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The GP-TCM Research Association

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New Editorial

Modernization & Internationalization

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From the EU FP 7 project of "GP-TCM in the Post-Genomic Era" to the formation of GP-TCM Research Association, the process of modernization and internationalization of Chinese Medicine has undergone metamorphosis in finding models of development which are conducted across different jurisdictions. Items #1,2,3,4,7 & 8 are summarized from the presentations at ICMCM 2015.

1. **SINGLE HERB: from CP to EP** – There are more than 130 HMPC (herbal medicinal products) monographs under European Medicine Agency (EMA). The safe use of Chinese Materia Medica relies on Good Agricultural & Collection Practice (GACP), botanical & chemical pharmacognosy and other quality requirements for Herbal Substances with EU Herbal Monographs. The European Pharmacopoeia has produced >75 monographs on Chinese herbs by changing the quality parameters of Chinese Pharmacopoeia (CP) to suit European legal requirements, including the introduction of new analytical methods.
2. **SINGLE HERB: from CP to USP** – our President, GUO De An, has investigated *Salvia miltiorrhiza,* a herb for cardiovascular diseases. Phytochemical, analytical, pharmacokinetic, pharmacological tests and system biology investigation of the herb and its main components were conducted with quality control standards adopted by CP and United States Pharmacopeia (USP).
3. **CHINESE FORMULA: from Chinese SFDA to US FDA** - Since 1997, Chinese manufacturers have produced documents to gain US FDA IND status for a large number of medicine with substantial market share in China. At least 10 of the above have progressed to Phase II or III trial. These are 'new herbal formulae' containing a number of herbs, which have undergone substantial clinical trials in China.

   Cardiotonic Pills which consist of *Salvia miltiorrhiza*, *Panax notoginseng* & Borneol was approved by SFDA in 1994 to treat angina pectoris. It obtained FDA IND in 1997, initiated Phase II trial in 2007, and passed in 2009, demonstrating reduction in incidence of angina and decreasing the dosage of nitrate needed. While undergoing Phase III trial for FDA, studies in China showed a decrease in chest pain and arrhythmia in patients with heart attacks after reperfusion intervention therapies, by preventing post-infarction myocardial fibrosis.
4. **CHINESE FORMULA: from SFDA to Canada Natural Health Product** – LeMai Keli, a 7-herb granule preparation targeting cardio-cerebral vascular diseases was registered with

SFDA and widely used in China. Using scientific and clinical trial data from China, the product was registered by Health Canada as a traditional medicine under the Natural Health Product Directorate. Being positioned as a traditional medicine, the product's complete range of medical information is fully disclosed, enabling the management of dosage as deemed appropriate by the practitioners and patients.

5. **TCM FORMULA: for Japanese Kampo** – Traditional Formulae from Chinese Classics (>150) have been manufactured, tested, prescribed by doctors and sold over the counter in Japan for the treatment of diseases either alone or in combination with western medicine. Randomized control clinical trials have been conducted in >50, the results of which are made available as Evidence Reports of Kampo Treatment (EKAT) from the Japan Society for Oriental Medicine.
6. **TCM as Dietary Supplements in USA** – Under the Dietary Supplement Health & Education Act of 1994 (DSHEA), the herb or botanical, when deemed to be a food, is presumed to be safe based on its history of use in humans. They are found unsafe only after they cause harm. TCM containing herbal or botanical ingredients can be so registered. However, if there is an ingredient not recognized as a food substance, it is considered 'new'. Then the manufacturer must provide FDA with reasonable evidence that the new ingredient is safe without the need for clinical trials. For FDA, the Division of Dietary Supplement Program is under the Center for Food Safety & Applied Nutrition.

   On the other hand, the Office of Dietary Supplements of the National Institute of Health has conducted systematic review of efficacy and safety of dietary supplements. Analytic Methods & Reference Materials (AMRM) for most commonly used botanicals has been prepared since 2002 under the Botanical Research Centre Program (BRCP). In 2010-15, the Dietary Supplement Label Database (DSLD) has documented >30,000 labels.

   Under the Complementary & Alternative Medicine Act / PHS Act, TCM is classified under "Whole Medical Systems". The label of 'Dietary Supplement' depends on the claim. It is acceptable to claim "maintenance of health" but not when the claim is for "prevention of infection".
7. **TCM as botanical drug in USA** - Veregen™ and Fulyzaq were the first to be approved by FDA in USA as botanical drugs. For the latter, the process was complicated by the debate in the classification under New Chemical Entity (NCE) or botanical drug with New Molecular Entity (NME), because FDA considers those with high purification and chemical modification as not botanical any more.
8. **Data Mining & Systematic Reviews** – The Chinese Academy of Medical Science has studied CM clinical patterns and optimized treatment protocols using various decision models with the technical platform for sharing of clinical information among research centers in China. Various centers in Hong Kong conducted high quality systematic reviews of RCTs in classical and CP formulae to identify the best formulae for major disease burden with a view to conduct Comparative Effectiveness Research or randomized controlled trials for subsets of patients sharing the same CM syndromic diagnosis. The syndromic classification is being studied using approaches such as the 'latent tree analysis'.

In August 8-10, 2016, GP-TCM RA will organize our 5th Annual Meeting cum Summit on Compendium of Materia Medica and Innovative Drug Discovery in Chinese Medicine organized by the Baptist University of HK. This will be followed by the 15th International Conference on Modernization of Chinese Medicine cum trade exhibition (ICMCM) organized by the MCMIA and Trade Development Council of HK on **August 11-13, 2016**. The 1st Annual Meeting of the Chinese Medical Association – Chinese Medicine Experimental Pharmacology Association will be held concurrently.

With the gathering of experts from different fields in Hong Kong in August 2016, the week will be highlighted by the celebration of *Li Shizhen's Compendium* and modified strategies for new drug discovery and standardization with a view to advance the modernization and internationalization of

CM for our health and wellbeing.

Special Report

The *World Journal of Traditional Chinese Medicine*, the official journal of WFCMS and the GP-TCM Research Association has published its first issue in 2016. All articles are published online in WJTCM website (www.wjtcm.org), full-text PDF articles and electronic/online versions are freely available to global readers. www.wjtcm.org

Editorial
Integration of Traditional Chinese Medicine with Modern Science is the Way Forward
De-An Guo and Jing-Yan Han

Modern Research on Chinese Materia Medica
DART-MS: A New Research Tool for Herbal Medicine Analysis
Yao Shen, Wan-Ying Wu and De-An Guo

Tonic Herbs and Herbal Mixtures in Chinese Medicine
Thomas Efferth, Letian Shan and Zhuo-Wen Zhang

The Genus Alpinia: A Review of Its Phytochemistry and Pharmacology
Wei-Jie Zhang, Jian-Guang Luo and Ling-Yi Kong

Pharmacokinetics Applications of Traditional Chinese Medicines
Qiu-Ju Li, Ai-Hua Zhang, Hui Sun and Xi-Jun Wang

Evidence Based Validation of Indian Traditional Medicine – Way Forward
Pulok K Mukherjee, Ranjit K Harwansh, Shiv Bahadur, Subhadip Banerjee and Amit Kar

