Editorial

Message from Your New President

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Dear GP-TCM RA Members and Friends,

Greetings from Hong Kong — I wish you and your family a happy, healthy and successful 2019!

I am pleased today to bring you, with the latest edition of the GP-TCM RA Newsletter, an editorial on future possibilities of the GP-TCM RA.

Founded in 2012, the GP-TCM RA is TCM researchers’ own network. Today, GP-TCM RA is one of the largest alliances of TCM researchers in the world. It has been an honour and a privilege to work for this great association, having enjoyed a memorable time with many friends, and to serve as the 4th president of the GP-TCM RA from January 2019, for a 2-year term.

One of our missions is to enhance the quality of TCM research by partnering with you, facilitating development and dissemination of forward-thinking, robust good practice guidelines, combined with innovative training opportunities and solutions. The GP-TCM RA strives to support research conducted in line with the highest achievable standards of good research practice in order to ensure the integrity of TCM research and outputs.

Our network is designed for quality and efficiency. The GP-TCM RA’s performance in strengthening interdisciplinary and interregional collaborations in TCM research speaks for itself. We have a passion for good practice and strive to make a difference in the world of TCM associations and the herbal medicine industry. The GP-TCM RA promotes the highest levels of quality of TCM research in our network. Board of directors’ level of oversight and full cooperation make our network an excellent choice for each member.

We are still on the road. New comers bring new blood into our network. In 2018, the GP-TCM RA have created a Publication Interest Group, chaired by Rob Verpoorte and Thomas Efferth who have much experience in editing Journal of Ethnopharmacology and Phytomedicine. Our goal is to facilitate you successfully completing your TCM investigation and delivering results in quality.

I foresee that in the coming two years, we will have more members, including Corporate and Institution Members, thus growing into a bigger family. Corporate Membership would strengthen our ability to present new initiatives and Institutional Membership would help us reach our common goals of promoting good practice in TCM research. We also need to proactively invite top universities or academic institutions to join our Association.

We will continue to encourage our six established Interest Groups (referred to as IGs) to develop more activities that further our missions and serve our members. Such activities may include initiatives for guideline development, evidence-based consensus or special review, and our newsletters.

We will let our regular annual meetings FOCUS on ‘Real Good Practice in TCM’, and this includes, in particular, developing, promoting, disseminating and implementing good practice. Our 2019 Annual Meeting will be held on 9-10 July in Daegu, South Korea and hope you can all join us.

It’s time for action!

Reports from the GP-TCM RA

1. The Executive Council (ExC) of the GP-TCM RA established: At the 47th BoD teleconference held on 17th January 2019, Dr. Clara Lau was re-appointed Secretary-General and Prof. Peter Hylands, Co-opted BoD Member, was re-appointed Treasurer. They will join Prof. Aiping Lu (President), Dr. Tai-Ping Fan (Past President) and Prof. Monique Simmonds (President-Elect) to form the ExC of the GP-TCM RA. Roles for the ExC can be found in our Bylaws: http://www.gp-tcm.org/about/bylaws/

2. Editorial-in-chief & Deputy Editorial-in-chief re-appointed for two years (2019-2021). At the 47th BoD teleconference held on 17th January 2019, Dr Qihe Xu was re-appointed Editorial-in-chief of the GP-TCM RA Newsletters. After the teleconference, Prof. Pierre Duez and Prof. Yuan-Shiun Chang have both accepted Dr Xu’s invitation and will continue to serve as Deputy Editorial-in-chiefs. They have invited all BoD members, Past and Current Chairs and Co-Chairs of GP-TCM RA Interest Groups and all other Newsletter Editorial Board Members to stay. Contributions will be acknowledged at the end of each newsletter.

3. The 7th Annual Meeting of GP-TCM RA will be held in Daegu Haany University (DHU), Daegu City, Republic of Korea, on July 9th – 10th, 2019. The meeting will be jointly hosted by National Development Institute of Korean Medicine (NIKOM) and DHU. Don’t miss this great chance to experience Daegu with an exciting conference programme and the networking opportunities!

4. The 46th meeting of the GP-TCM RA Board of Directors was held as a Skype teleconference on 23 November 2018. The meeting was chaired by Tai-Ping Fan (President) and attended Clara Lau (Secretary-General), Peter Hylands (Treasurer), Aiping Lu (President-Elect), Abraham Chan, Pierre Duez, Monique Simmonds, Rob Verpoorte and Vivian Wong. Apologies were received from Rudolf Bauer, Thomas Efferth, De-an Guo and Qihe Xu. The meeting approved the minutes of the 45th BoD teleconference, updated progress on Charity Commission Annual Return and payment of Corporate/Institutional Members. Election results were announced. Tai-Ping as president congratulated the new President Elect and the new Board of Directors. He also welcome Kelvin Chan in re-joining the BoD. The BoD also discussed and agreed to invite Abraham Chan and Peter Hylands to continue as co-opted BoD members. On a separate issue, since Peter has been serving as Treasurer
for a consecutive of 6 years. The BoD suggested to revise the Bylaws section 5c) the last sentence as: “The Treasurer and the Secretary-General normally will not serve for more than six consecutive years”. The BoD discussed and approved the revision of membership form. Updates of the 7th GP-TCM RA Annual meeting in 2019 (hosted by NIKOM in South Korea) were made. Finally, Rob’s proposed training course “Production of Phytotherapeutics for the Global Market” and GxP course were reviewed and endorsed and details for implementation were briefly discussed. The next BoD meeting (with the new President and BoD members) will be held on 17th January 2019.

