

The June 2017 Newsletter of The GP-TCM Research Association



Editorial

The Harmonization of Herbal Pharmacopeia Worldwide



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Traditional Chinese medicine (TCM) originated in ancient China has evolved over thousands of years. Its influence spread to neighboring countries such as [Korea](#) and [Japan](#), and largely shaped their traditional medicine which are called Korean Herbal Medicine or Kampo Medicine. In the last few decades, TCM has become popular as an [alternative medicine](#) in [Europe](#) and [North America](#) as well. In TCM, besides *acupuncture* and *tai chi* that help to treat or prevent health problems, Chinese herbal medicine is still the main stream of TCM. The Chinese Materia Medica described thousands of medicinal substances, primarily plants, but also some minerals and animal products. Different parts of plants, such as the leaves, roots, stems, flowers, and seeds, are used. In TCM, herbs are often combined in formulas and given as teas, capsules, liquid extracts, granules, or powders. The quality of herbs is essential for the efficacy and safety of the herbs used.

In accordance to one of the WHO Traditional Medicine Strategy 2014-2023 objective: to promote the safe and effective use of TCM through the regulation of products, practices and practitioners, it seems that each country or national organization faced the challenges in quality control of herbs and herbal safety. Moreover, standardization is one of the key bottlenecks restricting the development of herbal medicine. To guarantee the quality of TCM herbs, herbal pharmacopeia had been proclaimed in TCM related countries such as China, Hong Kong, Taiwan, Japan, Korea, USA and European countries. Modern analytical techniques were used to analyze the quality of the herbs.

During my involvement since the first edition in 2004 on the development of Taiwan Herbal Pharmacopeia, the pharmacopeia recorded 200 herb items. Over the years, through a series of projects sponsored by Ministry of Health and Welfare in Taiwan, my team had completed the second version and was published in 2014 with 300 herb items. Many hard works were done to cope with the international trend and to ensure the reproducibility of the specification in pharmacopeia.

Besides, I am privilege to be invited by the Department of Health, HK to participate in the Hong Kong Chinese Materia Medica Standards projects since 2011 as PI from China Medical University, Taiwan. Ten batches of sample, 2.5 Kg each were collected, 4 from HK local markets and 6 from producing area in China. The analysing methods of the herb investigated were developed. The contents include 1. Names, including official name, Chinese name and Chinese phonetic name. 2. Source, referring to botanical origin and family name of the medicinal plant, the used part of the plant and its condition. The time for collection, the preliminary on-the-spot treatment upon collection and other relevant information are included. 3. Description, referring to macroscopic and organoleptic characteristics including form, size, color, texture, fracture, gross internal structures, odor/smell, taste, and other relevant information of a CMM. The description focuses on the whole and dried CMM. Special characteristic features of a given CMM are also described. 4. Identification, referring to verification of a CMM by means of microscopic examinations of cross sections and powders, physical and chemical tests and chromatographic analysis such as TLC and HPLC fingerprint. 5. Tests, referring to qualitative and quantitative detection of heavy metals, pesticide residues, mycotoxins (aflatoxins), sulfur dioxide residue, foreign matter, ash, acid insoluble ash, water content and other chemical components in the CMM which should be monitored. 6. Extractives, referring to the soluble contents of a CMM as extracted by water, ethanol or other suitable solvents. 7. Assay, referring to the

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quantitative determination of the active ingredients or markers present in a CMM. 8. Chemical markers selected, referring to the structure(s) of marker compounds and chemical reference substances which are employed in the Thin Layer Chromatographic Identification, High-Performance Liquid Chromatographic Fingerprinting, Gas Chromatographic Fingerprinting and Assay to determine the presence of the markers in a CMM.

All the methods developed have to be submitted to Govern Laboratory for inter-laboratory check to seek for endorsement of the methods developed before proceeding to data collection. All the proposed contents have to be approved by the International Advisory Board Meeting which were usually held annually before it can be printed and published.



Moreover, my honour of recent participations as member of the TCM working party in EDQM (European Pharmacopoeia), 2017-2019 and USP Herbal Medicine Compendium, Far East Expert Panel Member, 2015 -2020 have brought myself to explore on the current development of quality control in different countries. Further, the contribution of organizing the 2016 International Symposium on Quality Control of TCM to be held in September, 2016, Taichung and 2017 Consensus Camp of Taiwan Herbal Pharmacopoeia to be held in May, 2017 in Taipei provided opportunities to meet the experts to feature the many examples of different pharmacopoeia from different countries such as China, Europe, US, Hong Kong, South Korea and Japan.

Compiling the several years of experiences among experts, the content of the pharmacopoeias are similar. The content generally includes scientific name (Latin name), source, description, identification, impurities, and assay. Some pharmacopoeia also documented storage, usage, dosage, precaution and warning. Besides, the limit on sulphur dioxide, heavy metals and pesticide residue were set respective to related country. Although the documentation of each herbal monographs only involved a page or a few pages, it should be kept in mind that the whole procedure from scratch to discussion and confirmation usually take months to years to complete an official monograph.

Understood that it is neither easy to establish and efficient quality control standard nor simple to give a comprehensive interpretation of their operating principles, despite a huge funding needed to run the processes, it also required a huge effort in forming a team of experts in various related disciplines and fields. Apart from that, it was found that there were repetitive work done in each country in order to document into respective pharmacopoeia and monographs. It is a waste of labour and resources

Align with the ultimate aim of Good Practices of Traditional Chinese Medicine (GP-TCM); that is to inform the best practice and harmonise research on the safety and efficacy of TCM through exchange of opinions, experience and expertise among scientist in EU member states, China and other parts of the world. It is greatly honour to be able to strengthen the cooperation on the herbal pharmacopoeia work between countries through GP-TCM.

Instead of just exchanging opinions and experiences, it would be better for us to move one-step further in harmonization of pharmacopoeia work that we have done by sharing the resources, chemical background information and development detection methods. By forming a standardized pharmacopoeia based, each country may use it as a skeleton based of herbal standards, and adjust the range of the criteria and limits align with their needs, rules and regulations in respective country.

Concisely, it can be hope that in the near future, the collaboration of forming a uniform and shared database among countries on the pharmacopoeia work can be inaugurated in order to increase the efficiency in the development of the Traditional Chinese medicine. By decreasing the duplication of work and strengthen the workforces of all experts, we will be able to use the saved resources for other development and be able to put TCM in a better position than ever before.