Research on TCM Theory
A Comparative Study of The Regular Pattern of Syndrome and Treatment of Lung-intestine Related Diseases in Ancient and Modern Medical Cases Based on Data Mining
Fang-Fang Mo, Le-Peng Wang and Si-Hua Gao

TCM Clinical Research
The Role of Chinese Medicine in Cancer Care—a Critical Review
Dan Jiang, Fan-Yi Meng, Lily Li and Fan Qu

Acupuncture and Moxibustion
The Importance of Evidence for the Integration of Traditional and Complementary Medicine into Western Healthcare?
Nicola Robinson

European Reports

1. **What does it take to win more than £500 million in EU funding?** In this podcast I speak to Michael Browne Head of European Research and Innovation at University College London. He is the Leader of UCL's European Research & Innovation, UCL was recently ranked as the top university in Europe under the first year of Horizon 2020. He has overseen the award and delivery of more than 1,000 EU funded projects totalling more than £500 million. In the podcast we discuss the strategies and tactics. https://www.linkedin.com/groups/164166/164166-6120549096848715778

New 2. **The European Commission published an update on the state of play of the Investment Plan for Europe as at March 2016.** The European Commission published an update on the state of play of the Investment Plan for Europe as at March 2016. As was the case for the January 2016 update, this includes country and sector factsheets, as well as examples of projects financed through the European Fund for Strategic Investments (EFSI). The state of play documents principally deal with the first strand of the Investment Plan for Europe, namely EFSI, which aims to mobilise at least €315 billion in additional investment over the next three years. The other two strands are on supporting investment in the real economy and creating an investment-friendly environment. EFSI is designed to help finance infrastructure and innovation projects, as well as SMEs and mid-caps. As of March 2016, there are 54 approved infrastructure and innovation projects and over 150 signed SME financing agreements, with a total of approximately €10.6 billion of EFSI financing. Overall, the EIB estimates EFSI has thus triggered €76.1 billion in investments so far. These figures include 7 infrastructure and innovation projects for the UK receiving €1.4 billion in European Investment Bank (EIB) financing in the energy, health and social economy, and environment and resource efficiency sectors. An additional 7 SME financing agreements were signed by the European Investment Fund (EIF). The sector analysis shows that of the 54 EIB approved infrastructure and innovation projects, seven are in the Research, Development and Innovation (RDI) sector, and at least 32 are to have a strong RDI element to them. http://ec.europa.eu/priorities/publications/investment-plan-state-play-march-2016_en

New 3. Cockburn W & Deluyker H. **Advisory network: Six principles for EU peer review.** *Nature* 2016;531:305.
http://www.nature.com/nature/journal/v531/n7594/full/531305c.html?WT.ec_id

New 4. **Acupuncture is no longer recommended as a treatment for low back pain on the NHS, according to new draft guidelines released on the 24th March by the National Institute for Health and Care Excellence (NICE) in the UK.** This once again emphasises the need for high quality evidence for the future NHS acceptance of acupuncture in the country.
https://www.theguardian.com/science/2016/mar/24/acupuncture-for-low-back-pain-no-longer-recommended-for-nhs-patients

New 5. Wooding S, et al. **UK Doubles Its "World-Leading" Research in Life Sciences and Medicine in Six Years: Testing the Claim?** *PLoS One.* 2015;10:e0132990.
Background: The UK, like some other countries, carries out a periodic review of research quality in universities and the most recent Research Excellence Framework (REF) reported a doubling (103% increase) in its "world leading" or so-called "4*" research outputs in the areas of life sciences and medicine between 2008 and 2014. This is a remarkable improvement in six years and if validated internationally could have profound implications for health sciences.
Methods: We compared the reported changes in 4* quality to bibliometric measures of quality for the 56,639 articles submitted to the RAE 2008 and the 50,044 articles submitted to the REF 2014 to Panel A, which assesses the life sciences, including medicine.
Findings: UK research submitted to the RAE and REF was of better quality than worldwide research on average. While we found evidence for some increase in the quality of top UK research articles, a 10-25% increase in the top 10%ile papers, depending upon the metrics used, we could not find evidence to support a 103% increase in quality. Instead we found that as compared to the RAE, the REF results implied a lower citation %ile threshold for declaring a 4*.
Interpretation: There is a wide discrepancy between bibliometric indices and peer-review panel judgements between the RAE 2008 and REF 2014. It is possible that the changes in the funding regime between 2008 and 2014 that significantly increased the financial premium for 4* articles may have influenced research quality evaluation. For the advancement of science and health, evaluation of research quality requires consistency and validity – the discrepancy noted here calls for a closer examination of mass peer-review methods like the REF.
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0132990

New 6. **House of Lords Report on 'EU Membership and UK Science'.** The House of Lords' Science and Technology Committee has published its report on 'EU Membership and UK Science'.

The main conclusions of the report are as follows:

- The overwhelming balance of opinion from the UK science community presented to the committee greatly values UK membership of the EU. Science is a major component of UK membership – nearly 1/5 of EU funding in the UK is spent on R&D and EU funding amounts to 3% of the UK's total expenditure in this area, which universities assert is "equivalent to having another Research Council".
- The main positives are: mobility for researchers; the facilitation of research collaboration; access to research facilities and infrastructure; substantial funding.
- The main qualifications are around the move towards regulations rather than directives, which is seen as less flexible; however, in most cases to date the UK has managed to play an important role in influencing and improving proposed regulation where it may have a detrimental impact on R&D i.e. data protection / clinical trials. The Committee also sees value in the harmonisation of regulatory frameworks across Member States.
- The Committee notes the UK's success in FP7 and H2020 but asserts that the performance is less impressive when one considers R&D income from structural funds. The report does, however, acknowledge that "It is important to note, however, that Framework Programme funds and structural funds serve different purposes."
- They welcome the Commission's efforts to reduce the complexity of science and research funding systems, but note that their effectiveness is as yet unclear.
- The Committee detected a lower level of engagement of UK business in the programme than that of the academic sector, and is concerned that this is because of low-levels of support for business from the UK Government. The UK Government should benchmark its level of support for business wishing to engage in EU research and innovation programmes against that available in other Member States and put forward proposals for improvement.
- They also recommend that the Government reviews its policy in the area of immigration in terms of its detrimental impact on S&T recruitment from outside the EU.
- In terms of Scientific Advice, the report notes that the Scientific Advice Mechanism (SAM) is at its early stages and say that its development will be 'critical' and must be carefully monitored; they are, however "optimistic about its potential".
- They also conclude that the UK plays a leading role in the development of EU policies and decision-making processes that relate to science and research and that there is a very real danger that this will be lost if the UK were to only have Associated Country status – there needs to be an investigation into how extensively the UK's influence would be diminished in this scenario.
- Conversely, if the UK does remain, areas to focus on for the enhancement of relations between the UK and EU in terms of science and research would be a) the influence of the EU on the UK's regulatory environment and b) improving support for business engagement.

