

## Features of the Month

**1. "Revisiting history may lead us to discovering future medicines,"** said Prof. Yung-Chi Cheng, Chairman of CGCM and Co-Chair of the GP-TCM Advisory Board, upon publishing the groundbreaking work of his team in *Science Translational Medicine* on 18<sup>th</sup> August. The abstract of the paper is as follows. "PHY906, a four-herb Chinese medicine formula (Huang Qin Tang) first described 1800 years ago, decreases gastrointestinal toxicity induced by the chemotherapeutic drug CPT-11 (irinotecan), as shown in a phase I/II clinical study. Similarly, in a murine colon 38 allograft model, PHY906 increased the antitumor activity of CPT-11 while decreasing animal weight loss caused by CPT-11. Here, we have further examined the effect of PHY906 on the intestinal toxicity caused by CPT-11 in mice. PHY906 did not protect against the initial DNA damage and apoptosis triggered by CPT-11 in the intestine, but by 4 days after CPT-11 treatment, PHY906 had restored the intestinal epithelium by promoting the regeneration of intestinal progenitor or stem cells and several Wnt signaling components. PHY906 also potentiated Wnt3a activity in human embryonic kidney-293 cells. Furthermore, PHY906 exhibited anti-inflammatory effects in mice by decreasing the infiltration of neutrophils or macrophages, tumor necrosis factor- $\alpha$  expression in the intestine, and proinflammatory cytokine concentrations in plasma. Chemical constituents of PHY906 potently inhibited nuclear factor  $\kappa$ B, cyclooxygenase-2, and inducible nitric oxide synthase. Our results show that the herbal medicine PHY906 can counteract the toxicity of CPT-11 via several mechanisms that act simultaneously." **The work is published with an editorial commentary and has been featured in *Nature News* and many other mainstream media on the same day.**

<http://stm.sciencemag.org/content/2/45/45ra59.abstract>

<http://www.nature.com/news/2010/100818/full/news.2010.417.html>

[http://www.sciencecodex.com/ancient\\_chinese\\_medicine\\_may\\_help\\_chemotherapy\\_patients](http://www.sciencecodex.com/ancient_chinese_medicine_may_help_chemotherapy_patients)

**2. A comprehensive platform for quality control of botanical drugs:** Getting botanical extracts approved worldwide as polychemical medicines requires rigorous quality control. Based on comprehensive chemical and biological fingerprints correlated with pharmacology, The authors propose a general approach called PhytomicsQC to botanical quality control. *Methods:* Incorporating the state-of-the-art analytical methodologies, PhytomicsQC was employed in this study and included the use of liquid chromatography/mass spectrometry (LC/MS) for chemical characterisation and chemical fingerprinting, differential cellular gene expression for bioresponse fingerprinting and animal pharmacology for *in vivo*

validation. A statistical pattern comparison method, Phytomics Similarity Index (PSI), based on intensities and intensity ratios, was used to determine the similarity of the chemical and bioresponse fingerprints among different manufactured batches. *Results:* Eighteen batch samples of Huangqin Tang (HQT) and its pharmaceutical grade version (PHY906) were analysed using the PhytomicsQC platform analysis. Comparative analysis of the batch samples with a clinically tested standardised batch obtained values of PSI similarity between 0.67 and 0.99. *Conclusion:* With rigorous quality control using analytically sensitive and comprehensive chemical and biological fingerprinting, botanical formulations manufactured under standardised manufacturing protocols can produce highly consistent batches of products.

<http://www.cmjournal.org/content/pdf/1749-8546-5-30.pdf>

## GP-TCM Activities

**1. The 1<sup>st</sup> Annual General Meeting (AGM) of the GP-TCM Consortium** took place in Henley-on-Thames, UK on 28<sup>th</sup>-30<sup>th</sup> July 2010. The meeting gathered 51 beneficiary and non-beneficiary participants. The event started with a welcome dinner on 27<sup>th</sup> July 2010, enabling some members to meet for the first time. This was followed by 2.5 days of workshops and interactive discussion sessions.