Special Features

1. School of Chinese Medicine (SCM), Hong Kong Baptist University (HKBU) contributes to spurring the *Compendium of Materia Medica* Cultural Project. In addition to its commitment to excellence in Chinese medicine education, research and healthcare services, the HKBU SCM spares no efforts to advance the standardisation and internationalisation of Chinese medicine and promote the culture of Chinese medicine. As a major initiative towards the promotion of Chinese medicine culture, SCM launched in 2014 the *Compendium of Materia Medica* Cultural Project.

The *Compendium of Materia Medica*, compiled by Li Shizhen, great medical and pharmaceutical expert in the Ming Dynasty, is the most voluminous and comprehensive medical encyclopedia ever written in the history of Chinese medicine. The fact that it came to be listed in 2011 on the Memory of the World Programme of the United Nations Educational, Scientific and Cultural Organisation testifies to the international significance of this medical masterpiece and also its important influence on the development of world civilisation. Without any doubt, it has brought Chinese medicine to the forefront and will spur the internationalisation of Chinese medicine.

The year 2018 will see the 500th anniversary of Li Shizhen as well as the 20th anniversary of SCM which was founded in 1999. To celebrate the 500th anniversary of the Chinese medicine master whose masterwork continues to enlighten and inspire scholars and students of Chinese medicine and two decades of academic excellence and laudable achievements of the School, SCM has been making keen efforts to initiate and engage in endeavours under the *Compendium of Materia Medica* Cultural Project. The latest initiatives under the Project included academic forums, publication of books and multimedia projects.

	<p>中醫藥學院呂愛平院長於南寧市舉行的「首屆本草文化論壇暨第十五次本草讀書會」開幕典禮上致辭。</p> <p>Professor Lyu Aiping, Dean of SCM, speaks at the opening ceremony of the “First Forum of Materia Medica Culture-cum-15th Meeting of the Materia Medica Study Group” held in Nanning.</p>
	<p>眾多主禮人一起主持《世說本草》首播儀式</p> <p>A large officiating party officiates at the premiere of <i>The Chinese Materia Medica for us All</i>.</p>
	<p>趙教授出席《大道本草》的新聞發布會，學院是此大型電視紀錄片的發起者及學術核心創作團隊成員。</p> <p>Professor Zhao attended the press conference of the TV documentary series <i>Tao-Materia Medica</i> initiated by SCM, which also serves as a member of its core academic creative team.</p>

SCM joined hands with the Guangxi Medical Botanical Garden to organise on 18 and 19 February the “First Forum of Materia Medica Culture-cum-15th Meeting of the Materia Medica Study Group” in Nanning carrying the theme “transmission of materia medica culture, building a healthy China”. The opening ceremony of the event was attended by more than 500 participants from 12 countries and regions, including Chinese medicine scholars and traditional medicine experts from the mainland,

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Taiwan, Hong Kong, Macao, Japan, US, the Netherlands, Russia, Cambodia, Laos, Malaysia and Thailand, scientists of the Guangxi Medical Botanical Garden and faculty and students of the Guangxi TCM University. Led by Professor Lyu Aiping, Dean of SCM, an SCM delegation comprised of nearly 20 academics, researchers and staff attended the ceremony. Some 40 scholars spoke at the Study Group Meeting, sharing ideas to promote research and exchange on materia medica studies.

To render the event even more meaningful, the School officially launched the new book *Discussing Materia Medica with Zhongzhen* and showed episodes of TV series *The Chinese Materia Medica for us All* at the opening ceremony. Professor Zhao Zhongzhen, Associate Dean of SCM, has been leading the School's efforts to popularise knowledge of material medica, and the book and the TV series are the latest endeavours to that end. *Discussing Materia Medica with Zhongzhen* consisted of the narrative contents of the 20-episode video lecture series featuring Professor Zhao who shared his profound knowledge and research findings gained through decades of research and field trips to all corners of the world.

The Chinese Materia Medica for us All TV series is a joint venture of SCM and the Art Concept Culture Institute. While Ms. Katie Chan is the producer and co-host, Professor Zhao is the academic advisor and co-host of the TV series. <https://www.youtube.com/watch?v=3h1EtAn7mPM> (中文)

The 120-episode series started airing on J5 channel of Television Broadcasts Limited (TVB) on 29 May, prior to which a premiere was held on 8 May, with the officiating party consisting of Ms. Florence Hui, Under Secretary for Home Affairs; Professor Roland Chin, President and Vice-Chancellor, HKBU; Dr. Daniel Tse, Emeritus President, HKBU; Professor Lyu Aiping, Dean of SCM; Professor Zhao Zhongzhen, Associate Dean of SCM; Ms. Katie Chan, HKBU alumna and Honorary President of the Art Concept Culture Institute; Mr. Kent Tsui, President of HKBU Century Club; Professor Chen Zhi, Director of Jao Tsung-I Academy of Sinology; Dr. Justin Chiu, Chairman of Pecan Foundation Limited; and Ms. Mariana Tsang, former President of HKBU Century Club.

The School also embarked on another major project—the production of a television documentary series on traditional Chinese medicine culture entitled *Tao-Materia Medica*—in collaboration with the Taihu World Cultural Forum, Institute of Basic Research in Clinical Medicine of China Academy of Chinese Medical Sciences, Jinhui Television & Film Culture Co., Ltd, and Discovery Networks Asia-Pacific. The multilingual documentary series will consist of five episodes, with the first one scheduled for broadcast in 2018 in over 220 countries and regions in the world. This exciting project was initiated by SCM, which also serves a member of its core academic creative team. This is the first time for Discovery to produce and broadcast a large-scale documentary series on Chinese medicine culture. Finally, let's conclude this special feature by listening to Prof. Zhongzhen Zhao's Talk Series on Chinese Materia Medica, which in the opinion of your Editor-in-chief, "uplifting and fabulous".

