

Dimensions
in
Research



Drug Safety: At the Heart of Our Mission

Recent lapses in good manufacturing practice (GMP) in our local pharmaceutical industry have revealed an infrastructure unable to fully ensure that all drug products on the Hong Kong market are safe.

Threefold Government action is now urgently required. First, more rigorous drug registration; second, enforcement of international drug product quality standards; and finally, strategic investment in the professional, educational and technological resources relating to drug safety.

Improved pharmaceutical research and education are also needed, and the three approaches cited above are already shaping many of our School's initiatives. In particular we are fast tracking the Centre of Excellence in Drug Safety and Cost-effective Medicine, which is now scheduled to open next summer.

The centre will assess three aspects of drug product safety: their chemical identity, their freedom from contaminants, and their clinical performance. It will build on the School's decade of achievement and experience, and will be expanded in line with rising needs for drug product quality assurance services.

Even when a drug passes the required quality tests, it must still be dispensed and administered by human agency. This raises further important safety issues. Many such concerns can be solved, however, if Hong Kong's pharmacists will only stop seeing themselves primarily as dispensers of prescribed drugs. They must consciously transform themselves into informed and impartial assessors and suppliers of reliable drug information, advise their physician colleagues, and educate individual patients in order to achieve the shared aim of optimal drug therapy together with maximal drug safety. Provided they draw extensively on well designed cost-effectiveness and outcome studies, they can further enhance their professional standing on the health care team.



(Community pharmacists) should transform themselves to decision makers, instead of dispensers, and take ownership of all aspects of drug safety.

Such serious concerns have already led us to reshape our Bachelor of Pharmacy curriculum. Our new four year curriculum will be fully ready by 2012 and the new "3-3-4" framework. It has many empowering features: a first year programme that provides interprofessional education in foundation sciences and skills; better integration of basic sciences, clinical therapeutics, and traditional Chinese medicine; an option to earn credit via academic exchanges overseas as well as experiential training in the Hospital Authority and similar settings; more time for clerkships, and more choices of clerkships.

We are also transforming our teaching philosophy. Our overarching aim will be to turn out professionals who will make confident members of any health care team, who will lead tomorrow's innovative pharmacy practice, and whose thinking and practice have a strong international flavour.

We shall also encourage advanced training. As well as the existing Master of Clinical Pharmacy, there will soon be three new Masters degrees addressing drug safety in particular. Graduates from these programmes will be well placed to join drug regulatory agencies and the product design and manufacturing sectors of the pharmaceutical and biopharmaceutical industries. We are confident that all our Masters programmes will prove attractive to students with a non-pharmacy baccalaureate degree, and that they will enable our graduates to compete strongly in the global marketplace.

All our Masters Programmes will also prove attractive to students with a non-pharmacy baccalaureate degree.

Our revised curriculum will ensure that pharmacists can and will seek to educate patients on the proper use of medications. It will also prepare students for advanced studies in clinical pharmacy, regulatory science, pharmaceutical technology and engineering. It will explore the evolving role of pharmacists as advocates and enforcers of drug safety. Our future pharmacists will receive the additional training needed to translate rapid scientific advances into safe and efficacious drug therapies and to apply information and communications technology to maintain electronic health records, thereby enhancing drug safety and promoting smarter and simpler communications among the patient, his pharmacist and the rest of the attending team.

Our School is thus firmly committed to working with all stakeholders in pharmacy and drug safety. We are poised to open up new vistas for our graduates in a world where progress, growth and equity are increasingly linked to ready access to quality drug products and quality health care.

Professor Vincent Hon Leung Lee
Director
School of Pharmacy



Ms Lily Chan
Chief Executive Officer
Mannings
Hong Kong and Macau

The Value of Pharmacists to the Community

Maintaining good physical, mental and emotional health is clearly a top priority for us all. The role played by community pharmacists is becoming ever more central as the accent shifts to the preventive aspects of health care.

Community pharmacists must no longer be viewed as just dispensers of medication. They can and must make a powerful difference to primary health care by providing the public at large with professional advice and informed health education.

These are the medical professionals who work at the very heart of the community. As such, they offer the ideal point of primary contact for general health advice. Patients also benefit greatly from their expert knowledge of a wide range of specialist topics ranging through allergic reactions to prescribed drugs, drug interactions, over the counter medications and health supplements right through to the professional health care counselling that can best help to achieve the desired therapeutic outcome.