http://www.publications.parliament.uk/pa/ld201516/ldselect/ldsctech/127/127.pdf

New 7. Minghetti P, et al. **Innovation in Phytotherapy: Is a New Regulation the Feasible Perspective in Europe? (FREE ACCESS).** *Planta Med* 2016; 82: 591-595. Legislation on pharmaceutical products for human use also applies to traditional herbal medicines. However, a uniform regulation for innovative products based on the combination of knowledge arising from traditional use and modern scientific advancements is still missing. In their article, Minghetti *et al.* critically assess the current regulatory situation of phytotherapeutics particularly in the European Union and discuss options of how to generate a more constructive regulatory environment for the pharmaceutical registration of new and innovative herbal medicinal products.
https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0042-104509

China and EU-China Cooperation Reports

New **1.** Cyranoski D. **What China's latest five-year plan means for science**. *Nature* 2016; 513: 524-5. From a slowing economy to geopolitical tensions in the South China Sea, it is a testing time for

China's ruling Communist party. But its science aspirations seem unbridled. On 16 March, China approved its 13th Five-Year Plan. A draft version, as well as statements by key politicians, make it clear that innovation through science and technology is a priority. China also intends for its research expenditure to rise to 2.5% of gross domestic product by 2020, from less than 2.2% over the past five years. Reductions in energy use and the development of low-carbon energy sources feature in the latest five-year plan. For some of the other themes that are set to shape Chinese research over the next five years, *Nature* spoke to a range of scientists…
www.nature.com/news/what-china-s-latest-five-year-plan-means-for-science-1.19590?WT.ec_id

Regarding China's 13th Five Year Plan and its Contents on Research and Innovation, please read the following further readings:

http://www.apcoworldwide.com/docs/default-source/default-document-library/Thought-Leadership/13-five-year-plan-think-piece.pdf?sfvrsn=2

http://pan.baidu.com/s/1c2BcxHm

New **2.** Phillips N. **China: Building an innovator.** *Nature* 2016;**533**, S32–S33. When it comes to translating its own research into practical applications, China falls short. A forum in Shanghai put the spotlight on ambitious plans to accelerate the process.
http://www.nature.com/nature/journal/v533/n7601_supp/full/533S32a.html?WT.ec_id

New **3.** Wanqing Chen, et al. National Central Cancer Registry, China. **Report of cancer incidence and mortality in China, 2010.** *Ann Transl Med*. 2014;2:61.
Purpose: To estimate the cancer incidences and mortalities in China in 2010.
Results: Data were obtained from a total of 145 cancer registries (63 in urban areas and 82 in rural areas) covering 158,403,248 people (92,433,739 in urban areas and 65,969,509 in rural areas). The percentage of morphologically verified cases (MV%) were 67.11%; 2.99% of incident cases were identified through proportion of death certification only (DCO%), with the mortality to incidence ratio of (M/I) 0.61. The estimates of new cancer cases and cancer deaths were 3,093,039 and 1,956,622 in 2010, respectively. The crude incidence was 235.23/10^5 (268.65/10^5 in males and 200.21/10^5 in females), the age-standardized rates by Chinese standard population (ASR China) and by world standard population (ASR world) were 184.58/10^5 and 181.49/10^5, and the cumulative incidence rate (0-74 age years old) was 21.11%. The cancer incidence and ASR China were 256.41/10^5 and 187.53/10^5 in urban areas and 213.71/10^5 and 181.10/10^5 in rural areas. The crude cancer mortality in China was 148.81/10^5 (186.37/10^5 in males and 109.42/10^5 in females), the age-standardized mortalities by Chinese standard population and by world standard population were 113.92/10^5 and 112.86/10^5, and the cumulative mortality rate (0-74 age years old) was 12.78%. The cancer mortality and ASR China were 156.14/10^5 and 109.21/10^5 in urban areas 141.35/10^5 and 119.00/10^5 in rural areas, respectively. Lung cancer, female breast cancer, gastric cancer, liver cancer, esophageal cancer, colorectal cancer, and cervical cancer were the most common cancers. Lung cancer, liver cancer, gastric cancer, esophageal cancer, colorectal cancer, breast cancer, and pancreatic cancer were the leading causes of cancer deaths.
Conclusions: The coverage of cancer registration has rapidly increased in China in recent years and may reflect more accurate cancer burdens among populations living in different areas. As the basis of cancer control program, cancer registration plays an irreplaceable role in cancer surveillance, intervention evaluation, and policy-making. Given the increasing cancer burden in the past decades, China should strengthen its cancer prevention and control.
http://atm.amegroups.com/article/view/3805/4988

New **4.** Zhang Z. **Newton Fund Bridges UK and China in Research and Innovation.**
http://blogs.fco.gov.uk/zhangzhan/2016/01/29/newton-fund-bridges-uk-and-china-in-research-and-innovation/

New **5.** Wang X, Ji Y, Yang B, eds. **Chinese Innovation in Cardiovascular Drug Discovery.**
British Journal of Pharmacology Volume 173 Issue 10 (May 2016) Pages 1567–1715.
http://onlinelibrary.wiley.com/doi/10.1111/bph.v173.10/issuetoc

Recommended Readings on Science and Biology

New **1.** Edwards A. **Reproducibility: Team up with industry.** *Nature* 2016;531:299–301. Combining commercial and academic incentives and resources can improve science, argues Aled Edwards. http://www.nature.com/news/reproducibility-team-up-with-industry-1.19551?WT.ec_id

New **2.** Willyard C. **Foretelling toxicity: FDA researchers work to predict risk of liver injury from drugs.** *Nature Medicine* 2016;22:450–451. Researchers have devised many ways of assessing whether a drug will harm the liver. Watkins and his colleagues have constructed an in silico liver called DILIsym to model liver injury. Other researchers are creating three-dimensional mini-livers or seeding liver tissue onto plastic chips to identify toxic drugs, and some groups have bioengineered mice to carry human liver tissue. Tong is taking a less sensational approach by devising mathematical models to predict the risk of liver injury, but he is doing it from within the walls of the world's largest national drug regulatory agency.
http://www.nature.com/nm/journal/v22/n5/full/nm0516-450.html?WT.ec_id

New **3.** Biermann M and Kamp TJ. **Cardiotoxicity in a dish: new insights for personalized therapy**. *Nature Medicine* 2016;22:459-460. A recent study identifies differences in human induced pluripotent stem cell (hiPSC)-derived cardiomyocytes from patients with breast cancer who were treated with doxorubicin and either did or did not develop cardiotoxicity. The results open up new avenues for the development of personalized therapy and the prevention of cardiotoxicity…http://www.nature.com/nm/journal/v22/n5/full/nm.4095.html?WT.ec_id
http://www.nature.com/nm/journal/v22/n5/full/nm.4087.html?WT.ec_id

New **4.** Katz G. **Royal Botanical Gardens: Mixed Report on the World's Plants.** A report billed as the first comprehensive look at world's plants finds a planet slowly being ravaged by changing land use, mostly conversion of forests to agriculture to feed a growing population, and climate change… The new study documents 31,128 plant types put to a specific use, mostly for medicine (17,810 plant species used in the pursuit of good health), but also for human food, animal food, fuel, materials and other things…
http://www.rdmag.com/news/2016/05/royal-botanical-gardens-mixed-report-worlds-plants?et_cid

New **5.** Sarewitz D. **The pressure to publish pushes down quality.** *Nature* 2016; 533:147. Scientists must publish less, says Daniel Sarewitz, or good research will be swamped by the ever-increasing volume of poor work……
http://www.nature.com/news/the-pressure-to-publish-pushes-down-quality-1.19887?WT.ec_id

New **6. 5000-Year-Old Beer Recipe Found in China.** These days, anyone can purchase a craft brew kit and create their own delicious (or maybe not so delicious) amber suds. But it turns out, the ancient Chinese were brewing around 5,000 years ago.