<http://m.ximalaya.com/33178188/album/8710711?from=groupmessage&isappinstalled=0> (中文*)

* Time and space limiting, we regret for only being able to translate titles of some shared WeChat articles into English. Interested parties please use the English translation functionality of WeChat to read the Chinese contents of WeChat:

- **On IOS system:** https://thenextweb.com/apps/2014/05/08/can-now-translate-messages-wechat-ios-app/#.tnw_WmhVlfoD
- **Android:** https://thenextweb.com/apps/2014/06/23/wechat-brings-its-nifty-new-message-translation-feature-to-its-android-app/#.tnw_ECJIHsLe

2. A JAMA series highlight the positive and negative effects of acupuncture as a therapy. The series are introduced in the following WeChat article in Chinese and their main findings and web links are shown below.

WeChat introduction: http://mp.weixin.qq.com/s/Xj_4xy1eu7ynXm-L-62A7A (中文)

- Briggs JP, Shurtleff D. **Acupuncture and the Complex Connections Between the Mind and the Body.** *JAMA*. 2017 Jun 27;317(24):2489-2490.



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Almost 50 years ago, New York Times reporter James Reston had an emergency appendectomy while traveling in China. His subsequent report that acupuncture produced substantial relief from his postoperative discomfort is widely credited with launching Western interest in acupuncture, although many Western medical practitioners have remained skeptical. Nevertheless, there has been steady progress in application of the methods of evidence-based medicine and modern neuroscience to these ancient practices, suggesting that acupuncture may have therapeutic benefit. The evaluation involves at least 3 questions: Can acupuncture be studied rigorously? What is known about the benefits (and harms)? What is known about the mechanisms?...

<http://jamanetwork.com/journals/jama/fullarticle/2633891>

- Liu Z, et al. **Effect of Electroacupuncture on Urinary Leakage Among Women With Stress Urinary Incontinence: A Randomized Clinical Trial.** *JAMA*. 2017;317:2493-501.

Question: Is electroacupuncture involving the lumbosacral region effective in reducing urine leakage for women with stress urinary incontinence?

Findings: In this randomized clinical trial that included 504 women, the mean decrease in urine leakage, measured by the 1-hour pad test from baseline to week 6, was 9.9 g with electroacupuncture vs 2.6 g with sham electroacupuncture, a significant difference.

Meaning: Among women with stress urinary incontinence, treatment with electroacupuncture involving the lumbosacral region, compared with sham electroacupuncture, resulted in less urine leakage after 6 weeks.

<http://jamanetwork.com/journals/jama/fullarticle/2633916>

- Wu XK, et al. **Effect of Acupuncture and Clomiphene in Chinese Women With Polycystic Ovary Syndrome: A Randomized Clinical Trial.** *JAMA* 2017;317:2502-14.

Question: Does acupuncture alone or combined with clomiphene increase the likelihood of live births among women with polycystic ovary syndrome?

Findings: In this randomized clinical trial that recruited 1000 Chinese women with polycystic ovary syndrome, the live birth rate was significantly higher in the group of women who received clomiphene compared with placebo (28.7% vs 15.4%, respectively). However, it was not significantly different between the groups who received active vs control acupuncture (21.8% vs 22.4%, respectively), and there was no significant interaction between active acupuncture and clomiphene.


Meaning: Acupuncture, alone or with clomiphene, was not effective as an infertility treatment in women with polycystic ovary syndrome.

<http://jamanetwork.com/journals/jama/fullarticle/2633915>

Report from the GP-TCM RA

 1. **Warmest congratulations:** Prof. De-an Guo, Past-President of the GP-TCM RA, and seven other scientists in the field of TCM and integrative medicine were awarded the National Innovation Pioneer Awards: The other scientists are Prof. Yue Gao, Prof. Pengfei Tu, Prof. Wei Xiao, Prof. Chen Wang, Prof. Kaixian Chen, Prof. Xiangmei Chen, Prof. Lanping Guo.

<http://mp.weixin.qq.com/s/cr9IEZxmRo5NaYp2N4xeg> (中文)

 2. The 36th GP-TCM RA BoD Meeting was held as a Skype teleconference on Tuesday 20 June 2017. Attended by Tai-Ping Fan (President), Clara Lau (Secretary-General), Peter Hylands (Treasurer), Monique



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Simmonds and Vivian Wong, the meeting received apologies from the rest BoD members. The meeting approved the minutes of the 35th BoD meeting and was informed by Monique about the 6th GP-TCM RA Annual Meeting, which will be held on 4-6 July 2018, with the first 2 days (4th and 5th July) meeting at the Royal Botanical Gardens Kew, while the last day at the Confucius Institute for TCM at London South Bank University. Clara reported that her research staff Dr Grace Yue has accepted the part-time secretariat post, with effect from 15 June 2017, and that Mr Alan Koo, the GP-TCM RA Webmaster, has kindly agreed to continue working with Clara and Grace on the management and updating of the website. The meeting decided that the Secretariat will start update membership and BoD will start to update the bylaws and other business.

European Reports

Now 1. **Call for applications for Marie Skłodowska-Curie Individual Fellowship**, Deadline: 14 September 2017. The goal of the Individual Fellowships is to enhance the creative and innovative potential of experienced researchers, wishing to diversify their individual competence in terms of skill acquisition through advanced training, international and intersectoral mobility. Individual Fellowships provide opportunities to acquire and transfer new knowledge and to work on research and innovation in a European context (EU Member States and Associated Countries) or outside Europe. The scheme particularly supports the return and reintegration of researchers from outside Europe who have previously worked here. It also develops or helps to restart the careers of individual researchers that show great potential, considering their experience.

<https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/msca-if-2017.html>

Now 2. **Interim Evaluation: International Cooperation in Horizon 2020**. Despite the Horizon 2020's openness to the world, the participation of organisations from third countries has decreased when compared to FP7, mainly due to lack of dedicated (International Cooperation) INCO themes and change of funding rules for many developing economies. Here are the main findings from the interim evaluation related to international cooperation:

- Third countries represent 2.5% of the participations and 0.8% of the funding awarded in internationally open collaborative projects (compared to 4.3% and 1.8% respectively in FP7);
- To date, 87 third countries have participated in Horizon 2020, compared to a total of 131 third countries in FP7;
- Amongst countries that are not automatically eligible for funding from Horizon 2020, the most active in terms of participations are the USA, China, Canada, Australia and Brazil;
- Projects resulting from joint/coordinated calls in Horizon 2020 have similar levels of participations and EU contribution as in the corresponding period of FP7;
- Participations in Marie Skłodowska-Curie actions account for more than half of all participations of third countries in Horizon 2020;
- There is a greater level of investment in multilateral initiatives (e.g. Belmont Forum, IPCC, GACD, etc.) compared to FP7; and
- 16 third countries have signed an association agreement to Horizon 2020.

