

The November 2019 Newsletter of The GP-TCM Research Association

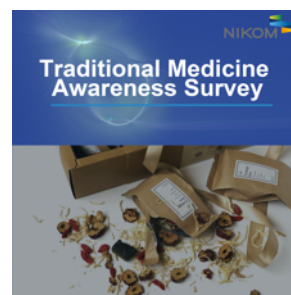


Dear GP-TCM RA Members and Friends,

Greetings from London, Mons, Shiyan and Taichung!

Highlights of the GP-TCM RA Newsletter November 2019:

- Enabling Healthful Aging for All
- A First Look at Voyage of Bencao
- ATCM celebrated its 25th anniversary
- The *Nature* cover page stories from China
- Deficiency in Qi, Blood, Yin and Yang in TCM
- The 3rd issue 2019 of WJTCM now published
- Beyond the genome: RNA control of stem cells
- Cellular RNA surveillance in health and disease
- TCM further incorporated into global medical system
- **TRADITIONAL MEDICINE AWARENESS SURVEY**
- Britain and the EU will remain close even after Brexit
- Drug Regulation in the Era of Individualized Therapies
- Headache: 1 symptom, 12 differential diagnosis in TCM
- Dr Tai-Ping Fan awarded the 2019 Qihuang International Prize
- China to further expand TCM services and improve elderly care
- 7,2000 Chinese classics now digitalised and made open-access
- Biological plasticity rescues target activity in CRISPR knock outs
- The 14th Zhang Zhongjing TCM Cultural Festival held in Nanyang
- CCTV documentary *Chinese Plants That Have Influenced the World*
- China publishes guideline on data management in TCM clinical trials
- The 16th World Congress of Chinese Medicine was held in Budapest
- Drug-induced Liver Injury (DILI) and Herb-induced Liver Injury (HILI)
- From discoveries in ageing research to therapeutics for healthy ageing
- Monthly Chinese Materia Medica Highlights: Chinese and purple foxgloves
- 8 Chinese medical schools delisted from world directory of medical schools
- Network Pharmacology of an Antiarrhythmic Chinese Medicine Xin Su Ning
- The 6th International Conference on the Modernization of TCM held in Chengdu
- China's regulators granted conditional approval to GV-971 for Alzheimer's Disease
- Prof. Tu You you awarded the 2019 UNESCO-Equatorial Guinea International Prize
- Scientists in the UK and China funded to investigate TCM for treatment of lung disease
- Combining the wisdoms of traditional medicine with cutting-edge science and technology
- Guangdong-Hong Kong-Macao Greater Bay Area TCM Development Forum held in Guangzhou



Acknowledgements: Contributions from Prof. **Rudolf Bauer** (Graz), Dr **Chris Chan** (Hong Kong), Dr **Rachel Choi** (Daegu), Prof **Hubiao Chen** (Hong Kong), Prof. **Pierre Duez** (Mons), Dr **Tai-Ping Fan** (Cambridge), Dr **Ping Guo** (Hong Kong), Prof **Jianping Liu** (Beijing), Prof **Jiqing Liu** (Shenzhen), Dr **Elizabeth Qi** (Hong Kong), Dr **Mei Wang** (Leiden), Prof **Xuanbin Wang** (Shiyan), Prof **Vivian Wong** (Hong Kong), Prof **Xu Jin** (Beijing), Dr **Qihe Xu** (London) and Prof **Zhongzhen Zhao** (Hong Kong) are gratefully acknowledged.

Famous paintings of the UK's National Gallery are borrowed from here:

https://mp.weixin.qq.com/s/fc6OF_CgkUZxpHrcF0t1UQ (中文)

https://mp.weixin.qq.com/s/6nzTwQVsNG_Edavc7hEZGg (中文)

Best wishes,

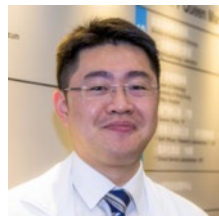
Qihe Xu, London; Pierre Duez, Mons; Yuan-Shiun Chang, Taichung; Xuanbin Wang, Shiyan

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Editorials

1. **Drug-induced Liver Injury (DILI) and Herb-induced Liver Injury (HILI): An Update**



Professor Vivian Taam Wong, BoD Member of the GP-TCM RA, School of Chinese Medicine, University of Hong Kong.

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Background: In June 2019, a paper on DILI in China 2012-14 was published in Gastroenterology (1). Using RUCAM score and Hy's Law on 25927 confirmed cases from 308 medical centres, the incidence was 23.8/100,000 population. It showed TCM+ herbal dietary supplements accounted for 26.8% without a breakdown of prescription TCM, over-the-counter herbal products and combined use with western medicine (WM).

It posed the challenging questions:

- 1) How RUCAM with experts can differentiate effect of CM, WM or IM (Integrative Medicine)?
- 2) How injury occurs in specific populations? (HLA-B*35:01; PD1,PD-L1; oxidative stress or adaptive immune regulation of cytochrome C & mitochondrial function of T lymphocytes)
- 3) What are the clinical presentations in those with pre-existing liver diseases?
- 4) Which drugs are safe in normal population?

DILI Clinical Practice Guideline in EASL (Hepatology 2019): The European Association for the Study of the Liver CPG (2) consists of **32 recommendations and 11 statements**, taking into consideration host-dependent and drug-dependent risk factors. It proposes a stepwise approach to DILI diagnosis, following the sequence of confirming abnormal biochemistry, assessing drug history (including dietary supplement, over-the-counter and herbal medicines), calculating biochemical pattern of liver injury, searching for alternative causes (e.g. viral infection, alcoholic hepatitis, non-alcoholic steatohepatitis) and considering biopsy.

Causality is assessed by: Council for International Organisations of Medical Sciences (CIOMS) scale aka RUCAM, structured expert opinions, assessment of recurrence & re-challenge, genetic testing, and new biomarkers under IMI Safer & Faster Evidence-based Translation (SAFE-T) Consortium; Critical Path Institute's Predictive Safety Testing Consortium (C-Path PSTC)

The severity of DILI is assessed based on the levels of ALT, ALP, TBL and INR, together with the presentation of hepatitis and organ dysfunction. Practical approach to suspicion goes through medical history, case characterization, case investigation, case adjudication, liver biopsy, follow up and therapy by stopping all non-essential drugs and/or steroids.

It emphasizes the **signals for detection & assessment** of DILI in Clinical Trials and Post Marketing Surveillance, covering Hy's & Non Hy's Law, Temple's corollary and PV-RUCAM algorithm with proper reporting of Serious Adverse Events and decision to stop.