The trust now being built up between community pharmacists and their patients is already helping people to take responsibility for their own well being and monitor their health regularly. It encourages regular progress checks that not only ensure the safe and effective use of medication but also determine when pharmacists should advise their patients to seek treatment from their family practitioners.

This role must continue to grow and evolve, with pharmacists adding further value as key players in the entire health care team, delivering services in medical centres, homes for the elderly and nursing homes (among other locations) and cooperating fully with other medical professionals to enrich team understanding and treatment.

Such an enlarged role requires closer and closer collaboration between universities and community pharmacists in terms of knowledge and the sharing of practical experience, and we can build successfully on the existing internship system. Indeed, community pharmacists themselves must take an active role in overseeing pharmacy students. They are well placed to show how each patient requires a different approach and to strengthen by example the belief that pharmacy is a socially valuable and prestigious career.

Here, excellent communication and influencing skills are sure to prove their real worth, but these valuable attributes must always be supported by a real heart and passion for service and by a far-reaching vision of a healthier world.

Mannings Scholarship

- With a cumulative GPA of 3.0 or more at the time of selection
- Successful completion of 2000 series of the B. Pharm Programme in order to conduct the summer job (complete 1st to 2nd year programme for JUPAS intake student and 1st to 3rd year programme for EAS intake student)
- Successful completion of 2 month summer job at Mannings
- Demonstrating their passion in Community Pharmacy

15th Anniversary Lecture and Gala Dinner



Everybody is ready for the celebration



Prof. Vivian Lee would have made a great pop star



"What is the formulation of becoming a good singer?"



Music cuts across professions, nations and cultures



United profession with an united voice

New Dimensions in Research

The School continues to build up its expertise in genomics and molecular sciences. In October 2008, we welcomed Prof. Kenneth To as an assistant professor and Prof. Larry Baum as an associate professor. Each of them brings very significant strengths to our research programme.

Prof. Baum earned his bachelor's degree in chemistry and physics from Harvard University in 1987 and studied the pathogenesis of Alzheimer's disease (AD) at the University of California, San Diego, earning a PhD in neurosciences in 1994.

As an assistant professor in the Department of Medicine and Therapeutics of The Chinese University of Hong Kong from 2002 to 2008, he collaborated with physicians to collect and examine DNA from patients with brain diseases such as AD, vascular dementia, stroke, and epilepsy, as well as a number of other common diseases.

He has published widely, especially in the field of epilepsy pharmacogenomic studies, and contributed to a paper in *Nature* that identified a gene associated with atrial fibrillation.

He and his collaborators are now conducting a genome wide analysis of about 500 symptomatic epilepsy patients, in which approximately one million polymorphisms across the human genome are being genotyped.

His other major research focus is the development of new treatments for AD, such as curcumin and its related phenolic compounds. Curcumin is found in turmeric, or geung wong, familiar to most non-pharmacologists from its widespread use in curries. In rodent AD models, curcumin was found to prevent memory loss and brain degeneration. Prof. Baum is studying curcumin and similar compounds in transgenic mice that produce human amyloid precursor protein (APP) or tau (or both) with mutations found in patients with AD and similar dementias.

He conducted the world's first trial of curcumin in human AD patients. This showed that it was safe and that it might disrupt the amyloid plaques characteristic of AD brains. He also demonstrated that curcumin binds iron and copper ions and is currently administering an iron chelator drug to transgenic mice to determine whether this can successfully treat AD in human patients.



▲ **Prof. Larry Baum**
Associate Professor

▲ **Prof. Kenneth To**
Assistant Professor

Prof. Kenneth To joined our school as an assistant professor recently in October 2008. He is actually an alumnus of the school, graduated with a B.Pharm. and Ph.D. degrees in 1997 and 2001, respectively. He has been working on the mechanisms of anticancer drug resistance and their circumvention since his Ph.D. study. His Ph.D. work uncovered the mechanisms for the circumvention of cisplatin resistance by a novel series of platinum anticancer agents. After receiving his Ph.D., he went to the United States to gain post-doctoral experience in cancer research. Prior to joining the School of Pharmacy, he was working at the National Cancer Institute, National Institutes of Health, studying the biology of multidrug resistance transporters.