5. The 47th meeting of the GP-TCM RA Board of Directors was held as a Skype teleconference on 17 January 2019. The meeting was chaired by Aiping Lu (President) and attended by Tai-Ping Fan (Past President), Monique Simmonds (President-Elect), Clara Lau (Secretary-General), Peter Hylands (Treasurer), Abraham Chan, Pierre Duez, Vivian Wong and Qihe Xu. Apologies were received from Rudolf Bauer, Thomas Efferth, De-an Guo and Rob Verpoorte. Aiping as new president welcomed new BoD members (for 2019-2020) and minutes of the 46th GP-TCM RA BoD meeting was approved. Appointments and reappointments of Secretary-General, Treasurer, Editor-in-chief Newsletter and Chairs and co-chairs of Interest Groups were discussed. Approval procedures of membership applications were approved. Aiping shared his vision as President to focus on “good practices” and to publish our opinions in related areas, so that the GP-TCM RA continues to be the opinion leaders in TCM. The meeting received e-mail reports from Tai-Ping on Charity Commission Annual Return and update on Corporate or Institutional Members. Clara led the discussions on revision of bylaws and approval by members. The meeting decided to co-opt additional BoD members from Mainland China and discussed criteria and procedures of such appointments. To promote the activities of Interest Groups, the meeting decided that future BoD t/c should regularly invite at least one Chair/Co-chair from each Interest Group to join discussions. Interest Group Membership should be updated to enable future activities. Chairs of organizing committees for our annual meetings should also be invited upon need. Finally, the meeting received updates on the 7th GP-TCM RA Annual meeting in 2019 (hosted by NIKOM in South Korea) and agreed that the 8th GP-TCM RA Annual meeting in 2020 will be held in hosted by Vytautas Magnus University in Lithuania. More details will follow.

Special Features


- Deng’s 62 TCM remedies: https://mp.weixin.qq.com/s/f4p7_ZfkX9T7CG1Lfe5LBQ (中文)
- Deng Tietao: “TCM Correctly”: https://mp.weixin.qq.com/s/l0JeTqMEXE7EsVd7bOQbnq (中文)
- Deng’s calligraphy & TCM: https://mp.weixin.qq.com/s/fnLh2Ts6ojQ_2mJj39ieFw (中文)
2. Five TCM research projects awarded 2018 National S&T or Invention Awards. 
https://mp.weixin.qq.com/s/s61XsPq7gwdabHP-0Ppw7w (中文)

3. The National Traditional Chinese Medicine, Health, and Cultural Knowledge Competition was held on 16 December 2018 – With the theme of Traditional Chinese Medicine in Everyday Life, the finals of the National Traditional Chinese Medicine, Health, and Cultural Knowledge Competition were successfully held in Beijing. The competition was hosted by the Traditional Chinese Medicine Promotion Organization with co-hosts the China Press of Traditional Chinese Medicine, the Chinese Educational Network TV Health Station, the State Administrations of Traditional Chinese Medicine of the various provinces, autonomous regions, and municipalities directly under the Central Government, etc. After five months of fierce competition, 560,000 registered participants, and 60 million viewers, 30 provincially selected teams and a group of 100 nationally selected participants gathered in Beijing for the competition. While all six final teams performed brilliantly, the Guangxi team emerged as the national champions. The final competition will be broadcasted on the Chinese Educational Network TV Health Station and other major online video platforms during the Spring Festival of 2019.

Reports on China and Chinese-European Cooperation

1. Horton R. Offline: Health, with Chinese characteristics. Lancet 2018;392:2668… In October, 2017, President Xi Jinping quoted a Chinese proverb during his speech to the 19th Communist Party Congress—“The last leg of a journey just marks the half-way point.” In other words, the closer you are to the end of your task, the more difficult that task becomes. He was underlining the danger of complacency. New data on maternal mortality, launched last week in Beijing at the 2nd Forum on Maternal and Child Health Development in China, perfectly illustrated his point. China’s maternal mortality ratio (MMR) fell from 108.7 per 100,000 livebirths in 1996 to 21.8 per 100,000 livebirths in 2015—an average annual rate of decline of 8.5%. But those exceptional overall figures mask large disparities. The MMR in Nanhu District, Zhejiang, was 3.4 per 100,000 livebirths; the figure for Zanda
Chinese universities lure postdocs back home. 

