

The November/December 2014 Newsletter of The GP-TCM Research Association



Editorial

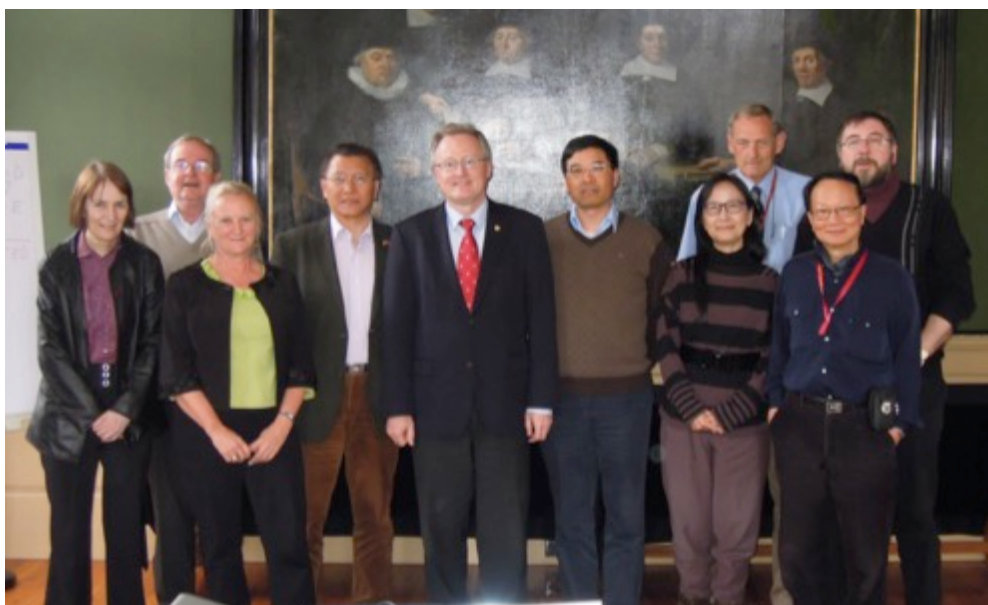
Prof. Dr. Rudolf Bauer
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For almost 25 years, my research interest has been focused on Chinese medicine. Therefore, I was very happy when Chinese medicine got so much attention within FP7, that in 2009 finally the project *Good Practice in Traditional Chinese Medicine Research in the Post-genomic Era* was funded. Dr. Qihe Xu, the coordinator of the project, succeeded to establish a huge consortium for 10 work packages. At the end his team had engaged more than 200 scientists from 112 institutions and 24 countries. They all discussed best practice issues of Chinese herbal medicine and acupuncture research, leading to state-of-the-art reports and recommendations published in the *Journal of Ethnopharmacology* as an open-access special issue. It was our goal to preserve this outstanding and unique platform after the project was completed in 2012.

So it was consequent to set up a sustainable organisation in order to disseminate these guidelines and to develop them further, finally leading to interregional, interdisciplinary and intersectoral research collaborations. When Qihe asked me to lead this organisation as the founding president, I immediately accepted, and finally was also elected by the members.

Since the foundation of the *Good Practice in Traditional Chinese Medicine Research Association* (GP-TCM RA) at the final GP-TCM Congress in Leiden on April 15, 2012, we have been very active to set up the organisational structures and to increase the membership of this new organization. “We” means the Executive Council and the Board of Directors of the GP-TCM RA. It has been team work, and without the support of all these engaged colleagues, it would have failed. Therefore, I want to thank all of them very much for their outstanding engagement, their time, and efforts to give birth to and nourish our “baby”.



The first BoD of the GP-TCM RA: Monique Simmonds, Peter Hylands, Nicola Robinson, Tai-Ping Fan, Rudi Bauer, Qihe Xu, Vivian Wong, Rob Verpoorte, Kelvin Chan, Pierre Duez
(Aiping Lu and De-an Guo were absent from this group photo)

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First of all, I want to thank Qihe for his permanent and extraordinary support, acting as a Vice-President and Deputy Secretary-General of our new organisation in the first years. He organised teleconferences, prepared minutes, and drafted 20 GP-TCM RA Newsletters, besides many other activities. Without him, GP-TCM RA would not exist. That is why we are all sad that he now has decided to retire from the BoD for acceptable reasons. However, we are happy that he is committed to supporting us also in the future. I am sure that he will be back in the BoD at some time.