The unmet needs are:

- 1) Epidemiology with more accurate risk benefit assessment
- 2) Pathogenesis beyond adaptive immune response, drug-host interaction for idiosyncratic DILI
- 3) Diagnosis: genomics & differentiating biomarkers
- 4) Outcome studies to identify those at risk
- 5) Treatment evaluation from randomised controlled trials
- 6) Prediction algorithm for drug, host & mechanistic factors

HILI Guideline for Diagnosis & Treatment (China CMA 2016): Published by the Committee of Hepatobiliary Diseases and of Chinese Patent Medicines of the China Association of Chinese Medicine (3), it has **9 recommendations**:

- 1) Classification by type of medication (herbal medicine, chemical drugs and biologics)

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- 2) Clinical classification by hepatotoxic mechanism phenotypes, length of disease, injury targets, and TCM syndromes.
- 3) Severity rating from 0 to 5 (death)
- 4) Identification by exclusion, by detailed history, examination, laboratory, imaging +/- histopathology
- 5) Evidence chain: source confirmation, quality & contamination check, metabolites & biomarkers
- 6) Use “Drug-induced Hepatic Injury Questionnaire” with verification of approval number, formulation, purchase source, processing methods, usage & dosage and obtaining left-over medicinal materials for testing.
- 7) Laboratory tests for adulteration, and urine for metabolites & specific markers
- 8) Re-challenge
- 9) Treatment: discontinuation, liver protection, artificial support, transplantation.

CMILI Clinical Practice Guidance from National Medical Products Authority, 2018: In June 2018 Chinese NMPA produced CPG for Chinese Medicine Induced Liver Injury (4) covering **5 domains:**

- 1) Risk Factors: drug, patient, clinical prescription and environmental pollutant.
- 2) Risk Signals: clinical, biochemical, imaging, pathology & biomarkers are assessed based on “ICH preclinical safety assessment” of organ, target, mechanism, pharmacokinetics & pharmacodynamics; and quality, duration, toxicity & effectiveness
- 3) Clinical evaluation includes differential diagnosis, classification, staging, severity rating and assessment of severity in clinical trials
- 4) Causal relationship assessment using biochemistry, chronology, exclusion, tests of product or metabolite, re-evaluation & re-challenge methods; with basic requirement for causality evaluation reports covering drug, dosage, product & corporation.
- 5) Risk management before and after listing includes stopping the drug, the trial & the sale or adjustment of dosage, protocol, informed consent & product specification with reporting to IRB and NMPA.



Beijing Declaration on the Safe Use of Traditional Medicine (TM) 2018:

In September 2018, on behalf of the Consortium for the Safety Study of Traditional Medicine (CSSTM), the Beijing Declaration was published (5), covering:

- 1) Improvement in the level of scientific cognition by eliminating mis-concept of “natural is safe” and avoiding exaggeration of safety
- 2) Avoidance of irrational use or misuse of drugs
- 3) Strengthening research in safety and establishing a safety evaluation system for TM
- 4) Establishment of international standards & guidelines, promoting safety monitoring & risk management throughout life-cycle of TM
- 5) Building global TM safety & risk management information sharing platform

This includes all aspects of safety of TM beyond HILI.

DILI Evaluation for Clinical Trials, AASLD & FDA 2019: In May 2019, the American Association for the Study of Liver Diseases together with Food & Drug Administration (FDA) published guidance for DILI in clinical trials:

- 1) Data collection & instruments for DILI assessment, starts with Hyman Zimmerman’s Law, using “evaluation of drug-induced serious hepatotoxicity e DISH” to help reviewers to select relevant information, while recognizing inadequacy of Common Terminology Consensus for Adverse Events (CTCAE) in grading severity.
- 2) Biological specimens for biomarkers (GWAS, miRNA, metabolome, proteome, CSF1-R/MCSFR1), in phase 1 to 3 trials should be a part of GCP. The European Union’s Innovative Medicines Initiative (IMI), provides long term storage facilities.

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- 3) Collaboration of academics, experts, FDA & regulatory bodies and pharmaceutical industry: International Consortium for Innovation and Quality in Pharmaceutical Development, (IQ); Council for International Organization of Medical Sciences (CIOM); Liver Forum; HBV Forum; TransCelerate Biopharm in USA.
- 4) FDA & Centre for Drug Evaluation & Research (CDER) has FDA guideline to new patients, with analysis of causality, pre-clinical instruments, toxicology profile, & computer modelling, to support scientific & accurate diagnosis, evaluation & management of DILI risks.

Conclusion: The approach to DILI, HILI, CMILI and TM safety in clinical practice and research is being strengthened through international collaboration and private-public partnership. The results of such clinical studies and databases so produced would enhance our approach, instruments and methodology in predicting, detecting and managing DILI in our quest for new drugs.

References

1. Shen T, Liu Y, Shang J, Xie Q, Li J, Yan M, et al. Incidence and Etiology of Drug-Induced Liver Injury in Mainland China. *Gastroenterology*. 2019;156(8):2230-41.e11.
2. EASL Clinical Practice Guidelines: Drug-induced liver injury. *Journal of hepatology*. 2019;70(6):1222-61.
3. 《中草药相关肝损伤临床诊疗指南》，中华中医药学会, 1st April 2016.
4. 《中药药源性肝损伤临床评价技术指导原则》，国家药品监督管理局, 19th June 2018.
5. Xiao-he Xiao, Hervé Louet, Victor Navarro, Ikhlas Khan, Xiu-hui Li, Jia-bo Wang, on behalf of the Consortium for the Safety Study of Traditional Medicines(CSSTM). Beijing Declaration on the Safe Use of Traditional Medicines[J]. *Acta Pharmaceutica Sinica*, 2018, 53(11): 1930-1930.
6. “寻找当前指南的不足：临床试验中新药相关或有基础肝病的药物性肝损伤的评估” College Park Conference Center, University of Maryland, 7-8 May 2019.

Report from GP-TCM RA

Now 1. **The 53rd GP-TCM RA Board of Director and Interest Group Co-Chairs meeting was held as a Skype teleconference on 6th November 2019.** The meeting hosted by Dr Clara Lau (Secretary-General) and chaired by Prof Aiping Lu (President) was attended by executive council members Prof Monique Simmonds (President-Elect) and Dr Tai-Ping Fan (Past President and Treasurer), as well as Board members Prof Vivian Wong, Prof Rongrong He and Dr Qihe Xu. Apologies were received from Apologies from BoD members Prof Rudolf Bauer, Prof Pierre Duez Prof Thomas Efferth, Prof Rob Verpoorte and Prof Min Ye, as well as IG chairs Prof Zhaoxiang Bian, Prof Nicola Robinson, Dr Mei Wang and their co-Chairs. The meeting approved the minutes approval of the 52nd meeting and received an update from the Secretariat updates on membership (Clara) and a Treasurer's update from Tai-Ping. Bank and account management and audit issues were thoroughly discussed and Tai-Ping and Monique were appointed counter-signatories of GP-TCM RA cheques. Preparation of the 8th GP-TCM RA Annual meeting in 2020 (hosted by Vytautas Magnus University, Kaunas, Lithuania) and the 9th GP-TCM RA Annual meeting in 2021 was updated and financial status of the 6th Annual Meeting was reported by Monique. It was confirmed that abstracts of the 7th GP-TCM RA Annual meeting will be published in *World Journal of Traditional Chinese Medicine*, the official journal of the GP-TCM RA, in December. The meeting received an update of the set-up of 7th Interest Group on Good Clinical Practice Guidelines from Vivian and related matters were discussed. Rob reported through e-mail his thoughts on organising training courses on good practice guidelines and this will be discussed at a future meeting.