Nature 2019;565:294. China’s leading universities are now recruiting more homegrown postdocs. A three-year stint in a Chinese lab, together with the prerequisite overseas experience, can now help to secure a tenured position. Zhejiang University and Wuhan University, for example, have doubled postdoc salaries in the past two years. A nationwide advertising campaign has boosted recruitment by 40% in my own field of hydrology alone. This shift in recruitment policy should encourage more postdocs to return home, particularly as China is now established as an important contributor to international research. https://www.nature.com/articles/d41586-019-00152-77WT_ec_id

Realising equity in maternal health: China’s successes and challenges. Lancet 2019;393:202. China has made remarkable progress in maternal and child health since the 1990s. Mortality among children younger than 5 years dropped from 54.1 deaths per 1000 livebirths in 1990 to 12.5 per 1000 livebirths in 2015, meeting the Millennium Development Goal (MDG) 4 well ahead of schedule. Additionally, the maternal mortality ratio declined from 111.0 deaths per 100 000 livebirths in 1990 to 21.8 per 100 000 livebirths in 2015, achieving MDG 5 on target. China has also met the target for reducing the number of maternal deaths in Sustainable Development Goal (SDG) 3, but the challenge of improving equity remains…https://doi.org/10.1016/S0140-6736(18)32464-4

Advanced natural products chemistry research in China between 2015 and 2017. Chin J Nat Med. 2018;16:881–906. In this review, we intensively focus on the advances in research of natural products (NPs) discovery carried out by domestic scholars in China from 2015 through 2017. In general, a total of 1811 publications (1479 in English and 332 in Chinese) were accumulated regarding newly isolated NPs from plants, microorganisms, and marine sources. As a result, 277 selected papers concerning naturally occurring compounds with extraordinary frameworks, origins, and promising activities were discussed in this review article, mainly organized according to their structural classes and novelties. https://www.sciencedirect.com/science/article/pii/S1875536318301316?via%3Dihub

Disparities by province, age, and sex in site-specific cancer burden attributable to 23 potentially modifiable risk factors in China. Lancet Glob Health 2019;7: PE257-E269. Findings: About 1 036 004 cancer deaths (45·2% of all cancer deaths [95% CI 44·0–46·4]) in China in 2014 in adults aged 20 years or older were attributable to 23 evaluated risk factors. The population-attributable fractions (PAF) was higher in men (51·2% [95% CI 50·0–52·4]) than in women (34·9% [33·6–36·2]), with the leading risk factors being active smoking in men and low fruit intake in women. By province, the PAF in both sexes combined ranged from 35·2% in Shanghai to 52·9% in Heilongjiang, while the PAF varied from 40·9% in Shanghai to 56·4% in Guangdong among men and from 26·9% in Shanghai to 48·0% in Heilongjiang among women. The highest PAF among men was smoking in all 31 provinces, whereas among women it varied among low fruit intake (14 provinces), hepatitis B virus infection (seven provinces), smoking (six provinces), excess bodyweight (three provinces), and human papilloma virus infection (one province). Interpretation: The PAFs of cancers attributable to potentially modifiable risk factors vary substantially across provinces in China. Regional adoption of effective primary cancer prevention strategies has a vast potential to reduce the
burden of cancer and disparities in China. Smoking, poor diet, and infection warrant particular policy attention as they contributed a large proportion to the total cancer burden. 
https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30488-1/fulltext
https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(19)30001-4/fulltext

Acupuncture, TCM and Other Traditional Medicine
1. 2018 Top-10 TCM News according to WFCMS 
https://mp.weixin.qq.com/s/nEAqMZizBN2bTcJrP-25Vw
2. WFCMS launched free-access grand lecture series on the New Year's Day of 2019. 
- Academician Professor ZHANG Boli. Opportunities and Tasks for TCM in the New Era. 
  https://mp.weixin.qq.com/s/s_h8 luKINMhJnQy8IH-S5GJw (中文) 
- Academician Professor CHEN Kaixian. TCM and the Development of Medicine Worldwide. 
  https://mp.weixin.qq.com/s/s_h8 luKINMhJnQy8IH-S5GJw (中文) 
- Academician Professor WU Yiling. TCM Disease and Translational Medicine. 
  https://mp.weixin.qq.com/s/s_h8 luKINMhJnQy8IH-S5GJw (中文) 
- TCM Grand Master Professor WANG Qi. TCM Stature Research in a Globalised World. 
  https://mp.weixin.qq.com/s/s_h8 luKINMhJnQy8IH-S5GJw (中文) 
- Academician HUANG Luqi. Protection and Utilisation of Medicinal Plants in the Belt & Road Initiative. 
  https://mp.weixin.qq.com/s/s_h8 luKINMhJnQy8IH-S5GJw (中文)
http://yswx.njucm.edu.cn/bencao/add11.asp?from=groupmessage&isappinstalled=0 (中文)
4. People's Daily Reporter Junping Wang Investigates the Quality of TCM Drugs. 
https://mp.weixin.qq.com/s/I_TbI7fVlgbvmj_IDVc7g (中文)
5. Gwin P. How ancient remedies are changing modern medicine. National Geographic. Jan. 2019. Long overlooked by Western science, traditional Chinese treatments are yielding cutting-edge cures... 
https://www.nationalgeographic.com/magazine/2019/01/ancient-chinese-remedies-changing-modern-medicine/?from=groupmessage&isappinstalled=0
https://mp.weixin.qq.com/s/AHkUUGAYQG38sR60GMO2g (中文)
6. 13% Chinese have knowledge of TCM culture, according to a survey conducted by the State Administration of TCM in 2017. 
https://mp.weixin.qq.com/s/dWPIqOthTkY6wIRMlQ8OA (中文)
7. Life in TCM: Into the first half of Shang Han Lun (Audio) 
https://mp.weixin.qq.com/s/VZU9LXtutjLOzr1UzpIgQ
Health-strengthening (Fu-Zheng) herbs is a representative type of traditional Chinese medicine (TCM) widely used for cancer treatment in China, which is in contrast to pathogen eliminating (Qu-Xie) herbs. However, the commonness in the biological basis of health-strengthening herbs remains to be holistically elucidated. In this study, an innovative high-throughput research strategy integrating computational and experimental methods of network pharmacology was proposed, and 22 health-strengthening herbs were selected for the investigation. Additionally, 25 pathogen-eliminating herbs were included for comparison. First, based on network-based, large-scale target prediction, we analyzed the target profiles of 1446 TCM compounds. Next, the actions of 166 compounds on 420 antitumor or immune-related genes were measured using a unique high-throughput screening strategy by high-throughput sequencing, referred to as HTS. Furthermore, the structural information and the antitumor activity of the compounds in health-strengthening and pathogen-eliminating herbs were compared. Using network pharmacology analysis, we discovered ...