Now 3. **SME Instrument Impact Report 2017: a must read!** On 11th May 2017, the Executive Agency for Small and Medium Enterprises (SME) from the European Commission published the **SME Instrument Impact Report 2017**. Since 2014, the world's most wanted funding scheme for SMEs – the SME Instrument from Horizon 2020 – has been creating a huge impact on the growth of thousands of high-risk and disruptive companies in Europe. Despite its ultra-competitive nature, the SME Instrument made history with countless positive achievements...

<https://www.octopux.eu/sme-instrument-impact-report-2017/>

Now 4. **What is a Global Britain?** A *Lancet* Editorial reviews the Global Britain vision of the UK's Prime Minister. [http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(17\)31660-4.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(17)31660-4.pdf)

Now 5. **Council Approves Budget Increase for Horizon 2020**. On Tuesday 20th June 2017, the Council of Ministers revised the current multi-annual financial framework (MFF) and approved an

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additional €200 million for Horizon 2020 for the period 2017-2020.

6. Views on FP9: On 20 June 2017, League of European Research Universities presented its advice paper “Beyond the Horizon: LERU’s views on the 9th Framework Programme for Research and Innovation.” According to LERU, research and innovation should, also in future, top the list of what the European Union should (continue to) invest in. The EU Framework Programmes have made a significant contribution to Europe’s research and innovation landscape and to its competitiveness. In the new advice paper, LERU makes concrete and detailed recommendations on how to further increase the Framework Programme’s efficiency and impact.

https://era.gv.at/object/document/2871/attach/LERUs_views_on_FP9_final.pdf

EU-China Cooperation Reports and China Reports

1. On 26.6.2017, a high-ranked delegation of China Academy of Chinese Medical Sciences, Beijing, visited University of Graz, Austria, in order to sign an agreement on the establishment of a Co-Research Center in the field of TCM medicinal plant research. Prof. Rudolf Bauer and Prof. Adelheid Brantner are active in this field since many years and cooperate with research groups of CACMS for many years within the framework of BMFWF and BMG funded projects.

The Co-Research Center will be integrated into the inter-university TCM Research Centre Graz which has been initiated by Prof. Bauer 10 years ago. The Center will aim at the promotion of scientific cooperation, technological exchange, talent training and innovative team building for the development of traditional medicine in both China and Austria.

Prof. Adelheid Brantner is performing as PI a project on the quality control of Chinese herbal medicines together with Prof. Bian Baolin from the Institute of Materia Medica at CACMS. Prof. Rudolf Bauer is conducting a research as PI in project on clinical and mechanism research on TCM treating chronic and incommunicable diseases. Together with Prof. Tong Xiaolin and Prof. Li Min from Molecular Biology Research Office of Guang'an Men Hospital he is investigating agents and mechanisms of action of Chinese herbal mixtures for chronic, lifestyle-related diseases, such as diabetes, involving interaction with the intestinal microbiome.

After mutual visits and negotiations of the orientation and structure of the Co-Research Center, Prof. Yang Longhui, Vice President of CACMS, and Dr. Peter Riedler, Vice-Rector of University of Graz, Vice-Dean Prof. Karl Lohner, and Prof. Rudolf Bauer, head of the Institute of Pharmaceutical Sciences AT University of Graz, signed the cooperation agreement in the presence of Prof. Wolf-Dieter Rausch, President of Eurasia-Pacific UniNet, and officially unveiled the plaque.



2. New Flagship Initiatives in Research and Innovation Between the EU and China. During the June 1-2 2017 Summit in Brussels, the EU and China agreed to boost their research and innovation cooperation with a new package of Flagship Initiatives, which will be implemented through Horizon 2020 in years 2018-2020. These include continued Initiatives in areas such as Food, Agriculture and Biotechnologies (FAB) and Environment and Sustainable Urbanisation, as well as

Archives (2008-2017): www.gp-tcm.org/news-list/

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new ones in the areas of Surface Transport, Safer and Greener Aviation, and Biotechnologies for Environment and Human Health.

Flagship Initiatives are research initiatives, which have been recognised by the EU and the relevant partner country as political priorities of mutual interest and which are eventually translated into specific calls for proposals in Horizon 2020. They help to ensure that dedicated funding is available for all researchers taking part in projects (via Horizon 2020 for European researchers and through national co-funding mechanisms in third countries), and that international cooperation in Horizon 2020 remains high by targeting specific international partner countries.

Some of the EU-China Flagships were established back in 2014 (e.g. the FAB Flagship) and have subsequently been translated into specific calls for proposals in the 2016-2017 Work Programme of Horizon 2020 under Societal Challenge 2 and Societal Challenge 6. Calls for proposals resulting from the new Flagships will be included in the relevant Work Programme parts in 2018-2020.

China does not automatically qualify to receive EU funding from Horizon 2020 and it therefore created a dedicated national Co-funding Mechanism back in 2015 to support Chinese researchers participating in Horizon 2020 projects. During the last week's Summit, the European Commission and the Chinese Ministry of Science and Technology (MOST) signed an arrangement renewing the Co-funding Mechanism for the period 2018-2020, to support researchers from China participating in calls for proposals launched under the new Flagship Initiatives.

Furthermore, the dedicated Innovation Co-operation Dialogue also discussed progress on framework conditions and innovation cooperation. In particular, the two sides have agreed to promote open science and to exchange best practices in open access to publications and research data, and have confirmed the principle of reciprocity in access to Science Technology and Innovation resources. They also agreed to jointly promote innovation and entrepreneurship and to develop new ways of promoting EU-China innovation cooperation, for example by strengthening the links between innovation cooperation platforms, applying the Chinese Co-funding Mechanism to future SME cooperation and supporting start-ups and start-up services.

3. EU-China Summit in Brussels, 1-2 June 2017. The 19th bilateral summit between the EU and China took place on 1-2 June in Brussels. European Council President **Donald Tusk** and European Commission President **Jean-Claude Juncker** represented the European Union. China was represented by Prime Minister Li Keqiang. Leaders discussed EU-China political and economic relations. The EU and China reaffirmed their cooperation to tackle climate change and their support to the Paris Agreement. President Donald Tusk at the press conference after the EU-China summit: "We are stepping up our cooperation on climate change with China. Which means that today, China and Europe have demonstrated solidarity with future generations and responsibility for the whole planet." Leaders exchanged views on foreign policy and security challenges, including the situation in the Korean Peninsula. They also discussed ways to improve cooperation on human rights at the bilateral and international level. An EU-China business summit took place in the margins of the summit.