The meeting consisted of sessions devoted to each WP. The Coordinators of each WP presented their WP status, outlining their past and present activities and plans for the next two years. Guided by GP-TCM Advisors Prof. Yung-Chi Cheng, Prof. Brian Clark and Prof. Vivian Wong, there were intensive consortium-wide discussions on the progress to date, shortfalls of the project's 1<sup>st</sup> year and plans for the 2<sup>nd</sup> year.

Detailed meeting programme, presentation slides and more photos will be made available on our project website (to be accessible by members only).



GP-TCM Members at Henley Meeting

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**2. GP-TCM's application for membership of the Consortium for Globalisation of Chinese Medicine (CGCM) has been approved** at the 9<sup>th</sup> Meeting of CGCM hosted by the Hong Kong Baptist University (HKBU). The meeting received over 600 abstracts and was the biggest ever in the 7 years history of CGCM. The meeting gave a great opportunity for members to exchange experiences and forge collaborations in the following areas: International Collaborations, Education, Industry and Academic Collaborations, Regulatory Affairs, Biological Activities and Mechanism Study, Bioinformatics and Database, Quality Control, Clinical Trials, Objective and Standard, Assessments of Diagnosis in TCM, Herbal Resources, as well as Acupuncture. Some meeting delegates visited The School of Chinese Medicine, HKBU.

<http://www.tcmmedicine.org/en/default.asp>

<http://www.hkbu.edu.hk/~cgcm2010/>

<http://www.hkbu.edu.hk/~scm/index/chi/index.html>



The 9<sup>th</sup> CGCM Meeting in Hong Kong, 23-25 August 2010



Meeting delegates visit the School of Chinese Medicine, Hong Kong Baptist University

Photos kindly provided by Prof. Zhongzhen Zhao

### Appointment of New GP-TCM Members and Changes of Labour Division:

**1. Appointment of Prof. Michael Heinrich (School of Pharmacy, University of London, UK) to the SOP Panel of GP-TCM (led by Prof. Pierre Duez, Prof. Kelvin Chan and Dr. Debbie Shaw).** Michael is an existing non-beneficiary member of GP-TCM dedicated

to WP1. With this additional appointment, he will be invited to attend future e-MSM as a key SOP panel member. Michael is a pharmacognosist, biologist and anthropologist, with a long experience in a multitude of aspects of medicinal and food plant research, as well as at the interface of cultural and natural sciences. He is Head of Centre for Pharmacognosy and Phytotherapy at School of Pharmacy, Chief Editor of *Frontiers in Ethnopharmacology*, and President of International Society for Ethnopharmacology. **Warmest welcome and congratulations, Michael!**

[http://www.pharmacy.ac.uk/michael\\_heinrich.html](http://www.pharmacy.ac.uk/michael_heinrich.html)

[http://www.ethnopharmacology.org/ISE\\_about\\_us.htm](http://www.ethnopharmacology.org/ISE_about_us.htm)

<http://www.frontiersin.org/ethnopharmacology/editorialboard>

**2. Appointment of Prof. Shaoping Li (The University of Macau, Macao SAR, China) to GP-TCM as a non-beneficiary member,** devoted to WP1 (Quality control of CHMs, led by Prof. Monique Simmonds, UK) and WP2 (Extraction and component analysis of CHMs, led by Prof. Peter Proksch, Germany). Shaoping is Professor of Quality Control of CHMs and is Coordinator of the MSc. Programme in Chinese Medicinal Science at the Institute of Chinese Medical Sciences, University of Macau. After a series of complementary training in the Chinese Pharmaceutical University (MSc in Pharmacology & PhD in Pharmacognosy), the Chinese University of Hong Kong (Biochemistry), Nanjing University of Chinese Medicine (Pharmacology) and Hong Kong University of Science and Technology (Biology), he was appointed an Assistant Professor at University of Macau in 2003. Since then, he has been promoted to Associate and Full Professorship due to his outstanding achievements in research and teaching. Thanks to his comprehensive training background, Shaoping has unique understanding and experience in establishing quality control of CHMs and has published a monograph in the USA, entitled *Pharmacological Activity Based Quality Control of Chinese Herbs*. He also serves as editorial board member of *Journal of Pharmaceutical and Biomedical Analysis*, *Journal of Separation Science*, and *The American Journal of Chinese Medicine*, etc. **Warmest welcome and congratulations, Shaoping!**