In addition, I want to thank Dr Tai-Ping Fan for all his efforts as Secretary-General, and Professor Peter Hylands for acting as Treasurer and keeping our finances, but also all the other board members and all the people behind, who have contributed to the development of GP-TCM RA during these years.

In order to set up and to run the organisation, to prepare the annual conferences and to discuss the strategy for future development of good practice in TCM research, we have had the impressive number of 19 BoD teleconferences and 4 face-to-face meetings (mostly for 2 hrs or even longer) during the last two and half years.

We have developed the bylaws, have set up the homepage and installed the membership secretariat and a professional administration system. Scientific highlights were certainly the annual meetings in Shanghai, Graz and Nanjing. Many thanks to the colleagues who have organized these meetings (they were more involved than De-an and me!). It is also important that the next meetings are already fixed: the 4th Annual Meeting will take place in Mons, Belgium from 13th-15th July 2015, to be organized by Pierre Duez, and the 5th Annual Meeting will be held in 2016 in Hong Kong SAR, China, to be organized by Aiping Lu and Vivian Wong.

A milestone was also laid by the installation of Special Interest Groups on Quality Control (chaired by Kelvin Chan), Pharmacology and Toxicology (chaired by Pierre Duez), Clinical Studies (chaired by Aiping Lu), Regulatory Aspects (chaired by Tai-Ping Fan), and Acupuncture (chaired by Nicola Robinson). The scientific aspects and strategies will in future be developed by these interest groups, and they will also play a major role in the organisation of the annual meetings. Everybody is welcome to contribute to these groups.



Chairs and Co-Chairs of Special Interest Groups

Quality Control		Clinical Studies
		
Chair: Kelvin CHAN	Co-Chair: Yuan Shiun CHANG	Chair: Aiping LU
	Acupuncture	
		Co-Chair: Jingyan HAN
	Chair: Nicola ROBINSON	
		Regulatory Aspects
	Co-Chair: Jianping LIU	
Pharmacology and Toxicology		
		Chair: Tai-Ping FAN
Chair: Pierre DUEZ	Co-Chair: Fan QU	
		Co-Chair: Wei-Dong ZHANG

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During this first period, GP-TCM RA succeeded to gain 271 members in total, with 22 life members, 194 regular full members, 25 student members, and 22 corporate members (as on July 18, 2014). Many thanks to everybody who joined GP-TCM RA, in particular to our corporate members, who contribute to the biggest part of our income, and also to all the members who are continuously promoting our association and are attracting new members!

In addition, we are very happy, that we have appointed eight outstanding scientists as Honorary Members of GP-TCM RA: Prof. Geoffrey Burnstock, Prof. Brian Clark, Prof. Yung-Chi Cheng, Prof. Jan van der Greef, Prof. Xinsheng Yao, Prof. Kai-Xian Chen, Prof. Boli Zhang and Prof. Gerhard Franz. They are certainly figureheads of our Association.

It has also to be mentioned that GP-TCM RA has been accepted as an Interested Party to the Committee on Herbal Medicinal Products at the European Medicines Agency (HMPC-EMA), and is contributing to EDQM pharmacopoeia monographs by its members. Therefore, we have gained influence also on regulatory issues. We are also actively participating in the Consortium for Globalization of Chinese Medicine, and we are collaborating with the World Federation of Chinese Medicine Societies. This also supports our international networking. Besides, we have been disseminating our ideas in various publications, and in many conferences, so that GP-TCM RA is quite well known in the meantime.

In summary, we are well prepared for the future. On 1st January 2015, Prof. De-an Guo will take over as President of GP-TCM RA, and Dr. Tai-Ping Fan has been already elected as his successor. Peter Hylands has been re-appointed for the BoD and will act as the Treasurer also in the next term. And, of course I will continue as the Past President. All other BoD members have been re-elected. However, with Prof. Thomas Efferth we will have also one outstanding scientist as a new member in the BoD, and one more will follow.

So I am very optimistic about the future development of GP-TCM RA. After the first period, which has been dedicated very much to the administrative and organisational set-up of our association, I hope that the second period will be characterised more by scientific activities and by several successful grant applications under Horizon 2020. I am inviting also all members, who are not in the Board to actively contribute to this development and to pave the way for a bright future of GP-TCM RA.