Special Features

Now 1. **Prof. Tu Youyou was awarded the 2019 UNESCO-Equatorial Guinea International Prize for Research in the Life Sciences for her outstanding contributions to fighting against parasitic diseases.** The award was announced in Paris on 22nd October 2019, and went to Prof Tu and two other scientists from the USA and Ireland, respectively.



https://kuaibao.qq.com/s/20191023AZP3AW00?refer=kb_news&omgid (中文).

http://www.xinhuanet.com/english/2019-10/22/c_138494299.htm

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2. Warmest congratulations go to Dr Tai-Ping Fan, Past-President, Treasurer, Board of Directors and Executive Council Member of the GP-TCM RA, for being awarded **the 2019 Qihuang International Prize** by the China Association of Chinese Medicine! Dr Fan, University of Cambridge, was awarded the prize along with Prof Alan Bensoussan, Western Sydney University. The award was announced along with TCM research achievement awards to teams of GP-TCM RA President **Prof Aiping Lu** (Hong Kong), Interest Group Chairman **Prof Zhaoxiang Bian**, GP-TCM RA Newsletter Editorial Board Member **Prof Weidong Zhang** (Shanghai) and Institution Member **Prof Chuanjian Lu** (Guangzhou), as well as Young Innovative Talents Prize awarded to BoD member **Prof Rongrong He** and Former IG Co-Chair **Dr Fan Qu**. Among GP-TCM RA BoD members and Interest Group Co-Chairs, we now have seven awardees of the prestigious Qihuang International Prize. They are Dr Tai-Ping Fan (2019), Dr Mei Wang (2018), Prof Thomas Efferth (2017), Prof Rob Verpoorte (2017), Prof Rudold Bauer (2016), Prof Gerhard Franz (2016) and Prof Lixing Lao (2015). **We are so proud of you all!**



<https://mp.weixin.qq.com/s/Y8YARhkAb0uxNvnS5lwLKQ> (中文).



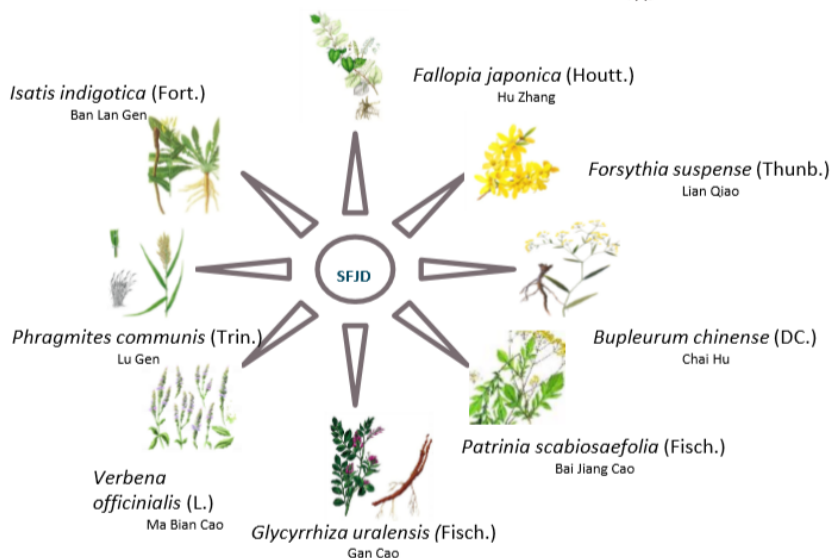
3. Innovate-UK and the Ministry of Science and Technology of the People's Republic of China award grant to investigate Traditional Chinese Medicine for treatment of lung disease.



A group photo taken at a Project Meeting at the First Affiliated Hospital of Anhui Medical University, Hefei (China) on Saturday 12th October 2019

A team of nine researchers from the University of Southampton Global-NAMRIP (Global Network for Antimicrobial Resistance and Infection Prevention) group has been visiting colleagues in China to launch a new collaborative project. They will investigate Traditional Chinese Medicine for the treatment of flare-ups of the chronic lung disease COPD (Chronic Obstructive Pulmonary Disease). COPD affects over one million patients in the UK and about 100 million patients in China, and flare-ups are usually treated with antibiotics and steroids. Prof Michael Moore and colleagues at the

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An illustration of 'Shufeng Jiedu' composition of 8 herbs

“Shufeng Jiedu”. This combination of eight traditional herbs will be given alongside conventional treatment, to see whether it will help COPD patients with flare-ups to improve faster, and reduce the need for antibiotics.

Prof Tom Wilkinson and his team will test the effects of the herbs in human lung tissue in their laboratory, while Prof Moore and the SCTU team will test the feasibility of running a clinical trial of Shufeng Jiedu to treat patients with COPD flare-ups in Wessex. Prof Yujing Shi, Dr Jie Su and their team from China Academy of Chinese Medical Sciences and Shanghai Tech University will establish COPD animal models and in vitro evaluation models with drug-resistant bacterial infections and investigate the antibacterial mechanism of Shufeng Jiedu combined with antibiotics for COPD using these models. The full clinical trial of Shufeng Jiedu to treat patients with COPD in China managed by BUCM in collaboration with the Clinical Research department of Jiren pharmaceuticals, and the 1st Affiliated Hospital of Anhui Medical University. Dr Xiao-Yang Hu (Southampton) and Prof Liu (BUCM) are leading a review of the literature about the herbal medicine and all its components – preliminary results from this suggest the medicine is safe and could help patients with COPD flare-ups to recover faster.

The UK team was invited by Prof Jianping Liu and Prof Yutong Fei (BUCM) to visit his Centre for Evidence Based Chinese Medicine and two hospitals where his group will also be running a clinical trial of the same medicine in China. Prof Gareth Griffiths and colleagues at SCTU ran a one-day training session for BUCM on management of clinical trials, to ensure a high standard of clinical trials in both collaborating countries. The Southampton team visited the modern factory making Shufeng Jiedu capsules in Bozhou, a historic city in Anhui province, where Chinese herbal medicine has been prepared for over 2000 years, and which has the largest Chinese medicine market in the world.