At a dig site in China's Central Plain, archaeologists unearthed specialized tools for beer-brewing. An analysis of starch, phytolith, and chemical residues provided researchers with the ingredients for the ancient libation. The discovery was the subject of a study published in *Proceedings of the National Academy of Sciences.*

According to the researchers, the find marks the oldest evidence of in situ beer production in China. "Our data reveal a surprising beer recipe in which broomcorn millet (*Panicium millaceum*), barley (*Hordeum vulgare*), Job's tears (*Coix lacryma-jobi*), and tubers were fermented together," the researchers wrote. "The results indicate that people in China established advanced beer-brewing technology by using specialized tools and creating favorable fermentation conditions around 5,000 years ago."

According to *Gizmodo,* the equipment was found alongside the Wei River. After analyzation, the researchers realized that the residue leftover on the discovered pots was froth from the ancient drink. Patrick McGovern, a biomolecular archaeologist with the University of Pennsylvania Museum, told *NPR* "All indications are that ancient peoples … applied the same principles and techniques as brewers do today." At the same time as the Chinese were brewing, people in Iran and Egypt were also brewing beer, and people in Armenia were indulging in wine-making, said McGovern, who was not involved with the study.

The researchers reported that the find implies that beer brewing may have motivated the translocation of barley form Western Eurasia to China's Central Plain. The crop became part of the region's agricultural subsistence 3,000 years later. So rather than barley initially being a source of food, it first was brought to the region to brew beer. Later on, it became a source of food.

TCM and Acupuncture in Spotlight

New 1. Zhao Q, et al. A specialized flavone biosynthetic pathway has evolved in the medicinal plant, *Scutellaria baicalensis. Science Advances* Apr 8, 2016: e1501780. Wogonin and baicalein are bioactive flavones in the popular Chinese herbal remedy Huang-Qin (*Scutellaria baicalensis* Georgi). These specialized flavones lack a 4′-hydroxyl group on the B ring (4′-deoxyflavones) and induce apoptosis in a wide spectrum of human tumor cells in vitro and inhibit tumor growth in vivo in different mouse tumor models. Root-specific flavones (RSFs) from *Scutellaria* have a variety of reported additional beneficial effects including antioxidant and antiviral properties. We describe the characterization of a new pathway for the synthesis of these compounds, in which pinocembrin (a 4′-deoxyflavanone) serves as a key intermediate. Although two genes encoding flavone synthase II (FNSII) are expressed in the roots of *S. baicalensis*, FNSII-1 has broad specificity for flavanones as substrates, whereas FNSII-2 is specific for pinocembrin. FNSII-2 is responsible for the synthesis of 4′-deoxyRSFs, such as chrysin and wogonin, wogonoside, baicalein, and baicalin, which are synthesized from chrysin. A gene encoding a cinnamic acid–specific coenzyme A ligase (SbCLL-7), which is highly expressed in roots, is required for the synthesis of RSFs by FNSII-2, as demonstrated by gene silencing. A specific isoform of chalcone synthase (SbCHS-2) that is highly expressed in roots producing RSFs is also required for the synthesis of chrysin. Our studies reveal a recently evolved pathway for biosynthesis of specific, bioactive 4′-deoxyflavones in the roots of *S. baicalensis*.
http://advances.sciencemag.org/content/2/4/e1501780.full

New 2. **A BBC report: A UK-China collaboration has unravelled one of the secrets of a plant used in traditional Chinese medicine.** The Chinese skullcap - known as Huang-Qin - is traditionally used for fever, liver and lung problems. Scientists have discovered that the plant uses a special pathway to make chemicals with potential cancer-fighting properties. They say it is a step towards being able to scale up production to make new drugs. Prof Cathie Martin, of the John Innes Centre in Norwich, is lead researcher of the study, published in *Science Advances*. Working in collaboration with Chinese scientists, her team deduced how the plant, *Scutellaria baicalensi*, synthesises the chemicals, known as flavones. Flavones are found widely in the plant kingdom, giving some plants vivid blue flowers…
http://www.bbc.co.uk/news/health-35997595
http://advances.sciencemag.org/content/2/4/e1501780.full

New 3. **Video record of an interview of Professor Anlong Xu, President of Beijing University of Chinese Medicine, by *China Daily* (in English).** Please wait for a couple of minutes until the advert at the beginning is finished before the interview is started.
http://mp.weixin.qq.com/s?__biz=MzA4MDMwNTY3MQ==&mid=2651553260&idx=1&sn=8ac593a3ab25e9b5313bff7a20903f38&scene=5&srcid=0504ObQeYMWulj7iiW6NpPhw#rd

New 4. **Dr. Xiu-Min Li awarded FHTI's Future of Health Technology Award for her research of TCM-inspired botanical drugs.** Dr. Xiu-Min Li, Director, Center for Integrative Medicine for Allergies and Wellness and Professor of Pediatric Allergy and Immunology, Mount Sinai Hospital, has been named the recipient of the 2016 Future of Health Technology Award for her research and clinical work on botanical drugs for asthma, food allergies, and other diseases of the immune system, and for her vision to make them available to patients through integrative medical practice. Allergic diseases represent a growing threat to life and quality of life in developed nations and are spreading as more countries strive for Western living standards. According to American College of Allergy, Asthma and Immunology there are approximately 50 million people with allergies in US.
http://fhti.org/sum_awa.html

5. Safety classification of herbal medicines used in pregnancy in a multinational study.
Kennedy, D.A. et al., *BMC Complementary and Alternative Medicine* **DOI:** 10.1186/s12906-016-1079-z

Background

The use of herbal medicines for health prevention and ailments is an increasing trend worldwide. Women in pregnancy are no exception; the reported prevalence of herbal medicine use in pregnancy ranges from 1 to 60 %. Despite a common perception of safety, herbal medicines may have potent pharmacological actions, and historically, have been used for this reason.

Methods

A multinational, cross-sectional study on how women treat disease and pregnancy-related health ailments was conducted between October 2011 and February 2012 in Europe, North America, and Australia. This study's primary aim was to evaluate and classify the herbal medicines used according to their safety in pregnancy and, secondly, to investigate risk factors associated with the use of contraindicated herbal medicines during pregnancy.

Results

In total, 29.3 % of the women (n = 2673) reported the use of herbal medicines in pregnancy; of which we were able to identify 126 specific herbal medicines used by 2379 women (89.0 %). Twenty seven out of 126 herbal medicines were classified as contraindicated in pregnancy, and were used by 476 women (20.0 %). Twenty-eight were classified as safe for use in pregnancy and used by the largest number of women (n = 1128, 47.4 %). The greatest number was classified as requiring caution in pregnancy; these sixty herbal medicines were used by 751 women (31.6 %). Maternal factors associated with the use of contraindicated herbal medicines in pregnancy were found to be working in the home, having a university education, not using folic acid, and consuming alcohol. Interestingly, the recommendation to take a contraindicated herbal medicine was three times more likely to be from a healthcare practitioner (HCP) than an informal source.