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6266222/
http://www.nsfc.gov.cn/publish/portal0/tab434/info74725.htm (中文)

9. Paozhi — Processing changes the nature and properties of TCM drugs
https://mp.weixin.qq.com/s/QlfU0dg5UdziaAlKq_PsqA (中文)

10. 2018 — A Summary to Medical and Medicinal Policies
https://mp.weixin.qq.com/s/XWBbseRjpd3I_zVy4Wp6A (中文)

11. Tibetan medicinal bathing listed as Intangible Cultural Heritage on 28 Nov. 2018

12. Aconiti Lateralis Radix Praeparata: TCM Mechanisms of Action, Usage according to Classics and famous TCM Masters, Toxicology and Detoxication:
https://mp.weixin.qq.com/s/4J9aGNMWDO0DjSBuaAPgjQ (中文)

https://mp.weixin.qq.com/s/4D4CJDJi-R3TRk3dtKyuiw (中文)

• A 2018 systematic review and meta-analysis found acupuncture to have a significant treatment effect in improving the birth rates of subfertile women undergoing IVF or ICSI.
• A summary of previous reviews from 2009 to 2017 found acupuncture had a beneficial treatment effect on clinical pregnancy rate. However, according to GRADE assessment guidelines, the scientific methods of the studies included in this review need to be improved.
• It is recommended that future research should explore the impact of acupuncture administration during ovarian stimulation. The aim should be to improve embryo and blastocyst quality, rather than focus on acupuncture post fertilisation.
• Acupuncture may be a suitable treatment option to help reduce stress and anxiety levels for women suffering with subfertility.
• Research indicates that the effectiveness of acupuncture may be dose-dependent, that is a sufficient number of acupuncture treatments are required over an adequate period of time https://emea01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.acupuncture.org.uk%2Findex.php%3Foption%3Dcom_k2%26Itemid%3D1723%26id%3D2485_df64ca31b08cade655d0e6d5ae1645c%26lang%3D%26task%3Ddownload%26view%3Ditem%26fbclid%3DlwAR2gcE23sEz5ut-ABSP15SAnCy5pL9nJYU4pP4MAIGNK1a1b0EAJ40Jc&amp;data=01%7C01%7Cqihe.xu%40kcl.ac

A disease at the genetic level

Science Translational Medicine

cases.

more than 3000 patients with chronic kidney disease yielded a genetic diagnosis in just under 10% of

Med.

https://www.cell.com/molecular

accessible via

distinguished by expression of proteins exposed to the surrounding environment. The resource is freely

organization of the proteome; we show that the majority of proteins have a single main subcellular

localization

investigate the effect of alternative splicing and

across five cell lines. Based on m

unexplored. We have developed a robust mass spectrometry

protein

1. Orre LM. SubCellBarCode: Proteome-wide Mapping of Protein Localization and Relocalization. Mol Cell. 2019;73:166-182.e7. Subcellular localization is a main determinant of protein function; however, a global view of cellular proteome organization remains relatively unexplored. We have developed a robust mass spectrometry-based analysis pipeline to generate a proteome-wide view of subcellular localization for proteins mapping to 12,418 individual genes across five cell lines. Based on more than 83,000 unique classifications and correlation profiling, we investigate the effect of alternative splicing and protein domains on localization, complex member co-localization, cell-type-specific localization, as well as protein relocalization after growth factor inhibition. Our analysis provides information about the cellular architecture and complexity of the spatial organization of the proteome; we show that the majority of proteins have a single main subcellular location, that alternative splicing rarely affects subcellular location, and that cell types are best distinguished by expression of proteins exposed to the surrounding environment. The resource is freely accessible via www.subcellbarcode.org.