<http://www.consilium.europa.eu/en/meetings/international-summit/2017/06/01-02/>

Remarks by President Donald Tusk after the EU-China summit can be found here:

<http://www.consilium.europa.eu/en/press/press-releases/2017/06/02-tusk-remarks-eu-china-summit/>

4. WeChat: Dr Yuli Xie's ppt slides entitled **CFDA Recent Reforms and its Impacts**

<http://www.cn939.com/news/zyfz/2017/04/11/112257.html> (中文)

5. A 16-pager Nature supplement – PhIRDA (中国药促会):

From imitator to innovator. Determined to become a leader in science and technology innovation, China, the world's second-largest pharmaceutical market, has put drug innovation high on its development agenda. Its launch of a national-level multi-billion dollar project has seen significant improvement in capabilities of basic drug research and clinical research, along with rising new drug discoveries. With a healthy environment for biomedical innovation, the Chinese pharmaceutical industry is transforming



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from an imitator to an innovator.

<https://www.nature.com/nature/supplements/collections/npgpublications/phirda/phirda.pdf>

6. WFCMS signed an MoU with Germany's Hamburg University to co-found a platform for registering TCM products in the EU.

<http://mp.weixin.qq.com/s/aZXU6MsdKTz5RPRLuezkmg> (中文)

TCM and Other Traditional Medicines in Spotlight

1. GU S, Pei J. Innovating Chinese Herbal Medicine: From Traditional Health Practice to Scientific Drug Discovery. *Front. Pharmacol.* 2017;8:381. The authors concluded: "In most current studies of Chinese herbal medicine, researchers examine the efficacy and safety of herbs from a scientific perspective. However, given the importance of its cultural and religious essence, the treatments of CHM are largely associated with the traditional narratives. After World War II, a group of Chinese scientists began to study CHM using scientific methods and achieved tremendous success in the discovery of artemisinin. As a result, CHM was innovated in the form of scientific drug discovery. However, this journey is not easy as we need to overcome the old ideology inherited from the history of TCM. The holistic principles of CHM also raise many debates. By addressing the two essential questions in the relationship of CHM and science, we upheld the paradigm of methodological reductionism and further proposed a three-step roadmap of drug discovery in herbal medicine. Finally, besides the scientific perspective, we suggested the contemporary narratives of CHM be shifted from physician based to patient based for the purpose of preserving this medical tradition as well as the ethnic identity."

journal.frontiersin.org/article/10.3389/fphar.2017.00381/pdf

2. Hao P, et al. Traditional Chinese Medicine for Cardiovascular Disease: Evidence and Potential Mechanisms. *J Am Coll Cardiol* 2017;69:2952–66. Traditional Chinese medicine (TCM) has more than 2,000 years of history and has gained widespread clinical applications. However, the explicit role of TCM in preventing and treating cardiovascular disease remains unclear due to a lack of sound scientific evidence. Currently available randomized controlled trials on TCM are flawed, with small sample sizes and diverse outcomes, making it difficult to draw definite conclusions about the actual benefits and harms of TCM. Here, we systematically assessed the efficacy and safety of TCM for cardiovascular disease, as well as the pharmacological effects of active TCM ingredients on the cardiovascular system and potential mechanisms. Results indicate that TCM might be used as a complementary and alternative approach to the primary and secondary prevention of cardiovascular disease. However, further rigorously designed randomized controlled trials are warranted to assess the effect of TCM on long-term hard endpoints in patients with cardiovascular disease.

<http://www.drvoice.cn/uploadfile/2017/0618/20170618061038142.pdf>

http://mp.weixin.qq.com/s/JMXVunVLitEICZqp_YocDw (中文)



3. Zhang QR, et al. Progress of studies on traditional Chinese medicine based on complex network analysis. *World J Tradit Chin Med* 2017; 3: DOI: 10.15806/j.issn.2311-8571.2016.0045

http://www.wjtcn.org:8080/ch/reader/create_pdf.aspx?file_no=20160045&flag=1&journal_id=sjzyyw&year_id=

http://mp.weixin.qq.com/s/aGNRO_I54HXE2Gb0dbcbRg (中文)

4. Cai S, et al. Interpreting Mechanisms of Action of TCM Drugs Using New Concepts of Effective Forms, Additive Effects and Toxicity-Scattering Effects. *China Journal Chinese Materia Medica* 2015; 40(17): 3435-3443

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<http://mall.cnki.net/magazine/Article/ZGZY201517022.htm> (中文)

http://mp.weixin.qq.com/s/05T9HY9cXM_5wLQr7MIC2Q (中文)

5. WeChat: State Administration of TCM plans to regulate TCM health-preserving sector

<http://mp.weixin.qq.com/s/wZrDhclLRXstgrTBkQES3A> (中文)

6. Public Health S&T Innovation Special Calls in The 13th Five-Year Plan

<http://mp.weixin.qq.com/s/eetOeohuql-7xNMqdDXcbg> (中文)

http://mp.weixin.qq.com/s/L-7J_7uSsIO6PJU5fr-hvA (中文)

<http://mp.weixin.qq.com/s/gOY7dmMk28Hsw70uksJR2w> (中文)

7. TCM Modernisation since the Late Qing Dynasty.

<http://www.worldtcm.org/170609/5J2115394.shtml?from=groupmessage&isappinstalled=0> (中文)

8. Is TCM Really Popular Overseas?

<http://mp.weixin.qq.com/s/XkaWQ9Hv9-gL5xGGNN8Zyw> (中文)

9. TCM Modernisation in the Past 2 Decades:

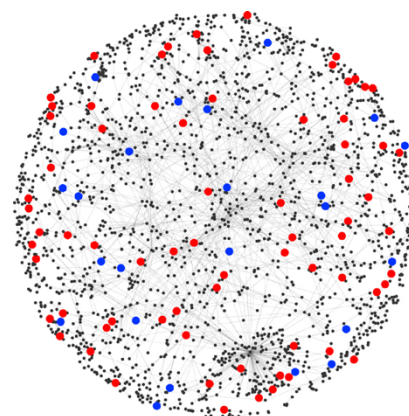
<http://mp.weixin.qq.com/s/81ygHH9EUHu86SfyrVH-9w> (中文)