[http://www.umac.mo/icms/03\\_staff/01\\_academic\\_staff/alsp\\_e.html](http://www.umac.mo/icms/03_staff/01_academic_staff/alsp_e.html)

**3. Appointment of Dr. Ru Yan (The University of Macau, Macao SAR, China) to GP-TCM as a non-beneficiary member,** devoted to WP5 (*in vivo* pharmacology, led by Prof. Javier Lucio-Cazana, Spain). Ru received her PhD in Pharmacology (specialised in pharmacokinetics) from the Chinese University of Hong Kong in 2005 and joined the University of Macau In 2008. Her research has concentrated on characterisation of the *in vivo* fates (absorption, distribution, metabolism and excretion, ADME) of herbal medicines and mechanistic understanding of the intricate process. Her main areas of expertise are simultaneous ADME profiling of multiple



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components, unravelling complex pharmacokinetic interactions between components and quality control of target herbs. She places particular emphasis on Chinese medicinal herbs of which the efficacies have been evidenced by long-term practice yet the *in vivo* fates of most herbs remain elusive due to their chemical complexity. Through a combination of molecular, cellular and whole-organism studies, Ru aims to obtain modern scientific data for better understanding of the actions of target herbs and for promoting suitable quality control and reasonable clinical use of the old tradition. She has been proven productive in this area as judged by the quantity and quality of her publications. As a member of the International Society for the Study of Xenobiotics, Ru keeps regular input to the organisation and good communications with people from diverse areas of pharmaceutical sciences. **Warmest welcome and congratulations, Ru!**

[http://www.umac.mo/icms/03\\_staff/01\\_academic\\_staff/yanru\\_e.html](http://www.umac.mo/icms/03_staff/01_academic_staff/yanru_e.html)

**4. Appointment of Prof. Shanta Persaud (King's College London, UK) to GP-TCM as a non-beneficiary member** devoted to WP4 (*in vitro* pharmacology, led by Prof. Peter Hylands) and WP5 (*in vivo* pharmacology, led by Prof. Javier Lucio Cazana, Spain). Shanta graduated with a first class degree in Physiology & Pharmacology from the University of London in 1986 and was awarded her PhD on "Intracellular signalling in the regulation of insulin release" in 1989. She held a competitive Wellcome Trust Research Fellowship before taking up an academic post at King's College London and she is currently Professor of Diabetes & Endocrinology at King's. Her main research interests lie in defining the intracellular signalling pathways regulating insulin secretion. The major focus of her work has been on how  $\beta$ -cells recognise external stimuli, and how they transduce that recognition into an appropriate secretion of insulin. Of particular interest in recent years has been the therapeutic potential of plant-derived extracts for treatment of Type 2 diabetes. Particular focus has been on readily available plants that have been used traditionally in Asia and Africa for the treatment of diabetes, as these may provide cost-effective therapies. This has led directly to an interest in utilising the natural resources of traditional Chinese medicine that grow abundantly in China as possible future therapies for diabetes. **Warmest welcome and congratulations, Shanta!**