4. The 6th International Conference on the Modernization of Traditional Chinese Medicine was successfully held in Chengdu, Sichuan, China on October 21-22, 2019. It was co-sponsored by Sichuan Provincial Government, Ministry of Science and Technology, State Administration of TCM, Ministry of Education, Ministry of Industry and Information Technology, State Ethnic Affairs Commission, Ministry of Agriculture and Rural Affairs, National Health Commission, National Forestry and Grassland Administration, National Intellectual Property Administration, Chinese Academy of Sciences, Chinese Academy of Engineering, National Medical Products Administration, and National Natural Science Foundation of China. Many senior GP-TCM RA members played leading roles in the meeting. Founding GP-TCM RA Institution Member Chengdu University of TCM (CDUTCM) and its affiliated hospitals hosted 2 successful meeting panels.

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Prof. Cheng Peng, Vice President of CDUTCM and Prof. Rudi Bauer (Founding President & Current BoD Member of the GP-TCM RA) co-chaired the panel 2, under the theme “Sustainable Innovation Development of Chinese Medicinal Material Resources.” Besides the two co-chairs, the panel received excellent contributions from GP-TCM RA Honorary Member and Regulatory Interest Group Co-Chair Prof. Gerhard Franz, Past BoD Member Prof. Kelvin Chan and Regulatory Interest Group Chair Dr. Mei Wang.



Prof. Chunguang Xie (President of the CDUTCM Affiliated Hospital) chaired panel 6, which featured TCM prevention of major disease and evidence-based medicine. Dr Qihe Xu, Newsletter Editor-in-chief and BoD Member of the GP-TCM RA co-chaired a session of the panel 6 and delivered an invited speech entitled “Traditional Chinese Medicine for the Prevention and Treatment of Acute Kidney Injury: Where are we? Where are we going?” Dr Xu and a few other invited speakers accepted guest professorship of the CDUTCM Affiliated Hospital and have been invited to join the editorial board of the Journal of CDUTCM.

5. Changyang Tujia Autonomous County: the ambitious plan of TCM seed cultivation resource center was passed by the experts. (Contributed by Dr. Xiaojun Li, photograph on the



left, Vice magistrate of Changyang Tujia Autonomous County) On November 9, 2019, a long-term development plan of traditional Chinese medicine industry in Tujia Autonomous County, Hubei Province, central part of China, was passed by the experts. Such an ambitious plan (from 2020 to 2030) was considered as a rapid response to the recently published ‘Guidelines of the CPC Central Committee and the State Council on promoting the inheritance, innovation and development of traditional Chinese medicine’, and the one of the constructive strategies to reduce rural poverty-stricken.

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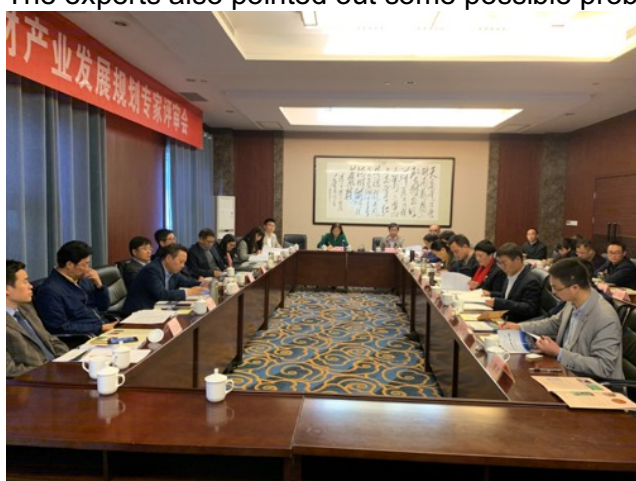


Changyang, a rural county located in Yichang City, west of Hubei Province, is a good geographically enough to plant a variety of TCMs, including *Chaenomeles speciosa* (Sweet) Nakai (known as Zhoupi mugua in Chinese) and *Angelica pubescens* Maxim. f. *biserrata* Shan et Yuan (known as Duhuo in Chinese). The County is also known as its Tujia minority ethnomedicines.

There are 980 species of animal and plant resources of TCM in Changyang, in which 30 species are planted in a large production. The TCM annual output value reaches one billion RMB in the county.

According to Dr. Xiaojun Li, vice magistrate of the county, they have cooperated with the expert teams of the Chinese Academy of Chinese medicine (Prof. Shilin Chen), Hubei University of TCM, South-Central University for Nationalities, and Three Gorges University. The new plan will include developing a large seed resource center of TCM in Central China, a state good seed cultivation base, and a systematic industrial chain of TCM manufacturing, and so on. They estimated the TCM value would reach up to 10 billion RMB in 2030.

Chaired by Prof. Jianguo Chen, pharmacy expert of Huazhong University of Science and Technology, the nine experts from organizations and institutions including Chinese Medicine Experimental Pharmacology Branch of Chinese Association of Chinese Medicine, and Hubei Pharmacological Society, reviewed and approved the plan carefully. They agreed that the plan has made good use of the county's social, geographic and environmental resources, and followed the national strategies of TCM and rural revitalization completely, which would be constructive and suitable for the county. The experts also pointed out some possible problems and challenges for the government.



Left. Review meeting for the 2020 to 2030 Development Plan on TCM Industry in Changyang

Right. *Chaenomeles speciosa* (Sweet) Nakai (皱皮木瓜), a local Chinese medicine in Changyang

6. A First Look at Voyage of Bencao. Prof. Zhongzhen Zhao, translated by Elizabeth Ren Qi.



《本草无疆》, or Voyage of Bencao, is a documentary series with four episodes and a total run time of 200 minutes. This series was developed under the guidance of the National Administration of Traditional Chinese Medicine with the China Press of Traditional Chinese Medicine, School of Chinese Medicine Hong Kong Baptist University, Sichuan Neo-Green Pharmaceutical Technology Development Co., and Ltd., Shenzhen Huguwen Media Co., Ltd. The series is a jointly produced documentary of traditional Chinese medicine on the international scale.

Voyage of Bencao is a record of the globalization of traditional Chinese medicine throughout history and various countries. Following the Belt and Road of ancient times into the modern one, the film

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follows the stories of traditional medicine at home and abroad. The production team traveled far and wide to the New York, Los Angeles, and Portland in the United States of America; to Oxford in England; to Tokyo and Yokohama in Japan; to Paris in France; to India; and Hong Kong and various provinces in China.

The production team has collected into this documentary a series of stories and considerations for the future, exploring the various places traditional Chinese medicine and the Chinese people have taken root. These are the stories of Chinese people struggling to share traditional Chinese medicine with the world and the world history of the development of traditional Chinese medicine.