Conclusion

Based on the current literature the majority of women in this study used an herbal medicine that was classified as safe for use in pregnancy. Women who reported taking a contraindicated herb were more likely to have been recommended it use by an HCP rather than informal source(s), indicating an urgent need for more education among HCPs. The paucity of human studies on herbal medicines safety in pregnancy stands in stark contrast to the widespread use of these products among pregnant women.

6. Chinese Innovation in Cardiovascular Drug Discovery.

British Journal of Pharmacology
Special Issue: Themed Section:
Chinese Innovation in Cardiovascular Drug Discovery. Guest Editors: Xin Wang, Yong Ji and Baofeng Yang
Volume 172, Issue 23, pages 5425–5429, December 2015
Version of Record online: 27 NOV 2015 | DOI: 10.1111/bph.13363

Cardiovascular research is thriving in China (pages 5430–5434)
F Gao, R J Sun, Y Ji and B F Yang
Version of Record online: 5 SEP 2014 | DOI: 10.1111/bph.12826

Advances in exploring the role of microRNAs in the pathogenesis, diagnosis and therapy of cardiac diseases in China (pages 5435–5443)

Z W Pan, Y J Lu and B F Yang
Version of Record online: 20 JAN 2015 | DOI: 10.1111/bph.13015

New **7. Berberine improves mesenteric artery insulin sensitivity through up-regulating insulin receptor-mediated signalling in diabetic rats.** Geng FH **et al.** *Br J Pharmacol.* 2016 May;173(10):1569-79. doi: 10.1111/bph.13466. Epub 2016 Apr 5.

Background and Purpose

Berberine, a small molecule derived from *Coptidis rhizome*, has been found to be potent at lowering blood glucose and regulating lipid metabolism. Recent clinical studies have shown that berberine reduces blood pressure and increases systemic insulin sensitivity in patients with metabolic syndrome; however, the underlying mechanism is still unclear. Here, we investigated the mechanism by which berberine improves vascular insulin sensitivity in diabetic rats.

Experimental Approach

Diabetes was induced in male Sprague–Dawley rats by feeding a high-fat diet and administration of a low dose of streptozotocin. These diabetic rats were treated with berberine (200 $mg \cdot kg^{-1} \cdot day^{-1}$, gavage) for 4 weeks. Vascular dilation was determined in isolated mesenteric artery rings. Effects of berberine on insulin signalling were also studied in human artery endothelial cells cultured in high glucose (25 $mmol \cdot L^{-1}$) and palmitate (500 $\mu mol \cdot L^{-1}$).

Key Results

Berberine treatment for 4 weeks significantly restored the impaired ACh- and insulin-induced vasodilatation of mesenteric arteries from diabetic rats. In isolated mesenteric artery rings, berberine (2.5–10 $\mu mol \cdot L^{-1}$) elicited dose-dependent vasodilatation and significantly enhanced insulin-induced vasodilatation. Mechanistically, berberine up-regulated phosphorylation of the insulin receptor and its downstream signalling molecules AMPK, Akt and eNOS, and increased cell viability and autophagy in cultured endothelial cells. Moreover, down-regulating insulin receptors with specific siRNA significantly attenuated berberine-induced phosphorylation of AMPK.

Conclusions and Implications

Berberine improves diabetic vascular insulin sensitivity and mesenteric vasodilatation by up-regulating insulin receptor-mediated signalling in diabetic rats. These findings suggest berberine has potential as a preventive or adjunctive treatment of diabetic vascular complications.

Functional Genomics in Progress

New 1. Fasani RA, et al. **The Human Toxome Collaboratorium: A Shared Environment for Multi-Omic Computational Collaboration within a Consortium.** *Front Pharmacol*. 2016 Feb 17;6:322. The Human Toxome Project is part of a long-term vision to modernize toxicity testing for the 21st century. In the initial phase of the project, a consortium of six academic, commercial, and government organizations has partnered to map pathways of toxicity, using endocrine disruption as a model hazard. Experimental data is generated at multiple sites, and analyzed using a range of computational tools. While effectively gathering, managing, and analyzing the data for high-content experiments is a challenge in its own right, doing so for a growing number of -omics technologies, with larger data sets, across multiple institutions complicates the process. Interestingly, one of the most difficult, ongoing challenges has been the computational collaboration between the geographically separate institutions. Existing solutions cannot handle the growing heterogeneous data, provide a computational environment for consistent analysis, accommodate different workflows, and adapt to the constantly evolving methods and goals of a research project. To meet the needs of the project, we have created and managed The Human Toxome Collaboratorium, a shared computational environment hosted on third-party cloud services. The Collaboratorium provides a familiar virtual desktop, with a mix of commercial, open-source, and custom-built applications. It shares some of the challenges of traditional information technology, but with unique and unexpected constraints that emerge from the cloud. Here we describe the problems we faced, the current architecture of the solution, an example of its use, the major lessons we learned, and the future potential of the concept. In particular, the

Collaboratorium represents a novel distribution method that could increase the reproducibility and reusability of results from similar large, multi-omic studies.
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4756169/

New 2. Nebert DW, Ingelman-Sundberg M. **What do animal experiments tell us that in vitro systems cannot? The Human Toxome Project.** *Regul Toxicol Pharmacol*. 2016;75:1-4.
• The "Human Toxome Project" was funded (2011–2016) – for almost $7 million.
• Endocrine disruptors in human breast cancer MCF-7 cells was chosen as the test case.
• They propose to discover clinically relevant endpoints without using lab animals.
• Examples are provided showing scientifically how impossible this proposal is.
• Questions should be asked, as to how this project was approved and funded.
http://www.sciencedirect.com/science/article/pii/S0273230015300763

New 3. Ledford H. **AstraZeneca launches project to sequence 2 million genomes.** *Nature* 2016; 532: 427. Drug company aims to pool genomic and medical data in hunt for rare genetic sequences associated with disease…
http://www.nature.com/news/astrazeneca-launches-project-to-sequence-2-million-genomes-1.19797?WT.ec_id

Sounding Board: This section is reserved for GP-TCM RA members to express their opinions, share their views and comment on publications in previous issues of the GP-TCM RA Newsletters. All members are sincerely invited to contribute proactively. Please e-mail your Co-Editors Dr Tai-Ping Fan (tpf1000@cam.ac.uk) and Dr Qihe Xu (qihe.xu@kcl.ac.uk).