10. TCM Healthcare, Service and Clinical Research in Hong Kong: State of the Art and Prospects: <http://mp.weixin.qq.com/s/QZtnSYUsobo6DIAzxG7uCQ> (中文)

Omics in Progress

1. Single-cell omics—A series of publications in *Nature Reviews Genetics*. Recent technological advances are providing unprecedented opportunities to analyse the complexities of biological systems at the single-cell level. Various crucial biological phenomena are either invisible or only partially characterized when interrogated using standard analyses that average data across a bulk population of cells. However, high-throughput analyses of the genomes, transcriptomes and proteomes of single cells are providing novel and important insights into diverse processes such as development, gene-expression dynamics, tissue heterogeneity and disease pathogenesis.

<https://www.nature.com/nrg/series/singlecell/index.html>



2. A commentary series on a decade of genome-wide association studies (GWAS)

- Manolio TA. **A decade of shared genomic associations.** *Nature*.2017;546:360-361. “Ten years ago this month, *Nature* published a landmark study¹ that compared the frequencies of hundreds of thousands of common genetic variants (polymorphisms) at single nucleotides in people with and without seven diseases, to look for variants associated with each disease. Such genome-wide association studies (GWAS) provide an agnostic way to identify these variants, unfettered by prevailing — and potentially incorrect — assumptions about which genomic regions are important in disease biology. The study, by the Wellcome Trust Case Control Consortium (WTCCC), set the standard for this field of research, and nearly 3,000 GWAS have since been published.”

<https://www.nature.com/nature/journal/v546/n7658/full/546360a.html>

- Callaway E. **Genome studies attract criticism.** *Nature* 2017;546:463. New concerns raised over value of genome-wide disease studies: Large analyses dredge up 'peripheral' genetic associations that offer little biological insight, researchers say...

<http://www.nature.com/news/new-concerns-raised-over-value-of-genome-wide-disease-studies-1.22152?spMailingID>

<http://mp.weixin.qq.com/s/W-4M1JbBh4yzDptWVepSMA> (中文)

3. Nelson JW, Breaker RR. The lost language of the RNA World. *Sci. Signal.* 2017;10:eaam8812. The possibility of an RNA World is based on the notion that life on Earth passed

Archives (2008-2017): www.gp-tcm.org/news-list/



through a primitive phase without proteins, a time when all genomes and enzymes were composed of ribonucleic acids. Numerous apparent vestiges of this ancient RNA World remain today, including many nucleotide-derived coenzymes, self-processing ribozymes, metabolite-binding riboswitches, and even ribosomes. Many of the most common signaling molecules and second messengers used by modern organisms are also formed from RNA nucleotides or their precursors. For example, nucleotide derivatives such as cAMP, ppGpp, and ZTP, as well as the cyclic dinucleotides c-di-GMP and c-di-AMP, are intimately involved in signaling diverse physiological or metabolic changes in bacteria and other organisms. We describe the potential diversity of this “lost language” of the RNA World and speculate on whether additional components of this ancient communication machinery might remain hidden though still very much relevant to modern cells.

<http://stke.sciencemag.org/content/sigtrans/10/483/eaam8812.full.pdf>

4. Adrian A, et al. Comprehensive and Integrative Genomic Characterization of Hepatocellular Carcinoma (HCC). *Cell* 2017;169:1327-1341. Multiplex molecular profiling of human hepatocellular carcinoma patients provides insight into subtype characteristics and points toward key pathways to target therapeutically.

- Analysis of hepatocellular carcinomas integrates data of multiple genomic platforms
- Mutated genes reveal oncogenic processes altering hepatocyte energy balance
- Multiplex analyses suggest a key role for Sonic hedgehog signaling in HCC
- *IDH1* and/or *IDH2* mutations point to a HCC subgroup molecularly similar to cholangiocarcinoma

[http://www.cell.com/cell/fulltext/S0092-8674\(17\)30639-6?elsca1](http://www.cell.com/cell/fulltext/S0092-8674(17)30639-6?elsca1)

5. Ian A. Roundtree, Molly E. Evans, Tao Pan, Chuan He. Dynamic RNA Modifications in Gene Expression Regulation. *Cell* 2017; 169:1187-1200. Post-transcriptional modification of mRNAs and noncoding RNAs introduces a layer of control over stability and function that shapes the functional proteome...

[http://www.cell.com/cell/fulltext/S0092-8674\(17\)30638-4?elsca1](http://www.cell.com/cell/fulltext/S0092-8674(17)30638-4?elsca1)

Other Recommended Readings

1. Nature Editorial — Announcement: Towards greater reproducibility for life-sciences research in Nature “Since 2013, Nature and the Nature research journals have asked authors of papers in the life sciences to complete a checklist when they submit a paper. This extra step — prompting authors to disclose important elements of experimental design and analysis — was part of a broader effort to improve the quality of reporting in our life-sciences articles. This week we go further. Alongside every life-sciences manuscript, we will publish a new reporting-summary document, to which authors will now be expected to add details of experimental design, reagents and analysis. This is another step in encouraging transparency, in ensuring that papers contain sufficient methodological detail, and in improving statistics reviewing and reporting.”

http://www.nature.com/news/announcement-towards-greater-reproducibility-for-life-sciences-research-in-nature-1.22062?WT.mc_id

2. Tachman DB, et al. Data Sharing Statements for Clinical Trials — A Requirement of the International Committee of Medical Journal Editors. This is a joint Editorial of leading medical journals published in early June 2017 simultaneously in *Annals of Internal Medicine*, *BMJ*, *Bulletin of the World Health Organization*, *JAMA*, *New England Journal of Medicine*, *PLOS Medicine*, *The Lancet*, etc. The International Committee of Medical Journal Editors (ICMJE) will require the following as conditions of consideration for publication of a clinical trial report in our member journals:

1). As of July 1, 2018, manuscripts submitted to ICMJE journals that report the results of clinical trials must contain a data sharing statement as described below.