“Why did we decide on the title 《本草无疆》 *Bencao Wujiang*?”

Bencao (本草) is synonymous with the study of traditional Chinese medicines. Bencao encompasses a wealth of knowledge, such as medicine, pharmacy, history, and even culture.

This series was filmed in commemoration of the 500th anniversary of the birth of Li Shizhen, the author of 《本草纲目》 *Bencao Gangmu* or the Compendium of Materia Medical. This compendium is a bridge connecting the East and West and a link from the ancient world to modern times.

Wujiang (无疆) affirms this film will explore both time and space—an exploration without borders.

For the English name, we have chosen *Voyage of Bencao*. We are exploring the history of Chinese medicine and China’s exchange with the outside world. This series is a voyage of exploration and discovery. Even today, our voyage continues.”

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<https://mp.weixin.qq.com/s/Yaer6XXzjlfkWwaXVKzsqq> (中文)



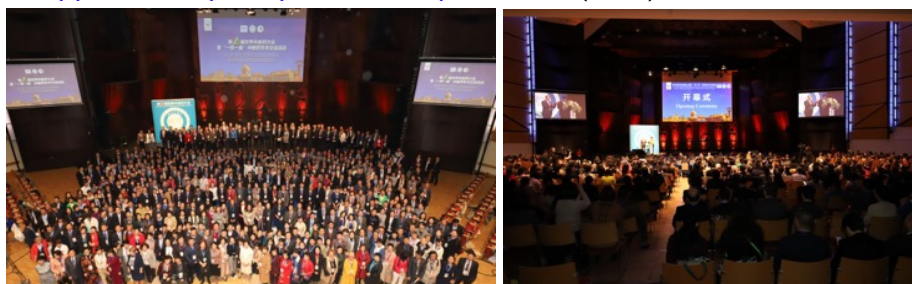
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Pictorial Brief Meeting Reports

1. The 16th World Congress of Chinese Medicine was held in Budapest, Hungary 8th-9th November 2019. The meeting organised by World Federation of Chinese Medicine Societies received 257 abstracts and attracted more than 800 attendees from over 30 countries and regions, and was featured by 170 oral presentations and 21 parallel sessions.

<https://mp.weixin.qq.com/s/h1pArMpSssJdHaeq0NwRGQ> (中文)



2. The 6th Meeting of the WFCMS TCM Pharmacognosy Speciality Committee was held in Hangzhou, Zhejiang, China, on 23-25 Oct. 2019 (Left, below, Photo by Prof Zhongzhen Zhao).

3. Guangdong-Hong Kong-Macao Greater Bay Area TCM Development Forum was held in Guangzhou, China, on 7 Nov. 2019 (Right, below, Photo by Prof Zhongzhen Zhao).



4. The 14th Zhang Zhongjing TCM Cultural Festival and the Healthy Henan Summit 2019 were held on 26-28 October in Nanyang, Henan, hometown of the TCM Sage. The meetings attracted almost a thousand attendees from 19 countries and regions.

<https://mp.weixin.qq.com/s/V2QHP5qwDTgWTAoqfkjngQ> (中文)



5. The Association of Traditional Chinese Medicine and Acupuncture UK (ATCM) celebrated its 25th anniversary. The celebration was held in London and was attended by 150 ATCM members and representatives of sister organisations and stakeholders.

http://www.52hrt.com/websevicepage_getInformationPage.do?id=H1571138551519 (中文)



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European Reports

1. Makowski EY. Increase in Academics Leaving the UK Since Brexit Vote. *The Scientist* 31st October 2019. After the 2016 Brexit referendum, in which voters decided to have the UK leave the European Union, the number of academics from EU countries leaving the United Kingdom for other university jobs increased by almost half, according to *Times Higher Education*. Data from the UK's Higher Education Statistics Agency show that from January to December 2017, 500 academics in the UK from other EU countries moved to different university jobs abroad, a sharp increase from 340 the year before. Meanwhile, the number of non-EU academics leaving the UK for university jobs elsewhere increased by 15 percent in 2017. Additionally, the number of EU academics leaving the UK for schooling or non-university positions increased by 43 percent, a jump twice as much as the increase in departures for non-EU nationals. "In some aspects, the delay to the exit from the EU is the problem," says Giulio Marini, a research associate at the University College London Institute of Education to *Times Higher Education*, adding that some academics are not taking jobs due to "uncertainty" over the UK's access to funding and infrastructure in the EU. Research funding from the European Union has fallen by 28 percent in the United Kingdom since 2015, a drop of more than \$509 million, according to a report by the Royal Society on October 16...



<https://www.the-scientist.com/news-opinion/increase-in-academics-leaving-the-uk-since-brexit-vote-66656?utm>

2. Britain and the EU will remain close even after Brexit. *The Economist* Oct 31st 2019. To understand the forces pushing them to co-operate, consider the Netherlands... Taken together, these principles point to a conclusion as seemingly improbable as it is inexorable: the momentum does not necessarily favour divergence; perhaps quite the opposite. Britain and continental Europe may end up closer, in some form, in the future than looks likely now...

<https://www.economist.com/europe/2019/10/31/britain-and-the-eu-will-remain-close-even-after-brexit>

Reports on China and China's International Cooperation

1. China's regulators granted conditional approval to GV-971 for Alzheimer's Disease on 2nd Nov. 2019. The drug is a low molecular acid oligosaccharide compound extracted from marine brown algae, according to the Chinese regulator's statement. The regulator said it requires further studies on the drug's pharmacology, safety and effectiveness after it's launched to the market. Professor Geng Meiyu at the Chinese Academy of Sciences Shanghai Institute of Materia Medica is the drug's lead inventor, the company said.

<https://www.bloomberg.com/news/articles/2019-11-02/shanghai-green-valley-wins-china-approval-for-alzheimer-s-drug>

<https://edition.cnn.com/2019/11/03/health/china-alzheimers-drug-intl-hnk-scli/index.html?utm>

<https://mp.weixin.qq.com/s/57vPAP-XKQdW4azT8Hyjag> (中文)

Related comments and commentaries:

- Fang Zouzi calls for caution: <https://m.weibo.cn/status/4435227528912584> (中文)
- Servick K, Normile D. **Alzheimer's experts greet China's surprise approval of a drug for brain disease with hope and caution.** *Science* Nov. 5, 2019. A Chinese biotech startup has startled neuroscientists and drug developers with a new plant-based compound it claims improves cognitive function in Alzheimer's patients by altering their gut microbiomes. In mouse studies published earlier this year, this approach reduced inflammation in the brains of rodents engineered to develop Alzheimer's-like pathology. The drug's backers also claim a phase III clinical trial of about 800 people "demonstrated solid and consistent cognition improvement" among those treated versus a control group. Though not yet published, the results convinced

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China's drug regulator last week to approve the marketing of the drug, known as GV-971, with the condition that additional data be gathered to demonstrate safety and efficacy.