Meeting Reports

New **1. The 16th International Congress on Ethnopharmacology (ICE) was held on May 15-18, 2016 in Yulin, Guangxi, China.**

第十六届国际传统药物学大会和
第八届药博会(中国 广西 玉林)

For more extensive reports, please visit the following websites:

http://epaper.gxylnews.com:8080/epaper/ylrb/html/2016/05/17/A01/default.htm

http://zhibo.news.cn/shwx/201605/3136518/index_m.html

https://mp.weixin.qq.com/s?__biz=MjM5OTcwNDgyMg==&mid=2663427989&idx=1&sn=c75886e5007b5b8037720aef460d1e2a&scene=1&srcid=0516QRXriDY3mAVcKmC4iUzB&key=f5c31ae61525f82ebe0ef8cf8f363360cce6d1b18d0ab4009afe27fa4b5e87457457b3404913059d4bfde93c20d4c0ee&ascene=0&uin=MTQ3MjA0OTQ0Ng%3D%3D&devicetype=BlackBerry10-CLASSIC&version=a3000101&pass_ticket=IcyQtQ3z5DeE98%2B6aB0RXrhe%2BD3YnZ3qKYowMHBkXrRru4DhuCxiAuJ1RdQlez8Q

Future Meetings

New **1. The 2nd Health Ministers Meeting between China and CEEC (Suzhou, China, 19-21 June 2016).** 第二届中国－中东欧国家卫生部长论坛 http://china-ceec.doctorpda.cn/2016en?lang=en

To implement *The Suzhou Guidelines for Cooperation between China and Central and Eastern European Countries (CEEC)* and take the healthcare exchanges and cooperation between China and CEEC to a higher level, the 2nd Health Ministers Meeting between China and CEEC, organized by the National Health and Family Planning Commission (NHFPC) of the People's Republic of China, will be scheduled from June 19 to 21, 2016 in Suzhou city, Jiangsu Province of China.

On behalf of the Chinese host, please allow me to take this opportunity to cordially invite you to this meeting. With the theme of *Deepening Pragmatic Health Collaboration, Promoting Sustainable Health Development*, the meeting will start with a general assembly and opening ceremony, followed

by five parallel sessions, including such topics as cooperation between hospitals, cooperation between public health institutions, the youth forum, traditional medicine cooperation and healthcare industry cooperation. The various visiting activities arranged by the Chinese host as satellite programs will present you with an opportunity to deepen your understanding of China's health system and current progress of the healthcare industry, generating more pragmatic cooperation opportunities for the two sides.

为落实《中国－中东欧国家合作苏州纲要》，提升中国与中东欧各国在医药卫生各领域的合作交流水平，中华人民共和国国家卫生和计划生育委员会将于2016年6月19日－21日在中国江苏省苏州市举办第二届中国－中东欧国家卫生部长论坛。此次论坛的主题是：深化卫生务实合作促进健康可持续发展。论坛将由主论坛暨开幕式和五个分论坛组成，包括：医院合作、公共卫生机构合作、青年论坛、传统医学合作、健康产业合作。除论坛外，中方还将安排了丰富多彩的参观访问活动和展览展示，您将有机会深入了解中国的卫生体制和医药卫生产业发展情况，进一步寻找双方务实合作的契机。

2. JNPC 2016 - 64th International Congress (Joint Meeting with ASP, AFERP, JSP, PSE and SIF) and Annual Meeting of GA. 24-28 July 2016, Copenhagen, Denmark. http://www.jnpc2016.dk/

3. The 5th Annual Meeting of GP-TCM Research Association-cum-Summit on *Compendium of Materia Medica* and Innovative Drug Discovery in Chinese Medicine" will be held in Hong Kong, on 9–10 August 2016. http://scm.hkbu.edu.hk/gptcm-summit

Should you need further information about the Meeting-cum-Summit, please email: scm@hkbu.edu.hk or phone +852-34112064. The meeting to be held in Hong Kong will be another occasion for us to gather to exchange the findings and results of our latest work. This significant event is jointly organised by GP-TCM Research Association, School of Chinese Medicine of Hong Kong Baptist University (HKBU), and TCM Chemistry Specialty Committee and TCM Pharmaceutical Analysis Specialty Committee of WFCMS. The School of Chinese Medicine will host the event as a part of the celebrations of the 60th anniversary of HKBU. Prof. Aiping Lu, Dean of the School of Chinese Medicine and a member of the Board of Directors of GP-TCM RA, cordially invite all members and friends of the GP-TCM RA from all around the world to come to the HKBU campus to attend the event.

In particular, the Meeting-cum-Summit aims to achieve the following objectives:

- Promote discussion and implementation of good practice in TCM research and development, high-quality evidence-based research on TCM as well as the integration of Chinese medicine and conventional medicine;
- Revisit the significant contributions made by Li Shizhen, the author of the *Compendium of Materia Medica*, to the development of Chinese medicine and discuss new insights into his work;
- Explore new strategies for and approaches to new drug discovery and the standardization of

Chinese materia medica with a view to contributing to the advancement, modernization and internationalization of Chinese medicine as well as health and well-being.

The Meeting-cum-Summit will be devoted to exploring the latest developments in a number of areas of Chinese medicine, including quality control, pharmacology and toxicology, regulatory matters and standardization, clinical studies, acupuncture, *Compendium of Materia Medica*, new drug discovery strategies and approaches. Please visit http://scm.hkbu.edu.hk/gptcm-summit for more information, and check updates from time to time. Please disseminate this message to your colleagues and research students who may be interested. You can find the first announcement here: http://scm.hkbu.edu.hk/en/onlineforms/201608_gptcm/poster_1st_announcement.pdf

New **4. HKTDC International Conference of the Modernization of Chinese Medicine & Health Products. 11-13 August 2016, Hong Kong.** 国际现代化中医药及健康产品会议
http://www.hktdc.com/fair/icmcm-sc/s/9563-General_Information/International-Conference-of-the-Modernization-of-Chinese-Medicine-and-Health-Products/ConferenceDetails.html

HKTDC
International Conference of the Modernization of Chinese Medicine & Health Products
國際現代化中醫藥及健康產品會議

ICMCM 2016 Conference

Dates	11-12 August 2016 (Thursday - Friday)
Key Programs	**Keynote Session** - Prof. Yu Wenming, Deputy Director of the SATCM - Ms. Pansy Yau, Deputy Director of Research, Hong Kong Trade Development Council **Session Topics** • CEO Forum • R&D on Chinese Medicines • Regulations & Legislation • Market & Commercialization • Successful Cases for Product Development • The 12th International Postgraduate Symposium on Chinese Medicine (Parallel Session) **Call for Abstracts for poster presentation** • Submission Deadline: 30 June 2016

Opportunities under the Belt and Road Initiative

Organised by: HKTDC 香港貿發局 MCMIA 現代化中醫藥國際協會

New Chinese Medicine Product Zone at the B2B Trade Hall 5

Dates	11-13 August 2016 (Thursday - Saturday)
Target Companies	• Chinese medicines • Raw Material, equipment & services • Functional food & products • Health Supplements • Health Care & Therapy • GMP manufacturers • Testing Laboratories • R&D Institutions • Experts in IP valuation & laws • Marketing & traders • Venture capital and financing • Trade Associations
Key Programs	• Seminars on regulation, policy, quality control, GMP, Markets, IP valuation, etc • Buyer Forum • Exhibitor Forum
Website	www.icmcm.com
Enquiry Hotline	(852) 1830 668

Matching opportunity with local and global buyers

New **5. The 15th Meeting of Consortium for Globalization of Chinese Medicine (CGCM) will be held in Taipei on August 23 - 25, 2016 (Tuesday - Thursday), while Pre-meeting Workshop will also be held on August 22, 2016 (Monday).** The Meeting is organized by Academia Sinica. It provides a platform for regulatory-industrial-academic exchanges and potential research collaborations on various frontiers of Traditional Chinese Medicine among our worldwide CGCM members and guests.