Many thanks for all your support in the past!

Rudi Bauer, 鲍儒德

A message from Secretary-General/President-Elect Tai-Ping Fan on “The Art and Science of Traditional Medicine” in *Science* magazine, 19 December 2014.

On 5 November 2011, the Chinese Minister of Health Dr CHEN Zhu 陈竺卫生部长 introduced me to 3 staff members of *Science* magazine over a working lunch at Huai Yang Fu Restaurant 淮扬府 in Beijing. This meeting laid the foundation of a 3-year project, leading to the publication of “The Art and Science of Traditional Medicine” in *Science* on 19 December 2014. To keep editorial integrity and avoid potential conflict of interest, we have chosen not to seek financial support from pharmaceutical companies. Against a multitude of trials and tribulations, my editorial team has finally prevailed, thanks to the generous sponsorship from academic institutions and charitable organisations. **This is the best Christmas present for all those who are dedicated to the good practice of TCM, and other traditional medicine!**

Science magazine was founded in 1880. This unprecedented coverage of traditional medicine in its 134 years, we hope, will raise global awareness of this burgeoning field of scientific endeavours for the benefit of mankind. We are now on the verge of shifting the paradigm of future healthcare,

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TCM and drug discovery. The 1st Issue of this special feature in AAAS *Science* magazine is now online: <http://www.sciencemag.org/content/346/6216/1569.4.summary>

In this first installment of a three part series, we present a series of articles making a case for the integration of traditional Chinese medicine (TCM) into modern medical practice. From the new WHO Traditional Medicine Strategy to the application of systems biology in studying TCM and other traditional medicines, we aim to highlight the potential for creating an integrated, network-based health care system. The next two issues (Jan and March 2015) will cover herbal genomics and highlight the importance of quality control, standardization, regulation, and safety for traditional therapies. An overview of indigenous medicines in Europe, Africa, the Middle East, India, and the Americas will also be provided.



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News from the GP-TCM RA

1. Warm congratulations to Prof. Peter Hylands (King's College London) for being co-opted a Board of Director (BoD) Member of the GP-TCM RA (2015-2016). His appointment as Treasurer has also been renewed at the 18th GP-TCM RA BoD teleconference held on the 18th November 2014.

Professor Peter Hylands is a pharmaceutical chemist trained at the School of Pharmacy in London. He spent two years as Royal Society European Fellow in the Institute of Chemistry, University of Strasbourg, France studying triterpene biosynthesis in the laboratories of the late Guy Ourisson and then was appointed lecturer in pharmacognosy in the University of London. He taught pharmacognosy and chemistry as well as doing research on natural products and herbal medicine and was involved in the first multidisciplinary research effort of the anti-migraine plant feverfew, published in the *British Medical Journal*. He then joined the pharmaceutical and biotechnology industries in the UK and USA and was involved in natural product drug discovery programmes from microbes and plants, and has worked on five continents for many international agencies. Returning to England he started his own company developing plant medicines as drugs and was one of the first to apply metabolomics in the drug development process. He has been Head of the Department of Pharmacy, King's College London for seven years and Director of the Institute of Pharmaceutical Science since 2011 (King's is rated no 3 in the world for Pharmacy and Pharmacology by the QS rankings 2014). Professor Hylands was Chairman of the Technological Advisory Board of the FP7 GP-TCM Consortium, chaired the *In-vitro* Pharmacology work package of the consortium and has served as a Founding BoD and Executive Council Member and the Founding Treasurer of the GP-TCM RA since 2012.



2. Warm congratulations to Prof. Jing-Yan Han (Peking University Health Science Centre) for being appointed by the BoD Co-Chair of the Clinical Studies Interest Group chaired by BoD member Prof. Aiping Lu (Hong Kong Baptist University).

Professor Jing-Yan Han is professor and chairman of Department of Integration of Chinese and Western Medicine, Peking University Health Science Center, and directs the Tasly Microcirculation Research Center, Peking University Health Science Center.

He has published over 50 original articles and reviews in the last 10 years. These studies explored the process of blood stasis and the ameliorating effects of TCM, especially compound traditional Chinese preparation. He has evaluated important concepts in blood stasis including characterization of different blood stasis, differentiation strategy for treatment of blood stasis, the therapeutic effects of TCM and underlying mechanisms. In particular, he has demonstrated the pivotal role of microcirculatory disturbances rather than macrovascular deficits in the whole pathological course of blood stasis related diseases.