<https://www.sciencemag.org/news/2019/11/alzheimer-s-experts-greet-china-s-surprise-approval-drug-brain-disease-hope-and-caution>

<https://mp.weixin.qq.com/s/LALmHzgoyfsuGrQWGo9uWw> (中文)

• Makowski E. **Scientists Criticize Mouse Study of New Alzheimer's Drug.** *The Scientist*. 13/11/19. <https://www.the-scientist.com/news-opinion/scientists-criticize-mouse-study-of-new-alzheimers-drug-66720>

<http://www.ebiotrade.com/newsf/2019-11/20191114170134235.htm>

(中文)

2. Su Y. Opening-up and Development Forum held in Beijing. CGTN.com. 30 October 2019. "As China has become the top trading partner with over 120 countries and regions and one of the largest recipients of FDI, its phenomenal growth has also provided great opportunities to the rest of the world. According to the World Bank, China has been the largest single contributor to the world growth since the global financial crisis in 2008, contributing 27.5 percent of global economic growth in 2018." <https://news.cgtn.com/news/2019-10-30/Opening-up-and-Development-Forum-held-in-Beijing-LcVcDY7Eek/index.html>

3. China to further expand TCM services and improve elderly care. BEIJING, Nov. 2, 2019 (Xinhua) - Chinese citizens are expected to be able to enjoy traditional Chinese medicine (TCM) services in their communities by 2022. Efforts will be made to ensure all community health service centers and township clinics in the country offer TCM services by 2022, according to a guideline released by the Communist Party of China Central Committee and the State Council. China's National Health Commission and seven other authorities on Friday jointly issued the country's first guideline on improving the elderly care system. The guideline requires that over 80 percent of the country's general hospitals, rehabilitation facilities, nursing homes and primary-level healthcare institutions are age-friendly by 2022. http://www.china.org.cn/china/Off_the_Wire/2019-11/02/content_75366796.htm

4. Tsinghua University unveils research center on big data intelligence. BEIJING, Sept. 25, 2019 (Xinhua): http://www.xinhuanet.com/english/2019-09/25/c_138421861.htm

5. Still remember? The *Nature* cover page stories from China. 2019 marks the 150th anniversary of the *Nature* magazine. In celebration of this great occasion, *Nature* research highlights the research from China that have been featured on the cover page of the journal since 2000... <https://mp.weixin.qq.com/s/dZNo5U9p4CViqvHWRaJlJA> (中文)

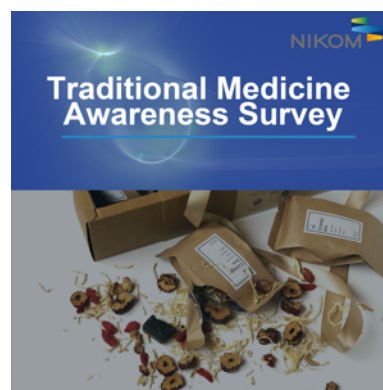
6. 7,200 Chinese classics are now open-access. <https://mp.weixin.qq.com/s/xMeCxtlmdcXK6sFibXYSow> (中文)

7. CCTV: Chinese Plants That Have Influenced the World. <https://mp.weixin.qq.com/s/tlJwwDvvNZGdza-uumNohg> (中文)

Acupuncture, TCM and Other Traditional Medicine

1. TRADITIONAL MEDICINE AWARENESS SURVEY. National Institute for Korean Medicine Development (NIKOM) is conducting a simple survey to know how traditional medicine professionals think about current status of TM in the global market. If you are willing to spend 5 mins, click the link below to participate in the online survey!

https://docs.google.com/forms/d/e/1FAIpQLSfnVcPumSSVZwH0VJQ5_DnNey1wSfckB-wwqFYni3vY_HdUOA/viewform



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- 2. Efferth T, Xu AL, Lee DYW. Combining the wisdoms of traditional medicine with cutting-edge science and technology at the forefront of medical sciences.** *Phytomedicine* 2019;64:153078. A new consortium has been formed at a conference of the Harvard Medical School, Boston, on October 29–30, 2018. The main goal was to build a collaborative platform for the scientific investigation of traditional medicine with cutting edge sciences and technologies at the forefront of biomedicine. Involving scientist from Harvard, Beijing University of Chinese Medicine, Chinese Academy of Sciences, Hong Kong Baptist University and Johannes Gutenberg University, the consortium will annually meet at the Harvard Medical School and Beijing University of Chinese Medicine. <https://www.sciencedirect.com/science/article/pii/S0944711319302430?via%3Dihub>
- 3. Ye J et al. Discovery and research advances in quality markers of Chinese materia medica based on holistic characteristics.** *Zhong Cao Yao* 2019;50(19):4529-4537. https://mp.weixin.qq.com/s/SroHi_exJSYKBoZWldojvA (中文)
- 4. Zhu S. Headache: 1 symptom, 12 differential diagnosis in TCM.** *Yidaoliufang WeChat* 19th October 2019: <https://mp.weixin.qq.com/s/whuwoF0xsNLojFDpZUqDCw> (中文)
- 5. TCM further incorporated into global medical system.** BEIJING, Nov. 8 2019 (Xinhua) -- A total of 45 international standards for traditional Chinese medicine (TCM) have been issued by the ISO/TC249, a technical committee within the International Organization for Standardization (ISO),... http://www.china.org.cn/china/Off_the_Wire/2019-11/08/content_75388547.htm
- 6. New TCM institute founded in Luohu,.** *China.org.cn*, November 8, 2019. The opening ceremony for the Jinhe Traditional Chinese Medicine Institute was held at a new venture incubator in Luohu, Shenzhen, Guangdong Province, on Nov. 5 2019... http://www.china.org.cn/china/2019-11/08/content_75388477.htm
- 7. Chinese medicinal material price index up 0.16 pct.** HEFEI, Nov. 8, 2019 (Xinhua) -- The Kangmei Chinese medicinal material price index, a barometer of the TCM material market, rose 0.16 percent to 1,232.11 points on Friday. Covering more than 500 TCM materials including herbs and minerals from six major markets nationwide, the closely-watched index reflects the overall price trend in the country's TCM material market. It is released daily by Kangmei Pharmaceutical Co., Ltd, one of China's major TCM companies. The index was approved by the National Development and Reform Commission of China in 2012 to offer more timely and accurate reference for TCM material growers, traders and pharmaceutical companies. http://www.china.org.cn/china/Off_the_Wire/2019-11/08/content_75387733.htm
- 8. Wang Y et al. Research progress on chemical composition and pharmacological effects of Rhei Radix et Rhizoma and predictive analysis on quality markers.** *Zhong Cao Yao* (Chinese Traditional and Herbal Drugs) 2019;50:4821-4837. <https://mp.weixin.qq.com/s/qICBWq2CldqxP4Av11jxA> (中文) http://www.tiprpress.com/zcy/ch/reader/view_abstract.aspx?file_no=20191934&flag=1 (中文)
- 9. Guan X et al. Advances in research on chemical constituents and pharmacological effects of Paris genus and prediction and analysis of quality markers.** *Zhong Cao Yao* (Chinese Traditional and Herbal Drugs) 2019;50:4838-4852. <https://mp.weixin.qq.com/s/XV4XzPY89dfq8YEyqVK59g> (中文) http://www.tiprpress.com/zcy/ch/reader/view_abstract.aspx?file_no=20191935&flag=1 (中文)
- 10. China publishes guideline on data management in TCM clinical trials.** Experts from China Association of Chinese Medicine and WFCMS Data Monitoring Committee Speciality Committee led the development and publication of this guideline.