The following themes will be addressed at the meeting:

- Acupuncture
- Bioinformatics: "Omics" Approach and Data Analysis
- Clinical Investigation
  - Cancer, Liver Disease and Inflammation
  - Other Diseases and Safety
- Education
- Herbal Resources
  - Authentication
  - Cultivation and Herbal Quality
  - Identification, Formulation and Manufacturing
- Regulation and Interregional Collaborations in Academia and Industry
- Natural Products
  - Biological Activity
  - Cancer, Virus and Inflammation
  - Identification, Bio-transformation and Metabolism
- Polychemical Activities and Mechanism Study
  - Cancer, Immunomodulation and Inflammation
  - Metabolic, Neural Diseases, Aging Process and Others
  - Metabolism, Drug Interaction and Toxicity

The program-at-a-glance has been attached for your information. You are cordially invited to join the meeting and encouraged to forward this message to your colleagues and friends who are interested in TCM for joining our upcoming 15th CGCM Meeting.

New Institutional and Industrial Affiliate Membership

You are encouraged to take the initiative in inviting any potential institutions and companies, which are devoted to the research and development of herbal medicine, to join CGCM as Institutional or Industrial Affiliate Members. You may wish to provide the relevant contact person and information for us.

Call for Abstracts: Abstract submission for poster presentations of the Meeting is now open for all CGCM members and invited guests. Please submit your abstracts together with the attached Abstract Submission Form to centraloffice@tcmedicine.org on or before May 31, 2016 (Tuesday).

Highlights of the posters would be discussed during the relevant discussion sessions. Conclusions, action plans and milestones are expected to be drawn.

Registration: Registration fee for the 15th CGCM Meeting:

	On or before May 31, 2016	After May 31, 2016
Member institutes (3 free participant quotas)	10,000 NTD per head for the 4th participant and onwards	13,000 NTD per head for the 4th participant and onwards
Non-members	15,000 NTD	18,000 NTD
Students and post-doctoral fellows	4,500 NTD	7,500 NTD

Online registration of 15th CGCM Meeting will open soon for all participants to enroll, please visit CGCM website: www.tcmedicine.org for the update.

Travel Grant: To support postgraduates to attend the 15th CGCM Meeting, up to 50 Travel Grants are now open for application. Awardees will receive travel grant, free accommodation (shared room) and waiver of registration fee. You may wish to encourage your postgraduates to submit abstracts and apply for the Travel Grant.

Should you have any enquiries, please feel free to contact us at centraloffice@tcmedicine.org.

New **6. The 5th International Conference on the Modernization of Traditional Chinese Medicine will be held in Chengdu, China on 23-25 October 2016.** For promoting the development of traditional medicine, so as to provide better medical service to people worldwide, Prof. Lu Hua, the President of Teaching Hospital of Chengdu University of Traditional Chinese Medicine (CDUTCM), welcomes you to attend this meeting. This is a very meaningful series of conferences which has been successfully co-sponsored three times by the Ministry of Science and Technology, Ministry of Public Health, China Food and Drug Administration, State Administration of Traditional Chinese Medicine, and People's Government of Sichuan Province. Led by Prof. Lu, The Teaching Hospital of CDUTCM is organizing the 4th Panel Forum on topic of "the Development of TCM Healthcare". More information to follow.

Invitation from Journals

1. Invitation from *World Journal of Traditional Chinese Medicine* (WJTCM). WJTCM, ISSN 2311-8571, a new peer-reviewed journal (quarterly) launched in 2014, is the official journal of the World Federation of Chinese Medicine Societies (WFCMS) and the GP-TCM RA. **Aim &Scope:** Introduce clinical efficacy and mechanism of TCM to doctors and biomedical researchers around the world, so as to provide new ideas and methods for solving the complicated and difficult cases.

- WJTCM includes reviews and original articles focused on four aspects:
- Modern Research on Chinese Materia Medica: theories of processing, property, and compatibility of Chinese materia medica; safety of Chinese materia medica; active principles and mechanism and efficacy of crude drugs and Chinese compound formulas
- Research on TCM Theory: scientific connotation and biological foundation of TCM basic theories
- TCM clinical Research: disease and syndrome, TCM safety, efficacy evaluation, evidence-based and systematic evaluation
- Acupuncture and Moxibustion: effect mechanism of acupuncture and moxibustion, specificity of acupoint effect, acupoints compatibility, efficacy evaluation of acupuncture and moxibustion.

Submission to the Journal: All the articles can be submitted via ScholarOne: https://mc03.manuscriptcentral.com/wjtcm, Detailed information about requirements of manuscript and format can be found in “Instruction&Forms” by the above URL, or by accessing WJTCM home page www.wjtcm.org. All WJTCM articles will be published online via WJTCM website (www.wjtcm.org). PDF articles and electronic/online versions are freely available to global readers.

WJTCM has successfully published 4 issues in 2015. Full-text PDF articles and electronic/online versions are freely available to global readers: www.wjtcm.org

2. China—a call for papers from the *Lancet:* In October, 2016, *The Lancet* will dedicate a weekly issue to health care and research in China—our seventh such themed issue since 2008. While the journal welcome submissions from China throughout the year and across all *Lancet* titles, the editors invite submissions of high quality research from China, or from research teams working on health in China, for this issue in particular. Submissions are welcome on all aspects of health science including, but not limited to: non-communicable disease control, health policies, and health-care reform in China. http://dx.doi.org/10.1016/S0140-6736(15)01157-5

3. Cao X, et al. A call for abstracts from China. *Lancet* 2016;386:2377. … *The Lancet*–CAMS Health Summit 2016, which will be held on Oct 30–31, 2016. Submissions are invited from across all aspects of health science including, but not limited to: translational medicine, clinical medicine, public health, global health, health policy, the environment and ecological systems and health, medical education, delivery of health services, and health-care reform.