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2) Clinical trials that begin enrolling participants on or after January 1, 2019, must include a data sharing plan in the trial's registration. The ICMJE's policy regarding trial registration is explained at www.icmje.org/recommendations/browse/publishing-and-editorial-issues/clinical-trial-registration.html. If the data sharing plan changes after registration this should be reflected in the statement submitted and published with the manuscript, and updated in the registry record..."

Now 3. Fox D. **The shock tactics set to shake up immunology.** *Nature* 2017;545(1038):20-22. An experimental procedure is exposing the links between the nervous and immune systems. Could it be the start of a revolution? Can this be somehow relevant to the mechanisms of electric acupuncture?

WeChat: http://mp.weixin.qq.com/s/sz_utVRZFxmt8b-VRpCOgg (中文)

Now 4. **World Health Statistics 2017: Monitoring health for the SDGs**

<http://apps.who.int/iris/bitstream/10665/255336/1/9789241565486-eng.pdf?ua=1>

http://mp.weixin.qq.com/s/5Wp9ONedY3PhuIVO_2fHCq (中文)

Now 5. The GBD 2015 Obesity Collaborators. **Health Effects of Overweight and Obesity in 195 Countries over 25 Years.** *New Engl J Med* June 12, 2017;DOI: 10.1056/NEJMoa1614362. In 2015, a total of 107.7 million children and 603.7 million adults were obese. Since 1980, the prevalence of obesity has doubled in more than 70 countries and has continuously increased in most other countries. Although the prevalence of obesity among children has been lower than that among adults, the rate of increase in childhood obesity in many countries has been greater than the rate of increase in adult obesity. High BMI accounted for 4.0 million deaths globally, nearly 40% of which occurred in persons who were not obese. More than two thirds of deaths related to high BMI were due to cardiovascular disease. The disease burden related to high BMI has increased since 1990; however, the rate of this increase has been attenuated owing to decreases in underlying rates of death from cardiovascular disease. Conclusions: The rapid increase in the prevalence and disease burden of elevated BMI highlights the need for continued focus on surveillance of BMI and identification, implementation, and evaluation of evidence-based interventions to address this problem. (Funded by the Bill and Melinda Gates Foundation.)

<http://www.nejm.org/doi/full/10.1056/NEJMoa1614362?query=OF>

An NEJM editorial entitled by Edward W. Gregg and Jonathan E. Shaw entitled **Global Health Effects of Overweight and Obesity** can be found here:

<http://www.nejm.org/doi/full/10.1056/NEJMe1706095>

Now 6. He S, Sharpless NE. **Senescence in Health and Disease.** *Cell*. 2017;169:1000-1011. Many cellular stresses activate senescence, a persistent hyporeplicative state characterized in part by expression of the p16^{INK4a} cell-cycle inhibitor. Senescent cell production occurs throughout life and plays beneficial roles in a variety of physiological and pathological processes including embryogenesis, wound healing, host immunity, and tumor suppression. Meanwhile, the steady accumulation of senescent cells with age also has adverse consequences. These non-proliferating cells occupy key cellular niches and elaborate pro-inflammatory cytokines, contributing to aging-related diseases and morbidity. This model suggests that the abundance of senescent cells in vivo predicts "molecular," as opposed to chronologic, age and that senescent cell clearance may mitigate aging-associated pathology.

<http://www.sciencedirect.com/science/article/pii/S0092867417305469>

<http://mp.weixin.qq.com/s/NMsg6NjLB8DQXjt-XCllnw> (中文)

Now 7. **The new Impact Factor of Journal of Ginseng Research (JGR) has been released.** According to the Journal Citation Reports®, published by Thomson Reuters in 15th June 2017, the new Impact Factor is 4.082, and its 5-Year Impact Factor is 3.264. JGR now ranks 1/25(Q1) in the category 'Integrative & Complementary Medicine and 6/60 (Q1) in the category 'Chemistry, Medicinal'. Thus JGR remains one of the highest ranking Open Access journals in the field.

Now 8. **State of the World's Plants 2017 published.** A detailed knowledge of plants is fundamental to human life on Earth. Plants underpin all aspects of our everyday life – from the food that we eat, to

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the clothes that we wear, the materials we use, the air we breathe, the medicines we take and much more. These essential services provided by plants are far too often taken for granted. This is the second annual report in which we have scrutinised databases, published literature, policy documents, reports and satellite imagery to provide a synthesis of current knowledge on the world's plants...

https://stateoftheworldsplants.com/2017/report/SOTWP_2017.pdf

<http://mp.weixin.qq.com/s/a8joOBlylylOi0KnELVU0w> (中文)

9. MicroRNAs in pain regulation. Pain is not something universally enjoyed, especially chronic pain involving nerve damage, referred to as neuropathic pain (1). Pain perception can be modulated in a variety of ways—for example, by focusing attention on the painful stimulus. On page 1168 of this issue, Peng *et al.* (2) report that pain threshold in dorsal root ganglion neurons (DRG), which relay peripheral sensory information to the central nervous system, can be modulated by mechanisms involving a specific cluster of microRNAs (miRNAs). Remarkably, the same cluster also regulates the threshold of neuropathic pain in DRG neurons that would not be involved in pain under normal conditions. The study provides important new insights into molecular mechanisms that control pain threshold, both in normal and pathological conditions.

- Peng C, et al. **miR-183 cluster scales mechanical pain sensitivity by regulating basal and neuropathic pain genes.** *Science* 2017;356:1168–1171.
- Cassels L, Barde YA. **Scaling pain threshold with microRNAs.** *Science* 2017;356:1124–1125.

<http://science.sciencemag.org/content/356/6343/1168?ijkey>

<http://science.sciencemag.org/content/356/6343/1124>

10. Garnett ST and Christidis L. Taxonomy anarchy hampers conservation. *Nature* 2017;546:25-27. The assumption that species are fixed entities underpins every international agreement on biodiversity conservation, all national environmental legislation and the efforts of many individuals and organizations to safeguard plants and animals. Yet for a discipline aiming to impose order on the natural world, taxonomy (the classification of complex organisms) is remarkably anarchic. There is reasonable agreement among taxonomists that a species should represent a distinct evolutionary lineage. But there is none about how a lineage should be defined.