His current research focuses on the regulation of a multidrug resistance transporter ABCG2 in human cancer cells. ABCG2 is a newly recognized ATP-binding cassette (ABC) transporter that actively extrudes a wide variety of chemically unrelated compounds from the cells. ABCG2 was first described in drug-resistant cancer cell lines and its overexpression in tumour cells in laboratory models confers multidrug resistance to a variety of anticancer drugs. It also protects our cells and tissues against various xenobiotics, with a crucial role in the intestine, liver, placenta, and the blood-brain barrier. Moreover, ABCG2 seems to have a key function in stem cell population, and also in hypoxic defense mechanisms. Given the putative role of ABCG2 in pharmacology, single nucleotide polymorphisms (SNPs) in ABCG2 have been reported to affect absorption and distribution, altering the effectiveness and toxicity of drugs in large populations. The physiological role and therapeutic implications of ABCG2 are emerging as more is known about this transporter, exemplified by a growing list of drugs known to be substrates for ABCG2.

However, little is known about the regulation of ABCG2. Prof. To recently demonstrated that ABCG2 could be regulated by epigenetic mechanisms such as DNA methylation, histone modifications and microRNAs. The study of epigenetic gene regulation is an emerging frontier of research that addresses important biological processes including mammalian development and progression of cancer. His future plan is to elucidate the involvement of this novel mode of gene regulation in the overexpression of ABCG2 in drug-resistant cancer cells, and to investigate the population-wide variations in these epigenetic mechanisms and how they could affect the individual absorption and disposition of ABCG2 substrate drugs.

Promotions

Prof. Joan J Zuo	Professor
Prof. Vivian WY Lee	Associate Professor
Dr. Lee Chui-Ping	Senior Instructor

New Grants

Prof. Joan J Zuo (PI)	Research Grants Council General Research Fund 2009-10 Establishment of a Biopharmaceutics and Pharmacokinetics Characterization Platform for a Series of Novel Dimeric AChE Inhibitors
Prof. Vivian WY Lee (PI)	Health Care and Promotion Fund Joint Nursing-Pharmacy Health Promotion Programme for Hidden Elders in the Community
Prof. Kenneth Lee (CO-I)	Beat Drugs Fund Psychiatric Comorbidity and Cognitive Dysfunction in Primarily Ketamine Users – a Closer Look

Academic Visitors

Dr. Hovhannes Gukasyan	Pfizer Global R & D
Dr. Jordan L Cohen	College of Pharmacy, University of Iowa
Ms S. C. Chiang	Chief Pharmacist's Office, Hospital Authority
Prof. Douwe D. Breimer	Leiden/Amsterdam Center for Drug Research, Leiden University
Prof. Hak-Kim Chan	Faculty of Pharmacy, University of Sydney
Prof. Wong Chi Kei Ian	School of Pharmacy, University of London
Dr. Teddy Lam	School of Pharmacy, University of California, San Francisco
Dr. Keary Zhou	Medical Centre, University of California, San Diego
Prof. David Smith	College of Pharmacy, University of Michigan
Prof. Anne Lin	School of Pharmacy, College of Notre Dame of Maryland
Prof. Changquan Calvin Sun	College of Pharmacy, University of Minnesota

Sharing Professional Experience

The School of Pharmacy song is born

When Professor Vincent Lee commissioned a task force of a dozen or so undergrads and postgrads to create a School song, we felt both challenged and confident. We lacked experience, but deep down all of us students knew that the changes and the new feeling of solidarity that we could sense in the School really did merit a song and a good one, too.

We wanted to create a number with the groove, the melody and the lyrics that could inspire students and supporters and make an appealing and inspiring statement about our profession.

Even though I had no real musical knowledge under my belt, I found myself to my surprise heading the music sub-team. Amazingly, the whole project took nearly a year, but it was well worth the effort, because our song tells all who hear it about what counts most in our chosen profession: patient care, professional pride, and the thrilling pace of new developments. And it does so with real passion.

We would like to say how grateful we are to all our friends from Pfizer Corporation Hong Kong Ltd for being such encouraging facilitators.

The song was premiered by Terry Au-yeung and Fanny Kwok at the 15th Anniversary Gala Dinner and each dinner guest took home a pre-recorded CD. See if the lyrics mean as much to you as they did to the cheering crowd that evening!