<http://www.kcl.ac.uk/schools/biohealth/research/rhed/endo/in/spersaud.html>

**5. Appointment of Ms. Rebecca Richmond (Oxford University, UK) to GP-TCM as a non-beneficiary member** devoted to WP6 (clinical studies, led by Prof. Ken Muir). Rebecca is currently an undergraduate entering her third year of study at Oxford University. She is reading Human Sciences, a three-year degree which studies human life in a biological, social and

cultural context. The Honours programme incorporates a range of disciplines including Human Genetics, Human Ecology, Sociology, Health and Disease, and Quantitative Methods. After Rebecca has completed her degree, she plans to enter a field of clinical science and is particularly interested in disease ecology and the ecology of reproduction. She has come to realise how Traditional Chinese Medicine incorporates many of the disciplines of her undergraduate study, to such an extent that she has decided to base her third-year dissertation on TCM in the Post-Genomic era. GP-TCM welcomes young generation of talents like Rebecca to join our team to bring us with energy, youth and future. **Warmest welcome and congratulations, Rebecca!**

**6. Appointment of Dr. Mei Wang (SU BioMedicine BV, the Netherlands) to GP-TCM as a non-beneficiary member** devoted to WP7 (R&D of TCM, co-led by Dr. Tai-Ping Fan, UK and Prof. Kelvin Chan, Australia). Mei is the director and co-founder of SU BioMedicine BV, a daughter company of TNO that focuses on systems biology and herbal medicine. She is representing the Netherlands as a member of the European Community commission on European Pharmacopoeia for TCM working party. She is visiting professor at both Zhejiang TCM University and Changchun TCM University. Her main research field is herbal medicine, quality control and systems biology.

Mei is at present associated professor of Leiden University, in the field of plant molecular biology. She is in charge of the Sino-Dutch program "Program Strategic Alliance (PSA)" financed by both Chinese Academy of Science and Royal Netherlands Academy of Science and Arts (KNAW) for research in the field of Chinese medicine research and plant molecular biology. In addition, she is strongly involved in the exchange program of Leiden University and Chinese CAS institute (Dalian Institute of Chemistry and Physics, DICP), in the field for TCM herbal quality (safety and quality profiling) and scientific evidence for TCM diagnosis. This also led to the formation of the Sino-Dutch Joint Research Centre for preventive and personalized medicine (SD-PPM) that is financially supported by both CAS and Dutch science foundation (NGI/NOW). She is a member of the scientific board of this research center. **Warmest welcome and congratulations, Mei!**

**7. Appointment of Dr. Stephen Leung (Pfizer Hong Kong) to GP-TCM as a non-beneficiary member** devoted to WP7 (R&D of TCM, co-led by Dr. Tai-Ping Fan, UK and Prof. Kelvin Chan, Australia). Stephen Leung is a registered pharmacist both in the U.K. and Hong Kong and is currently the Country Manager of Pfizer Hong Kong. Having worked for Pfizer for 27 years, he possesses extensive experiences in many different countries, including the U.S., Australia and Hong Kong.

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Under his leadership, Pfizer Hong Kong's consistent pursuit of quality excellence was recognized by the Hong Kong Management Association Quality Gold Award in 2009, one of the most prestigious accolades in Hong Kong. Stephen's vision of developing people has also turned Pfizer Hong Kong into a 'Center of Talent', leading to a Global Human Resource Leadership Award from the World Human Resource Development Congress in 2009.

On the social corporate responsibility front, Stephen's team has been actively engaged in anti-counterfeiting campaign, educational workshop, international patient exchange program with an aim to enhance patient-centered healthcare and increase patient's disease management knowledge. Pfizer HK has been selected as 'Caring Company' for seven consecutive years since 2002.

Committed to the development of pharmaceutical industry, Stephen is the Chairman of the Chinese University School of Pharmacy Advisory Board, Chairman of American Chamber of Commerce Pharmaceutical Committee, Council Member of the Hong Kong College of Health Service Executives and the Board of Governors of the Institute for Health Policy & Systems Research, and the past President of the Hong Kong Association of the Pharmaceutical Industry. **Warmest welcome and congratulations, Stephen!**

### News & Views:

#### **1. Hamburg Says China Improving Drug Safety. Elaine Kurtenbach Drug Discovery & Development - August 13, 2010**

SHANGHAI (AP) - The head of the U.S. Food and Drug Administration says China is improving its oversight of its exporters following a slew of scandals over bogus or substandard drugs and foods ranging from vaccines and infant formula to dog chow.