https://www.cell.com/molecular-cell/fulltext/S1097-2765(18)31005-0


3. Li S, Gerstein MB. Next-Generation Sequencing to Diagnose Suspected Genetic Disorders. N Engl J Med 2019; 380:200-201. In their review, Adams and Eng (Oct. 4 issue) describe whole-genome sequencing as lacking bioinformatics tools and costly in terms of data management and analysis. We disagree. First, whole-genome sequencing provides unbiased sequencing over the genome, which avoids inherent biases of exome capture. In addition, repetitive regions (e.g., pseudogenes) can confound variant calling in whole-exome sequencing. These aspects make whole-genome sequencing more powerful than whole-exome sequencing in the finding of coding variants. Moreover, whole-exome sequencing misses most
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structural variants because their boundaries are commonly in noncoding regions and whole-exome sequencing coverage fluctuates erratically. Finally, genome-annotation studies show that a considerable fraction of noncoding variants are functional and clinically relevant. In sum, whole-genome sequencing delivers larger sets of variants than whole-exome sequencing and thus a higher diagnostics yield. As research on noncoding regions progresses, whole-genome sequencing will be more useful than whole-exome sequencing for reanalysis in the long run, which makes it the best format for archival-sequencing data sets. We do agree that, as sequencing expenses drop, the cost of data analytics and management increases. Whole-genome sequencing tools are currently well developed and often outperform whole-exome sequencing tools. The more uniform sequencing in whole-genome sequencing actually allows for simpler and more robust processing pipelines.


4. Camacho, DM, et al. *Next-Generation machine learning for biological networks.* Cell 2018;173:1581-92. Machine learning, a collection of data-analytical techniques aimed at building predictive models from multi-dimensional datasets, is becoming integral to modern biological research. By enabling one to generate models that learn from large datasets and make predictions on likely outcomes, machine learning can be used to study complex cellular systems such as biological networks. Here, we provide a primer on machine learning for life scientists, including an introduction to deep learning. We discuss opportunities and challenges at the intersection of machine learning and network biology, which could impact disease biology, drug discovery, microbiome research, and synthetic biology. https://www.cell.com/cell/fulltext/S0092-8674(18)30592-0


https://www.nature.com/articles/s41586-018-0847-y?WT.ec

8. Larsson AJM et al. *Genomic encoding of transcriptional burst kinetics.* Nature 2019; 565:251–254... Together, our data show that burst frequency is primarily encoded in enhancers and burst size in core promoters, and that allelic single-cell RNA sequencing is a powerful model for investigating transcriptional kinetics.

https://www.nature.com/articles/s41586-018-0836-1?WT.ec

9. Gasperini M, et al. *A Genome-wide Framework for Mapping Gene Regulation via Cellular Genetic Screens.* Cell. 2019;176: 377-390.e19. Over one million candidate regulatory elements have been identified across the human genome, but nearly all are unvalidated and their target genes uncertain. Approaches based on human genetics are limited in scope to common variants and in
resolution by linkage disequilibrium. We present a multiplex, expression quantitative trait locus (eQTL)-inspired framework for mapping enhancer-gene pairs by introducing random combinations of CRISPR/Cas9-mediated perturbations to each of many cells, followed by single-cell RNA sequencing (RNA-seq). Across two experiments, we used dCas9-KRAB to perturb 5,920 candidate enhancers with no strong a priori hypothesis as to their target gene(s), measuring effects by profiling 254,974 single-cell transcriptomes. We identified 664 (470 high-confidence) cis enhancer-gene pairs, which were enriched for specific transcription factors, non-housekeeping status, and genomic and 3D conformational proximity to their target genes. This framework will facilitate the large-scale mapping of enhancer-gene regulatory interactions, a critical yet largely uncharted component of the cis-regulatory landscape of the human genome.


Other Recommended Reading


2. Chen DQ, et al. Natural Products as a Source for Antifibrosis Therapy. Trends Pharmacol Sci. 2018;39:937-952. Although fibrosis is a final pathological feature of many chronic diseases, few interventions are available that specifically target the pathogenesis of fibrosis. Natural products are becoming increasingly recognized as effective therapies for fibrosis. The highlights of common cellular and molecular mechanisms of fibrosis facilitate the discovery of effective antifibrotic drugs. We describe some new profibrotic mechanisms and corresponding therapeutic targets using natural products. Interleukin, ephrin-B2, Gas6/TAM, Wnt/β-catenin, hedgehog pathway, PPARγ, lysophosphatidic acid, and CTGF are promising therapeutic targets. Natural products can target these mediators and inhibit chronic inflammation, myofibroblast activation, epithelial-mesenchymal transition, and extracellular matrix accumulation to alleviate fibrosis. Of note, natural products have the potential to inhibit fibrosis in one organ, simultaneously targeting fibrosis in multiple other organs, which provides us new strategies to find antifibrotic drugs.