**Since our pharmacy school was founded,
We pledged to serve without bounds.
Together we believe, together we achieve,
To face every challenge we meet;
Training all to be drug experts,
Making life better through research.
Students we educate,
Ideas we innovate,
Knowledge we keep up to date.**

Chorus:

*Counselling to build an intimate relation,
Understanding the needs of every patient.
Broad vision to achieve a better future.
Promising pharmaceutical care for all —
Harmony with colleagues in our profession.
Aiming to achieve higher with devotion,
Recognized as a meaningful career,
Motivated to serve the public together.*

**We strive to fulfil our mission,
We see far beyond our vision,
Work hand in hand with our passion
To improve quality of life.**

Repeat Chorus

Looking to create a promising future.

Timothy Chan
2008 Graduate



Ms. Candy Tong
2007 Graduate
Private Hospital Pharmacist

Any pharmacist who likes to think and enjoy speaking his/her mind should consider joining a private hospital.

Well, it has been already two years since I graduated. I'm proud of myself for having chosen to make pharmacy my life career, and I'm really grateful for the teaching that helped transform a 20 year old girl into a professional and ethical career woman.

I chose to work in the Hong Kong Sanatorium and Hospital (HKSH) because I love the special challenges of being a pharmacist in a private hospital.

In the first place, the HKSH pharmacy stocks around 4,000 items, including many drug products I had never met before. Many newly launched drugs find their way to our pharmacy so we have to make ourselves familiar with them ready for all sorts of enquiries. Another challenge for me is that we have to dispense dressings, medical products like ileostomy bags, and nutritional products, but I find that I thrive on such new tests of my skills.

Next, there are only 14 pharmacists in HKSH, so all of us have a share in the management and development of our pharmacy. This is quite different from the practice in Hospital Authority, and I truly believe that any pharmacist who likes to think and enjoy speaking his/her mind should consider joining a private hospital.

Finally, since there are no in-house doctors staying on wards, the nurses regularly turn to us to help solve problems regarding pharmaceutical products—we receive around 80 phone calls from them every day.

I hope my picture of life in a private hospital pharmacy will intrigue and inspire any student who rates challenges above routine work. Why not come and join me when you graduate?



Ms. Connie Kong
1998 Graduate
Senior Regulatory and Medical Affairs Manager

The ability to work in a cross-functional team is of paramount importance.

The first sentence in the briefing I received from the newsletter editor asked me to recount one of the most memorable events during my study in CU. I had one of those great "aha" flashbacks — Prof. Kenneth Lee showing how to steadily melt beeswax and transfer the cream into a plastic container, while all us girls were dying to rush out of the lab and try our own DIY aqueous cosmetic on our faces. I wonder if that was the sort of thing the editor had in mind?

I was in the fourth cohort of students from the School of Pharmacy. I am now a senior regulatory and medical affairs manager at GlaxoSmithKline, managing product registrations, medical affairs, pharmacovigilance activities, and quality assurance issues. I also work with commercial teams to ensure that the company's promotional activities comply with internal and external regulations. I take pleasure in working in a multinational pharmaceutical company, because interacting with people from different cultures and functional backgrounds is always illuminating.

Our CU training gave us a strong competitive advantage in the pharmaceutical industry. Our strong academic background taught us the real beauty of medicine, and we also came to understand the health care environment and the relationships among the many different stakeholders. If you wish to join the pharmaceutical industry, cultivate an open and flexible mind. It's truly amazing to find how swiftly a project can move or how a business plan can evolve overnight, thanks to the combined efforts from R&D, manufacturing, legal, sales and marketing, among others. The ability to work in a cross-functional team is of paramount importance.

Recent incidents relating to drug quality and safety in Hong Kong have shown that there is room for improvement in many areas, including product registration, quality assurance in the manufacturing and supply chain, management responsibilities and compliance control. Whatever reasons may have contributed to the failure to address such issues in the past, it is time for us pharmacists to become even more proactively involved in the development of Hong Kong's pharmaceutical industry in Hong Kong.

I have found that many of the most successful general managers and other leaders in this industry are qualified pharmacists. You too can be a future captain of industry and so help to further the overall safety and well-being of the general public!