FDA Commissioner Margaret Hamburg said Friday that Chinese officials she spoke with during her first visit to China since she was appointed were pursuing a "common agenda" to improve manufacturing practices and regulation of complex supply chains for the food and drug industries. "I leave feeling very encouraged by the partnership we've developed here," Hamburg said. "This is a priority for China as it is for the United States," she said.

Since President Barack Obama appointed Hamburg last year, the FDA has taken swift action against companies selling bogus or dangerous products, seeking to restore its credibility. FDA officials say a skimpy budget and weak regulations keep them from going after companies that break the rules. Hamburg, who has spent her career working in public health, said the agency is focusing on prevention, given the complexity and enormity of the

global supply chains for both food and drug products.

The FDA has set up offices in three Chinese cities, including Shanghai, and is cooperating in training and joint inspections, among other areas. More than 20 million imports of FDA-regulated products are expected this year, but typically less than 1 percent is inspected. Earlier this year, the FDA began using an automated system to sort through millions of foreign shipments and identify food and drugs that are most likely to be contaminated. Still, relying on inspections is not enough in a 21st century of manufacturing by hundreds of thousands of factories around the world, Hamburg said. "We will never have the resources physically and financially to inspect all those facilities," she said. Instead, the agency is working with other governments and international organizations to develop common standards, improve accountability and identify areas of vulnerability that should be targeted before problems arise, she said.

The need to cooperate with other governments to counter risks from shoddy manufacturing practices was driven home in 2008, when hundreds of people in the U.S. reported severe allergic reactions to heparin, a medicine to prevent blood clots, exported from China. Investigations found a contaminant - over-sulfated chondroitin sulfate - tainting raw heparin coming from China that was linked to the deaths of at least 81 people.

Earlier this week, China's health ministry said it was looking into claims by parents that a brand of milk powder caused a small number of babies to grow breasts. China's handling of problems such as contamination of dairy products with the industrial chemical melamine - killing at least six children and sickening 300,000 - shows it takes such issues seriously, Hamburg said. As recently as July, Chinese authorities reported finding caches of melamine-laced dairy products in two provinces, saying they were trying to determine if they were newly tainted batches or those stockpiled before the discovery in 2008 that milk suppliers were watering down milk and then adding melamine to make its protein content appear higher.

"It is not a simple problem to eliminate in terms of the practice of bad actors who are willing to put human health at risk to make more money," Hamburg said. "It is an area we are continuing to monitor very carefully."

Date: August 12, 2010. Source: Associated Press

#### **2. Short-term meditation induces white matter changes in the anterior cingulate. Yi-Yuan Tang et al. (2010) PNAS, DOI: [10.1073/pnas.1011043107](https://doi.org/10.1073/pnas.1011043107)** The anterior cingulate cortex (ACC) is part of a network implicated in the development of self-regulation and whose connectivity changes dramatically in development. In previous studies we showed that 3 h of mental training, based on traditional Chinese medicine

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(integrative body–mind training, IBMT), increases ACC activity and improves self-regulation. However, it is not known whether changes in white matter connectivity can result from small amounts of mental training. We here report that 11 h of IBMT increases fractional anisotropy (FA), an index indicating the integrity and efficiency of white matter in the corona radiata, an important white-matter tract connecting the ACC to other structures. Thus IBMT could provide a means for improving self-regulation and perhaps reducing or preventing various mental disorders.

### 3. The official opening of the recently founded Sino-Dutch Centre for Preventive and Personalised Medicine, the Netherlands.