3. The best inventions of 2018, according to Time Magazine
https://mp.weixin.qq.com/s/XYtAdk7IEzMjLdqYu7RBA

4. Method of the Year 2018, according to Nature Methods. Imaging in freely behaving animals has been selected as the best method advance of the past year, as reported in an Editorial in the first issue of the journal. Nature Methods 2019;16:1.
https://www.nature.com/articles/s41592-018-01292-8


6. The history of chili and its spread in China
https://mp.weixin.qq.com/s/Dc5g77F_qlREFAbS1GkgPw

7. The Scientist article series highlighting the benefits of exercise and their mechanisms:
- Exercise warms the brain causing mice to eat less:

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• This is your brain on exercise
https://www.the-scientist.com/features/this-is-your-brain-on-exercise-64934
• Muscle clocks play a role in regulating metabolism:
• How muscle age and how exercise can slow it?
https://www.the-scientist.com/features/how-muscles-age--and-how-exercise-can-slow-it-64708

8. Gibney E. What to expect in 2019: science in the new year. Nature 2019;565:13-14. Gene-editing, open access and a biosafety rethink are set to shape research… China could emerge as the world’s biggest spender on research and development, after adjusting for the purchasing power of its currency, once countries publish their 2018 spending data in late 2019. Outlays on science in China have accelerated since 2003, although the country still trails behind the United States on measures of research quality. Over in Europe, officials will try to agree on how to disburse a proposed €100 billion (US$110 billion) through the European Union’s next research-funding programme, Horizon Europe, which begins in 2021. It’s unclear how fully UK researchers will be able to participate, as uncertainty over Brexit continues to plague the country. https://www.nature.com/articles/d41586-018-07847-3

9. Bray L et al. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2018;68:394-424. This article provides a status report on the global burden of cancer worldwide using the GLOBOCAN 2018 estimates of cancer incidence and mortality produced by the International Agency for Research on Cancer, with a focus on geographic variability across 20 world regions. There will be an estimated 18.1 million new cancer cases (17.0 million excluding nonmelanoma skin cancer) and 9.6 million cancer deaths (9.5 million excluding nonmelanoma skin cancer) in 2018. In both sexes combined, lung cancer is the most commonly diagnosed cancer(11.6% of the total cases) and the leading cause of cancer death (18.4% of the total cancer deaths), closely followed by female breast cancer (11.6%), prostate cancer (7.1%), and colorectal cancer (6.1%) for incidence and colorectal cancer (9.2%), stomach cancer (8.2%), and liver cancer (8.2%) for mortality. Lung cancer is the most frequent cancer and the leading cause of cancer death among males, followed by prostate and colorectal cancer (for incidence) and liver and stomach cancer (for mortality). Among females, breast cancer is the most commonly diagnosed cancer and the leading cause of cancer death, followed by colorectal and lung cancer (for incidence), and vice versa (for mortality); cervical cancer ranks fourth for both incidence and mortality. The most frequently diagnosed cancer and the leading cause of cancer death, however, substantially vary across countries and within each country depending on the degree of economic development and associated social and life style factors. It is noteworthy that high-quality cancer registry data, the basis for planning and implementing evidence-based cancer control programs, are not available in most low- and middle-income countries. The Global Initiative for CancerRegistry Development is an international partnership that supports better estimation, as well as the collection and use of local data, to prioritize and evaluate national cancer control efforts. https://onlinelibrary.wiley.com/doi/full/10.3322/caac.21492
https://mp.weixin.qq.com/s/3w8xEVCVM2p4H0ZeofhMc7Q (中文)

10. 2018 Breakthrough of the Year. According to Science Magazine, “development cell by cell” was the 2010 Breakthrough of the Year. For details of this breakthrough and many other Runners-up breakthroughs, please visit: http://vis.sciencemag.org/breakthrough2018/
https://mp.weixin.qq.com/s/OZWMVU8-1c-ajid7TLZ6z6g (中文)

11. What’s coming up in 2019, according to Science Magazine? These include in biophysics, bioengineering, research ethics and bioethics, among others…

12. Digital medicine: 8 Nat Med papers on artificial intelligence and medicine published on 7 Jan. 2019. As Nature Medicine celebrates its 25th anniversary, we bring you a special Focus on Digital Medicine that highlights the new technologies transforming medicine and healthcare, as well as the related regulatory challenges ahead. 
https://www.nature.com/collections/egijfhdcih
https://mp.weixin.qq.com/s/YGYE1brkiviiLgezKAqgRw