'Species' are often created or dismissed arbitrarily, according to the individual taxonomist's adherence to one of at least 30 definitions². Crucially, there is no global oversight of taxonomic decisions — researchers can 'split or lump' species with no consideration of the consequences... "No one definition has satisfied all naturalists; yet every naturalist knows vaguely what he means when he speaks of a species," wrote Charles Darwin in *On the Origin of Species* in 1859. Despite all the progress in understanding evolution and speciation since that time, remarkably little has changed when it comes to definitions. But vagueness is not compatible with conservation. To protect biodiversity, laws need to compartmentalize it, and those compartments must have legally defensible boundaries.

<http://www.nature.com/news/taxonomy-anarchy-hampers-conservation-1.22064>

Comments: <https://www.nature.com/nature/journal/v546/n7660/pdf/546599c.pdf>



Meeting Reports

1. HKBU Co-organised Traditional Chinese and Western Medicine Symposium with Harvard Medical School. Hong Kong Baptist University (HKBU) joined hands with the Harvard Medical School (HMS) to organise a two-day symposium entitled "Traditional Chinese and Western medicine: what can we learn from each other" held on HMS campus on 20 and 21 June. The first-ever event of its kind between the two schools brought together scientists and clinicians from western and Chinese medicine to not only share knowledge but also spark discussions and potential research collaborations.

Professor Rick Wong, Vice-President (Research and Development), HKBU, led a 20-member HKBU delegation comprising scholars, researchers and PhD students from the School of Chinese Medicine

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(SCM) and the Faculty of Science to attend the symposium. The HKBU delegation shared their wisdom on the use of Chinese medicine approaches to diagnosis and disease classification through delivering talks and making poster presentations.



Four SCM scholars gave enlightening talks about their research on Chinese medicine at the public symposium held on the first day. While Professor Lyu Aiping, Dean of SCM, gave an “Overview of TCM therapy and TCM classification of syndromes of diseases”, Professor Bian Zhaoxiang, Associate Vice-President of HKBU and Director of Clinical Division of SCM, delivered a talk on “Characteristics and challenges for clinical trial with Chinese medicine”, Professor Li Min, Director of Teaching and Research Division of SCM, spoke on “Exploration of neuroprotective drug discovery based on TCM clinical practice”, and Professor Zhang Ge, Director of Technology Development Division, shared his work on “New drug development by combination of Western drugs and Chinese medicine compounds”. HMS experts including Dean George Daley, Professor Charles Serhan and Professor Jon Clardy also gave talks on topics including chemical biology and natural productbased drug discovery, integrating acupuncture into conventional cancer treatment, placebo effects in western and traditional medicine, proteomics, xenobiotics metabolism, gut microbiome, informatics tools, etc.

Focus group discussions were held on the second day at which clinical doctors and researchers from HKBU and HMS conducted in-depth discussions on the contents of the talks delivered on the first day, and explored opportunities for future collaborations.

Aside from the symposium, the SCM delegates visited the Massachusetts General Hospital and the Dana-Farber Cancer Institute affiliated to HMS, the Arnold Arboretum of Harvard University and the Harvard Museum of Natural History, and the visits proved to be very inspirational.

Future Meetings & Events

1. **The 21st International Congress "Phytopharm 2017" and celebration of 10th Anniversary of the TCM Research Center Graz**, July 2-5, 2017, Graz, Austria.
www.doclinika.ru/phyto2017.html
2. **The XIX International Botanical Congress in 2017**, Shenzhen, China, 23-29 July 2017.
<http://www.ibc2017.cn>
<http://www.ibc2017.cn/CN/> (中文)
3. **Invitation to "Phytomedicine and Biopiracy"**, Johannes Gutenberg University, Mainz, Germany on July 24-28, 2017. <http://www.blogs.uni-mainz.de/biopiracyconference2017/>
4. **Invitation to the International Conference on Quality and Efficacy of Chinese Medicine**, Shiyan, Hubei, 3rd-6th August 2017.
<http://i.eqxiu.com/s/t0CZ7maU?from=singlemessage&isappinstalled> (中文)
5. **The 16th Meeting of Consortium for Globalization of Chinese Medicine (CGCM)**, Guangzhou, China, August 18-20, 2017. You are cordially invited to attend the meetings and submit abstracts. Programme and more details are available on the CGCM website www.tcmedicine.org. Should you have any enquiries, please feel free to contact: centraloffice@tcmedicine.org.

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6. **Illuminating Biological Systems from a Network Perspective: International Inter-disciplinary Round Table on Biological Networks**, September 8th, 2017, University of Namur-Belgium: <https://easychair.org/conferences/?conf=ibisnet1>


7. **The Lancet–CAMS Health Summit 2017: A Lancet call for abstracts from China**. Abstracts are invited from China for *The Lancet–CAMS Health Summit 2017*, to be held on **Oct 13–14 2017** in Beijing. Submissions are invited from 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, health professionalism, and medical education.

[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(17\)30130-7/fulltext?elsca1=etoc](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)30130-7/fulltext?elsca1=etoc)

8. **WeChat report on international celebration of the 500 anniversary of Li Shizhen's birth to be held in Li's hometown Jichun County, Hubei Province, China, on 26th May, 2018.**

http://mp.weixin.qq.com/s?__biz=MzAxMjMyMTEwNA==&mid=2660692447&idx=1&sn=3895e03e994d2f1c98befd9f4beb8eca&chksm (中文)

Invitation from Journals

 1. Invitation from *World Journal of Traditional Chinese Medicine (WJTCM)*, including three special calls on TCM network pharmacology, TCM for cerebral disease and TCM for gastrointestinal disease. 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. WJTCM publishes reviews and original articles 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.

All WJTCM articles will be published online via WJTCM website (www.wjtcn.org). PDF articles and electronic/online versions are freely available to global readers.

Special calls on TCM and network pharmacology:

http://www.wjtcn.org:8080/config/sjzyw/news_category/2017-06-13/网络药理学专题--彩页--挂网.pdf


Special calls on TCM for cerebral disease:

http://www.wjtcn.org:8080/config/sjzyw/news_category/2016-11-16/Special%20Topic%20on%20TCM%20for%20Cerebral%20Diseases-WJTCM--1115.pdf

Special calls on TCM for gastrointestinal disease:

http://www.wjtcn.org:8080/config/sjzyw/news_category/2016-04-06/Special%20Topic%20on%20TCM%20for%20Gastrointestinal%20Diseases-消化病-最终.pdf

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) and Prof. Yuan Shiun Chang (yschang0404@gmail.com)

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