<http://www.sinodutchcentre.nl/>

4. A warning message from *Chinese Medicine*, the official journal of International Society of Chinese Medicine, about the existence of another journal, also by the same name: “We are writing from CHINESE MEDICINE journal to inform you that there is another journal with the same name (Chinese Medicine) which bears no relationship with us. CHINESE MEDICINE is co-published by BioMed Central (BMC) in the United Kingdom (<http://www.cmjournal.org/>) while the other journal is published by Scientific Research publishing, Inc. in the United States (<http://www.scirp.org/journal/cm/>), with a website registered in Wuhan, China. Another journal, namely Psychology, also published by Scientific Research publishing, Inc. was found to have republished articles which had been published in reputable journals. Nature reported this story on their website (<http://www.nature.com/news/2010/100113/full/463148a.html>). Please be cautious with emails from journals under Scientific Research Publishing, Inc., particularly Chinese Medicine. Please note that emails from us (Macau Editorial Office, CHINESE MEDICINE) are either from [cmjournal@gmail.com](mailto:cmjournal@gmail.com) or [cmjournal.cfp@gmail.com](mailto:cmjournal.cfp@gmail.com).”

### Journal/Book Club

#### 1. Want to know more about EU Research?

Please order your free copies of the Research EU Journal: [http://ec.europa.eu/research/research-eu/index\\_en.html](http://ec.europa.eu/research/research-eu/index_en.html)

2. **International Complete Collection of R&D Information About Traditional Chinese Materia Medica and Biotechnology Enterprises** edited by Zhengsong Zhan (*Academy of Military Medical Sciences, China*). The information and resources in this directory are relevant and essential to practitioners and professionals in the fields of traditional Chinese materia medica (TCMM), medical biotechnology, biochemical industry and related medical instrumentation/equipment, as well as to personnel in medicinal information management, intelligence, logistics and trade. It also opens up and serves as an important window through

which biotech professionals master product information of their counterparts across the world. The directory will benefit professionals of medical health, TCMM, biotechnology and related fields, as well as academics and students, R&D executives, media staffs and translators.

### Meetings:

#### 1. Potent Substances: on the Boundaries of Food and Medicine. Convened by Dr Vivienne Lo and Professor Tilli Tansey. 13th - 15th September 2010.

5th Floor, Wellcome Trust Centre for the History of Medicine at UCL, Wellcome Building, London NW1 2BE. [http://www.ucl.ac.uk/histmed/library/potent\\_substances](http://www.ucl.ac.uk/histmed/library/potent_substances)

13th September – Boundaries and Expertise

14th September – Old Food and Medicines for New\*

15th September – Arts and the Environment

\*In addition to Dr Volker Scheid speaking on *Chinese Herbal Medicine Treatment of Menopausal Syndrome*, and Paul Kadetz speaking on *Challenges to the Regulation of Herbal Products in the Western Pacific Region of the WHO*, there will be a special 90-minute session: *Herbal Medicine: Regulation or Education?* It consists of presentations by Dr Vivienne Lo (TCM diagnosis and treatment) and 4 GP-TCM members: Professor Monique Simmonds (authentication of herbs), Dr Tai-Ping Fan (on GP-TCM and evidence-based TCM), Dr Daryl Rees (development of herbal medicine) and Mrs Greer Deal (EU regulation of herbal medicine), followed by panel discussions.

#### 2. The 7<sup>th</sup> World Congress of Chinese Medicine will be held on October 1<sup>st</sup> to 2<sup>nd</sup>, 2010 in World Forum Convention Centre, The Hague, Netherlands.

<http://www.wfcms-wccm.com/event/2010medicine-en/index.html> (English)  
<http://www.wfcms-wccm.com/web/active/index.html?id=25248> (中文)

3. One of our GP-TCM Non-beneficiary SMEs, Global Regulatory Services (GRS), is hosting the Botanicals/Natural Products Stream at Genesis 2010, London’s leading biotechnology networking conference, to be held on 9th December. A senior GP-TCM member Prof. Peter Hylands (KCL) will chair the session and you are welcome to attend. For further information, please visit <http://www.genesisconference.com>.

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