14. Siegel RL, et al. Cancer statistics, 2019. CA Cancer J Clin. 2019;69:7-34. Each year, the American Cancer Society estimates the numbers of new cancer cases and deaths that will occur in the United States and compiles the most recent data on cancer incidence, mortality, and survival. Incidence data, available through 2015, were collected by the Surveillance, Epidemiology, and End Results Program; the National Program on Cancer Registries; and the North American Association of Central Cancer Registries. Mortality data, available through 2016, were collected by the National Center for Health Statistics. In 2019, 1,762,450 new cancer cases and 606,880 cancer deaths are projected to occur in the United States. Over the past decade of data, the cancer incidence rate (2006-2015) was stable in women and declined by approximately 2% per year in men, whereas the cancer death rate (2007-2016) declined annually by 1.4% and 1.8%, respectively. The overall cancer death rate dropped continuously from 1991 to 2016 by a total of 27%, translating into approximately 2,629,200 fewer cancer deaths than would have been expected if death rates had remained at their peak. Although the racial gap in cancer mortality is slowly narrowing, socioeconomic inequalities are widen, with the most notable gaps for the most preventable cancers. For example, compared with the most affluent counties, mortality rates in the poorest counties were 2-fold higher for cervical cancer and 40% higher for male lung and liver cancers during 2012-2016. Some states are home to both the wealthiest and the poorest counties, suggesting the opportunity for more equitable dissemination of effective cancer prevention, early detection, and treatment strategies. A broader application of existing cancer control knowledge with an emphasis on disadvantaged groups would undoubtedly accelerate progress against cancer.
This is better read along with Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries recently published by the same journal: https://onlinelibrary.wiley.com/doi/full/10.3322/caac.21492
AND in comparison with China’s data: https://mp.weixin.qq.com/s/kq7cfbpDLWFKh4rtw_EUeQ

15. Gerstein H et al. Real-world studies no substitute for RCTs in establishing efficacy. Lancet 2019;393:210-211. We live in the real world, so it is reasonable to expect that data collected from the real world should help identify effective therapies. Indeed, rapid increases in the availability of registries, electronic health records, and insurance claims, and the ability to access, process, link, and analyse data from these sources at fairly low cost lend support for calls to replace randomised controlled trials (RCTs) with so-called real-world studies to establish the efficacy of a therapy, particularly for common serious diseases with abundant, easily collected data such as diabetes. This push is driven partly by the need to show payers that therapies are working and are therefore of value when used in the real world. Other driving factors include the industry’s wish to reduce costs and time to get results, a mistaken belief that real-world data are somehow more relevant than RCT data for establishing efficacy, and the ease and speed with which registry data can be accessed and publications generated.
However, even with the use of sophisticated methods to address various sources of bias, the absence of randomisation precludes protection from confounding and can lead payers and clinicians alike to erroneously infer that a therapy is beneficial or harmful...


16. Chacko XS. When life gives you lemons: Frank Meyer, authority, and credit in early twentieth-century plant hunting. History of Science. 2018;56: 432–69. In the early twentieth century, the United States Department of Agriculture (USDA) funded international expeditions with the aim of finding plant specimens for introduction into the agricultural landscape and the new experimental projects in hybridization. One such agricultural explorer, noted for his eponymous lemon, was Frank Nicholas Meyer, an immigrant from the Netherlands whose expeditions in Asia have brought to the United States celebrated fruit and toxic weeds...

https://journals.sagepub.com/doi/abs/10.1177/0073275318784124

17. Rourke S. Drinking Tea: Are the Health Benefits Real? Medscape Jan 17, 2019. Tea, which was probably first brewed as a beverage in China around 2700 BCE, is one of the oldest and (after water) the second most consumed drink in the world. Camellia sinensis is an evergreen shrub with shiny, bright green leaves; strongly scented flowers; and brown-green seed-bearing fruit, used to produce tea. It has more than 1500 cultivars, derived mainly from two varieties: C sinensis var. assamica, an Indian, single-stem plant with large, soft, and short-lived leaves, and C sinensis var. sinensis, a Chinese multiple-stem shrub with smaller leaves that are hardier in cooler temperatures. It grows in generally warm and humid climates, preferably in acidic soils, on sloping hills at elevations of 2000 meters and above. After becoming popular in Europe, tea was spread widely by the forces of colonialism, and large plantations were established in India, Sri Lanka, Africa, and Indonesia. Today, the biggest tea-producing countries are China (1.9 million tons in 2013, or 38% of the world’s total), India (1.2 million tons), Kenya (436,000 tons), and Sri Lanka (343,100 tons). Around the world, many cultures celebrate the drink for its contributions to social cohesiveness, flavor, and potential health benefits. And we drink a lot of tea—4.8 million tons worldwide in 2013; China (1.6 million tons), India (1 million tons), and Turkey (228,000 tons) led the way,[1] whereas Americans drank 127,000 tons. The tea industry was worth an estimated $12.5 billion in the United States in 2017.......