The core of the event will consist of submitted abstracts and posters, and will include keynote presentations from leaders in China as well as from outside China. The peer-reviewed abstracts will be published online and in a conference booklet by *The Lancet*. Work completed outside China can be submitted, but only abstracts relevant to China's health science will be considered. Awards will be given each day for the best oral presentation, the best poster presentation, and the best young investigator…Please submit your abstract as a Word document through *The Lancet*'s online submission system no later than 30 April 2016, stating in your covering letter that the submission is in response to this call for abstracts from China. After peer review at *The Lancet* and CAMS, participants will be informed of acceptance of abstracts by 30 July 2016. To submit an abstract go to http://ees.elsevier.com/thelancet

4. Davies J, et al. China Diabetes Society 2016: a call for papers. *Lancet* 2016;386:e59-e60. Two decades ago, it seemed almost inconceivable that China would be heading towards an epidemic of obesity and type 2 diabetes; HIV/AIDS and other communicable diseases were much greater concerns. Rapid economic growth and investment in health systems have led to growing income, rapidly declining infectious disease rates, and increasing life expectancy. This good news story, however, carries with it the baggage of an increasing burden of obesity and diabetes. In 1994, it was estimated that the prevalence of diabetes was 2·5%. Estimates for 2014 suggest that this prevalence has now risen to between 9·7% and 11·6% and there is no indication that rates are going to decline soon…

For the Chinese Diabetes Society meeting in 2016, the Chinese Diabetes Society, *The Lancet Diabetes & Endocrinology* and *The Lancet* will host a session for researchers to present their findings relating to diabetes and obesity in China. Submissions that are judged to be of high enough quality will be presented either orally or as posters, with abstracts being published in *The Lancet Diabetes & Endocrinology*. Additionally, for studies judged to be of highest quality there is potential for publication as a full Article in one of the journals. http://dx.doi.org/10.1016/S0140-6736(15)01119-8

5. *Journal of Zhejiang University-SCIENCE B (Biomedicine & Biotechnology)* invites contributions for a special issue on "Integrative Medicine & Obstetrics and Gynaecology". This special issue invites authors to submit original research, review, perspective articles in the fields of Integrative Medicine (IM) or Obstetrics and Gynaecology (OG). Potential topics include, but are not limited to: (1) clinical trial or basic study in IM or OG, (2) methodological advantages and challenges in using qualitative and mixed methods design in IM or OG research, (3) systematic reviews or meta-analysis concerning IM or OG clinical practices, and (4) new scientific development in the fields. All submissions will undergo rigorous international peer review. This issue will be extensively publicized in SpringerLink, Twitter, Linkedin, WeChat, Blog, etc. to attract worldwide attention.

Journal Introduction: *Journal of Zhejiang University-SCIENCE B (Biomedicine & Biotechnology)* (*JZUS-B*), started in 2005, is an international peer-reviewed journal co-published by Springer & Zhejiang University Press. *JZUS-B* aims to present the latest developments and achievements in the broad area of Biomedicine, Biotechnology and Biochemistry, and is indexed by SCI-E (2013 IF is 1.278), MEDLINE/PubMed, PMC, JST, CA, etc. We strive to provide a superior service, including (1) fast international peer review (<2 months) and fast publication after acceptance (<3 months), (2) accepted article in press online immediately, (3) polishing service by native English speakers and rigorous editing and proof-reading, (4) English highlights and Chinese summaries accessible freely, and (5) innovative techniques: CrossCheck/CrossMark/Funding Data/ORCID/Crossref TDM. Please see our website http://www.zju.edu.cn/jzus for more details.

Note: If you would like to submit your excellent papers to *JZUS-B*, please select the Article Type "CIM&OG" in the Editorial Manager system, and then send a short message simultaneously to jzus_lhf@zju.edu.cn, jzus_b@zju.edu.cn, and qufan43@outlook.com, in order for us to collect all of the issue information correctly. We would be very appreciative of your great support.

Guest Editors:

- Dr. Fan QU, Women's Hospital, School of Medicine, Zhejiang University, China
- Professor Nicola ROBINSON, London South Bank University, UK
- Dr. Paul J. HARDIMAN, Institute for Women's Health, University College London, London, UK

Assistant: Fang-fang WANG, MD, PhD, Women's Hospital, School of Medicine, Zhejiang University, China.
Manuscript Guidelines: http://www.zju.edu.cn/jzus/manuscript.php
Submission Online: http://www.editorialmanager.com/zusb
Submission Deadline: June 30, 2016
Contact: *Guest Editors*: qufan43@outlook.com and Drwangfangfang@zju.edu.cn; *JZUS-B Editorial Office*: jzus_lhf@zju.edu.cn and jzus_b@zju.edu.cn; Tel: +86-571-87952783.

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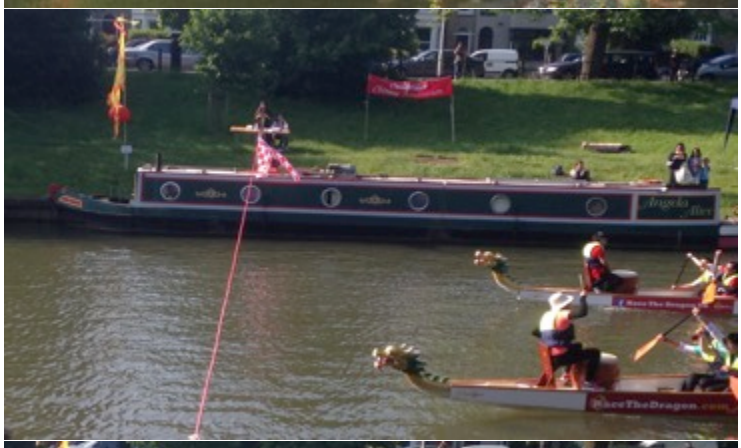

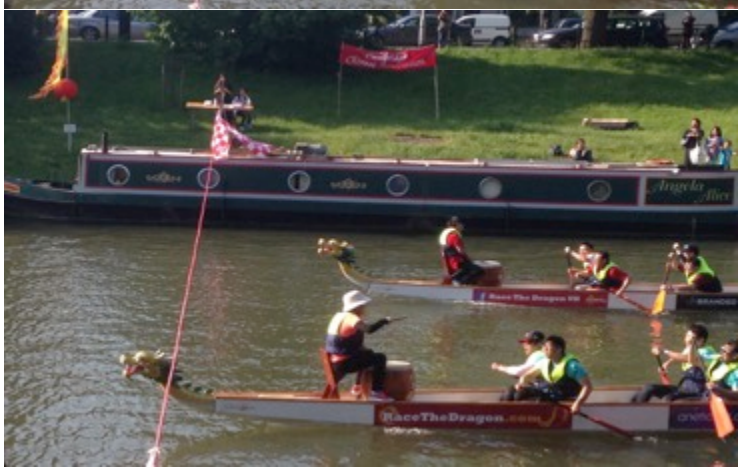

The **Dragon Boat Festival**, also often known as **Duanwu Festival**, is a traditional holiday originating in China, occurring near the summer solstice. It is also known as **Zhongxiao Festival** (忠孝節, *zhōngxiào jiē*), commemorating fealty (忠, *zhōng*) and filial piety (孝, *xiào*). The festival now occurs on the 5th day of the 5th month of the traditional Chinese lunar calendar, which is the source of the festival's alternative name, the **Double Fifth Festival**. In 2013, it fell on June 12; and in 2014, it occurred on June 2. In 2016, it falls on June 9. The focus of most celebrations involves eating *zongzi* (sticky rice treats wrapped in bamboo leaves), drinking realgar wine (雄黃酒, *xiónghuángjiǔ*), and racing dragon boats. The festival is a statutory holiday in China, Hong Kong, Macau, and Taiwan.

https://en.wikipedia.org/wiki/Dragon_Boat_Festival

These photos on the left were taken on River Cam by Tai-Ping Fan at the Cambridge Dragon Boat Race on Sunday 5 June 2016. The photo below show Tai-Ping presenting the trophy to the champions from Chinese Students & Scholars Association in Cambridge University.