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<https://www.zhzyw.com/zyxx/zyxw/19103014161BFIBA1FH5FK9J2.html> (中文)

http://share.591adb.com/sharearticle/article/article_id/2818692/app_key/e70891ddafa5e012828c143390cdad9e (中文)

11. Gwang-seok C. 8 Chinese medical schools delisted from world directory of medical schools. *Korea Biomedical Review*. 07/11/2019.

<http://www.koreabiomed.com/news/articleView.html?idxno=6769>

Comments by China's Ministry of Education: "It will not affect the position of TCM universities and colleges in China": https://mp.weixin.qq.com/s/jnjdESWkFMHGHm1p_pMzwg (中文)

Commentary by Xiaochuan Pan "Opportunity rather than crisis":

<http://dy.163.com/v2/article/detail/EU98AK2A0514R9KE.html> (中文)

12. Helveston J, Nahm J. China's key role in scaling low-carbon energy technologies.

Science 2019;366:794-796. Meeting the goals of the Paris Agreement will require net zero greenhouse emissions by 2050 and substantial reductions before then. It will also require collaboration with China, which has emerged as the global leader in the mass production of low-carbon energy technologies... <https://science.sciencemag.org/content/366/6467/794?utm>

13. Deficiency in Qi, Blood, Yin and Yang in TCM:

https://www.toutiao.com/i6747951138072429064/?app=news_article (中文)

14. Wang T, et al. A Network Pharmacology Study of the Multi-Targeting Profile of an Antiarrhythmic Chinese Medicine Xin Su Ning. *Front Pharmacol*. 2019;10:1138.

<https://www.frontiersin.org/articles/10.3389/fphar.2019.01138/full>

Omics in Progress

1. Xi H, Pyle A. Beyond the genome: RNA control of stem cells. *Science* 2019;366:684-5. ..., de Morree *et al.* characterize the underlying mechanisms that control muscle stem cell (MuSC) behavior in mice. Unexpectedly, they show that multiple species of RNAs coordinately confer precise regulation of quiescence and proliferation in MuSCs under homeostatic conditions.

<https://science.sciencemag.org/content/366/6466/684.full>

2. Wolin SL, Maquat LE. Cellular RNA surveillance in health and disease. *Science*. 2019; 366: 822-827. The numerous quality control pathways that target defective ribonucleic acids (RNAs) for degradation play key roles in shaping mammalian transcriptomes and preventing disease. These pathways monitor most steps in the biogenesis of both noncoding RNAs (ncRNAs) and protein-coding messenger RNAs (mRNAs), degrading ncRNAs that fail to form functional complexes with one or more proteins and eliminating mRNAs that encode abnormal, potentially toxic proteins.



Mutations in components of diverse RNA surveillance pathways manifest as disease. Some mutations are characterized by increased interferon production, suggesting that a major role of these pathways is to prevent aberrant cellular RNAs from being recognized as "non-self." Other mutations are common in cancer, or result in developmental defects, revealing the importance of RNA surveillance to cell and organismal function.

<https://science.sciencemag.org/content/366/6467/822?utm>

3. Smits AH, et al. Biological plasticity rescues target activity in CRISPR knock outs. *Nat Methods* 2019;16:1087–1093. One third of verified gene knock outs with CRISPR still show residual protein expression owing to translation reinitiation or exon skipping. Several proteins are still functional. The authors call for a systematic analysis of protein levels after genome editing.

<https://www.nature.com/articles/s41592-019-0614-5>

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Other Recommended Readings



NEW 1. Yin J, et al. **A green tea–triggered genetic control system for treating diabetes in mice and monkeys.** *Science Translational Medicine*, 2019; 11(515): eaav8826.

<https://stm.sciencemag.org/content/11/515/eaav8826>

https://mp.weixin.qq.com/s/wl_Qw9k5ofbeweLdrUTK1Q (中文)

NEW 2. Dzau VJ et al. **Enabling Healthful Aging for All — The National Academy of Medicine Grand Challenge in Healthy Longevity.** *N Engl J Med* 2019; 381:1699-1701. Recognizing that aging presents a defining challenge for this century, the National Academy of Medicine is launching a Healthy Longevity Global Grand Challenge, an international effort directed at improving health, productivity, and quality of life for older people.

<https://www.nejm.org/doi/full/10.1056/NEJMp1912298?query=TOC>

NEW 3. Woodcock J and Marks P. **Drug Regulation in the Era of Individualized Therapies.** *N Engl J Med* 2019;381:1678-1680. ...In

these “N-of-one” situations, what type of evidence is needed before exposing a human to a new drug? Even in rapidly progressing, fatal illnesses, precipitating severe complications or death is not acceptable, so what is the minimum assurance of safety that is needed? How persuasive should the mechanistic or functional data be? How should the dose and regimen be selected? How much characterization of the product should be undertaken? How should the urgency of the patient’s situation or the number of people who could ultimately be treated affect the decision-making process? In addition, how will efficacy be evaluated? ...

<https://www.nejm.org/doi/full/10.1056/NEJMe1911295?query=TOC>

NEW 4. Wong W. **A smoky path to diabetes.** *Science Signaling* 2019;12:eaaz9013. Nicotine, the addictive component of tobacco, increases blood glucose levels, and longtime smokers have an increased risk of developing type 2 diabetes (T2D) compared with nonsmokers. Duncan et al. (see also Bruschetta and Diano) uncovered a circuit that could potentiate nicotine addiction involving the transcription factor TCF7L2 in the brain and pancreas...