18. A circular history of the Chinese currency, Renminbi. It’s a fascinating fact that, after 63 years, the total face value of the Chinese currency has returned to 182,000 billion Yuan by the end of 2018. Interested? Please read on…

https://mp.weixin.qq.com/s/NLNZBP-ZhcBKweVPac2pyA (中文)

19. Opportunities and challenges of postdocs towards non-academic career.

https://www.linkresearcher.com/information/08aa0ec9-d16c-4110-b078-13cf054ef073 (中文)
https://www.nature.com/articles/nbt.4059

20. Domínguez F, et al. Association of sleep duration and quality with subclinical atherosclerosis. J Am Coll Cardiol 2019;73(2):134-144. RESULTS: When adjusted for conventional risk factors, very short sleep duration was independently associated with a higher atherosclerotic burden with 3-dimensional vascular ultrasound compared to the reference group (odds ratio: 1.27; 95% confidence interval: 1.06 to 1.52; p = 0.008). Participants within the highest quintile of sleep fragmentation presented a higher prevalence of multiple affected noncoronary territories (odds ratio: 1.34; 95% confidence interval: 1.09 to
1.64; p = 0.006). No differences were observed regarding coronary artery calcification score in the different sleep groups. CONCLUSIONS: Lower sleeping times and fragmented sleep are independently associated with an increased risk of subclinical multiterritory atherosclerosis. These results highlight the importance of healthy sleep habits for the prevention of cardiovascular disease. https://www.sciencedirect.com/science/article/pii/S0735109718391861?via%3Dihub
https://mp.weixin.qq.com/s/3iKsHU3wStS_HOCrUlwelA (中文)

2. Pushpakom S et al. Drug repurposing: progress, challenges and recommendations. Nat Rev Drug Discov. 2019;18:41-53. Given the high attrition rates, substantial costs and slow pace of new drug discovery and development, repurposing of ‘old’ drugs to treat both common and rare diseases is increasingly becoming an attractive proposition because it involves the use of de-risked compounds, with potentially lower overall development costs and shorter development timelines. Various data-driven and experimental approaches have been suggested for the identification of repurposable drug candidates; however, there are also major technological and regulatory challenges that need to be addressed. In this Review, we present approaches used for drug repurposing (also known as drug repositioning), discuss the challenges faced by the repurposing community and recommend innovative ways by which these challenges could be addressed to help realize the full potential of drug repurposing. https://www.nature.com/articles/nrd.2018.168

Invitation from Future Meetings

1. The 7th Annual Meeting of GP-TCM RA will be held in Daegu Haany University (DHU), Daegu City, Republic of Korea, on July 9th – 10th, 2019. The meeting will be jointly hosted by National Development Institute of Korean Medicine (NIKOM) and DHU. Don’t miss this great chance to experience Daegu with an exciting conference programme and rhe networking opportunities!

Left: NIKOM; Middle: DHU; Right: Venue at DHU (https://Goo.Gl/Maps/9ujccwrtyz)

2. 2019 The Lancet–CAMS Health Conference: a call for abstracts. The Chinese Academy of Medical Sciences (CAMS) and the Lancet family of journals invite abstract submissions for the 2019 The Lancet–CAMS Health Conference, to be held on Oct 19–20, 2019, in Chengdu, China. West China Hospital, Sichuan University, will be the local co-organiser with CAMS in Chengdu. 2019 will mark the fifth collaborative conference between CAMS and the Lancet family of journals to support medical research in China. Abstracts must be relevant to health science in China and at least one author must be based at an institution in China. Submissions are invited from all aspects of medical research,… https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)33176-3/fulltext

3. The 16th World Congress of Chinese Medicine will be held in Budapest, Hungary, in November 2019: https://a.eqxiu.com/s/1BpDHw7h (中文)

Invitation from Journals

1. Health-care reform in China: a Lancet call for papers. In 2009, China unveiled its ambitious health-care reform plan, with the goal of provision of affordable and equitable basic health care for all by 2020. The reform is anchored in five interdependent areas: expanding coverage to insure more than 90% of the population, establishing a national essential medicines system, improving the primary care
system, making public health services available and equal for all, and public hospital reforms. How has China changed since the 2009 health-care reform?

In 2019, *The Lancet* will dedicate a theme issue to evaluate the progress of health-care reform in China on its tenth anniversary. The 2019 China theme issue will be launched at *The Lancet–Chinese Academy of Medical Sciences Health Conference in Chengdu, China, on Oct 19–20, 2019*. While we welcome submissions from China throughout the year and across all *Lancet* family journals, the editors invite submissions of high-quality research from China—or from research teams working on health in China—for this issue.

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)33054-X/fulltext

2. **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 Traditional Chinese Medicine, 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.wjtcm.net

**Great news!** Since November 2018, WJTCM has been included in the list of core Chinese scientific journals and magazines! https://mp.weixin.qq.com/s/r5BAEi8uinlpvj0QyhapMA (中文)

**Sounding Board:** 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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Paintings of pigs by Mr Han Meilin and Mr Xing Zhenyu are selected from the following link to celebrate the Chinese New Year on 5th February 2019, which will mark the beginning of the Year of the Pig. We wish you all a healthy, wealthy and prosperous Year of the Pig!

https://mp.weixin.qq.com/s/tlejbxpPrXuyP9ejm814g (中文)

https://mp.weixin.qq.com/s/1oXFeg0vMYtH1DCKWARwug (中文)

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**London New Year Fireworks Show:**

https://mp.weixin.qq.com/s/-J5mx3eq3UnHunpK6ON2WA (中文)