<https://stke.sciencemag.org/content/12/604/eaaz9013?utm>

<https://www.nature.com/articles/s41586-019-1653-x.pdf?origin=ppub>

<https://www.nature.com/articles/d41586-019-02975-w>

NEW 5. Nobel winner William Kaelin’s lab rules and his warnings on scientific publication

<https://mp.weixin.qq.com/s/MT4prAvk08s2jfr31NVwpw> (中文)

<https://mp.weixin.qq.com/s/7Lo5-MZfWPuPcsX19ADdAQ> (中文)

<https://www.nature.com/articles/545387a>

NEW 6. HuBMAP Consortium. **The human body at cellular resolution: the NIH Human Biomolecular Atlas Program.** *Nature* 2019; **574**:187–192.

<https://www.nature.com/articles/s41586-019-1629-x?from=groupmessage&isappinstalled=0>

<https://commonfund.nih.gov/hubmap>

NEW 7. Campisi J et al. **From discoveries in ageing research to therapeutics for healthy ageing.** *Nature* 2019, doi:10.1038/s41586-019-1365-2.

<https://www.nature.com/articles/s41586-019-1365-2>

<https://mp.weixin.qq.com/s/oQJZcTcXwShpeti2G9EaGw> (中文)

NEW 8. Tardif JC et al. **Efficacy and Safety of Low-Dose Colchicine after Myocardial Infarction.** *N Engl J Med* November 16, 2019 DOI: 10.1056/NEJMoa1912388. Colchicine is an inexpensive,

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orally administered, potent antiinflammatory medication that was initially extracted from the autumn crocus and has been used for centuries...

<https://www.nejm.org/doi/full/10.1056/NEJMoa1912388>

Invitation from Future Meetings

1. **The 8th GP-TCM RA Annual Meeting will be held in Vytautas Magnus University, Kaunas, Lithuania.** More information will be published in the near future.

<https://www.vdu.lt/en/vmu-will-host-the-annual-meeting-of-traditional-chinese-medicine/>

2. **The 6th World TCM Summer Summit will be hosted by Hong Kong Registered Chinese Medicine Practitioners Association (HKRCMP).** For an introduction of HKRCMP and TCM in Hong Kong, please watch the film below.

https://drive.google.com/file/d/1KbPcYUMwS88YepXulryvfD_RPmPkyx7i/view

3. **13th European Congress of Integrative Medicine announces 2020 will be held in London, UK, 11-13 September 2020.** The congress will be held at the prestigious Queen Elizabeth II Centre in London, the largest dedicated conference, events and exhibition space in central London. Located less than five minutes' walk from the Houses of Parliament, the venue is perfectly positioned to house delegates from across Europe and the rest of the world. The following video gives you a good taste of the prime location www.ecimcongress.com/video

Organised on behalf of The European Society for Integrative Medicine and in association with the National Centre for Integrative Medicine (NCIM), The College of Medicine, the University of Southampton and the Academy of Integrative Health & Medicine (AIHM). Featuring world-class experts presenting the latest research and success stories in clinical care, alongside poster sessions and an international exhibition, the congress aims to bring together medical practitioners, healthcare professionals, scientists, researchers, therapists and healthcare politicians from across the globe. All interested parties are invited to register their interest via the website www.ecimcongress.com or by emailing the organisers at info@ecimcongress.com. For more information, please visit: www.ecimcongress.com



Invitation from Journals

1. **World Journal of Traditional Chinese Medicine: Sincere invitation for submissions.** World Journal of Traditional Chinese Medicine (ISSN 2311-8571, CN10-1395/R) is sponsored by WFCMS, and is the official journal of GP-TCM RA. WJTCM dedicates to report the research progress in clinical efficacy and action mechanism of TCM, Chinese materia medica, acupuncture and moxibustion to doctors and biomedical researchers around the world, so as to provide new thoughts and methods for solving complex diseases and knotty diseases. To submit your manuscripts, or to read articles in the past issues, please visit: <http://www.wjtcn.net>

Now The 3rd issue 2019 of WJTCM has now been published. All WJTCM articles are published online in WJTCM website: <http://www.wjtcn.net/currentissue.asp?sabs=n>

Sounding Board:

1. This column is reserved for comments, personal views, proposals for collaborations or any other features from our readers across the world. We look forward to hearing from you! Please get in touch with your editors: Dr Qihe Xu (qihe.xu@kcl.ac.uk), Prof Pierre Duez (pierre.duez@umons.ac.be), Prof Yuan Shiun Chang (yschang0404@gmail.com) and Prof Xuanbin Wang (459560483@qq.com).

Now 2. Advised by Prof Zhongzhen Zhao, an Editorial Board member of our Newsletter, we have decided to highlight a couple of medicinal plants used in TCM in a new column, starting from October 2019. It will feature beautiful photos of the plants by Prof Hubiao Chen, an English introduction to the plants and its medicinal use in TCM by Prof Ping Guo, as well as Chinese poems on the plants by Prof Jiqing Liu. Please read on. The last page will be the best yet to come...

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Monthly Chinese Materia Medica Highlights

Chinese foxglove (*Rehmannia glutinosa*, Scrophulariaceae, 地黄, left) and
purple foxglove (*Digitalis purpurea*, Scrophulariaceae, 洋地黄, right)



Native to China, Chinese foxglove reflects the concept of *daodi* medicinal material. Its tuberous root is used medicinally and is produced and assembled in Henan province with designated natural conditions, ecological environment, as well as the particular attention to cultivation, harvesting and processing techniques. In Chinese *materia medica*, either its fresh or dried tuberous root clears heat, cools the blood, stops bleeding, nourishes *yin*, and engenders fluids; while the processed product nourishes *yin*, supplements the blood, benefits the essence, and replenishes the bone marrow.

Native to Europe, purple foxglove witnessed the procedure of drug discovery. Since purple foxglove was proved to be the active ingredient of a “secret remedy” for dropsy, its dried leaf was used as a crude drug and led to the discovery of cardiac glycosides from digitalis species for the treatment of heart failure.

地黄

根植沃土紫花身
守望田园朴亦真
莫待寒来自冷静
风雨未改幼时心

洋地黄

生于外域紫花身
涉水云山韵犹存
问遍千人无作答
为何有毒却强心

The above photographs, texts and poems are contributed by Prof **Hubiao Chen** (Hong Kong), Dr **Ping Guo** (Hong Kong) and Prof **Jiqing Liu** (Shenzhen), respectively. We thank Prof. **Zhongzhen Zhao** (Hong Kong) for advising this column and thank Dr **Qihe Xu** (London) for help with editing.

Inspired by the poems by Prof Liu, Prof. Zhao wrote another piece on Chinese foxglove (地黄):
根植中州沃土深，别号地髓朴亦真。可干可熟可鲜用，天下谁人不识君？