Prof. Han is President of the Specialty Committee for Qi-Blood of World Federation of Chinese Medicine Societies, President of the Professional Committee for Microcirculation of Chinese Association of Integrative Medicine, President of the Specialty Committee for Stasis and Phlegm of China Society of Microcirculation, Vice-President of China Society of Microcirculation, councilor of the International Liaison Committee for Microcirculation and Co-editor of the *World Journal of TCM*.

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3. Warm congratulations to Prof. Aiping Lu (Hong Kong Baptist University, BoD Member and Chair of the Clinical Studies Interest Group) for winning two national awards for his remarkable contribution in promoting standardisation of Chinese medicine, namely the “Award for Outstanding Contribution to Standardisation in China” jointly conferred by the General Administration of Quality Supervision, Inspection and Quarantine of the People’s Republic of China and the Standardisation Administration of the People’s Republic of China, and the “Award for Promoting Standardisation” presented by the China Association for Standardisation (CAS).



Left: Professor Aiping Lu (front row, 3rd from left) receives the “Award for Outstanding Contribution to Standardisation in China” at the award presentation ceremony of the China Celebration Week of World Standards Day 2014 in Beijing;
Right : Professor Lu (4th from left) receives the “Award for Promoting Standardisation” at the China Standardisation Forum held in Sichuan.

Obituary



In memory of Professor Brian Clark, Honorary Member of GP-TCM RA.

Professor Brian Clark, founder of structural biology research at Aarhus University, Denmark, died on Monday 6 October 2014 aged 78 years. As Chairman of the FP7 GP-TCM Consortium, Brian whole-heartedly supported the initiatives of the project and took active part in various meetings of the Consortium, e.g. the 1st AGM (Henley-on-Thames, UK; 28-30 July 2010), the Final GP-TCM Conference (Kerkrade, the Netherlands; 12-14 April 2012) and the GP-TCM Conference (Leiden, the Netherlands, 16-18 April 2012). He played an important bridging role between EU and Chinese scientific communities: http://www.efb-central.org/index.php/Main/european_focus_on_biotechnology_in_china_efbic

Brian will be sadly missed yet fondly remembered for his honest and constructive critiques, generous advice, great sense of humour, and wonderful taste for good food and wine. As a

staunch advocate of GP-TCM activities, his vision for translational Chinese medicine has inspired and touched a multitude of our members. In particular, he will forever remain a very good friend, steadfast comrade and influential mentor to Secretary-General/President-Elect Tai-Ping Fan, and many others. In addition to sending our most sincere condolences to Brian’s wife Margaret, we also want to celebrate his life as a scientist, ambassador, enabler, loyal friend and loving husband.

Brian had been Professor of Biostructural Chemistry at University of Aarhus, Denmark since 1974 and Emeritus Professor since 2006. Between 2006-2011, he was Coordinator of the EU Integrated Project PROTEOMAGE. Brian has been widely involved in international activities. He was President of the International Union of Biochemistry and Molecular Biology (IUBMB), Vice-

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Chairman of the European Molecular Biology Organization (EMBO) and is Vice-President of the European Federation of Biotechnology (EFB) and Chairman of the EFB Task Group on International Relations & Co-Chairman, European Focus on Biotechnology in China. In a highly successful career spanning across more than 40 years, he pioneered in many fields such as protein engineering of factors involved in protein synthesis and explanation of function in terms of 3-dimensional structure from X-ray crystallography; macromolecular mimicry and molecular mechanism of protein synthesis; molecular and cellular mechanism of ageing; use of phage display to identify differential cellular gene expression and to characterise mutant proteins; and molecular mechanism of cancer and age-related diseases. Brian has published ~200 papers and 5 books and his achievements include discovery of the Initiation Codon for protein synthesis and hence start of protein coding; first crystallisation of tRNA; determination of the first structure of a GTP-binding protein; structural determination of the ternary complex, etc. To celebrate the career of Brian, his university established a named lecture series after him in 2012 (<http://mbg.au.dk/en/scientific-talks/brian-clark-biotech-lectures/brian-clark/>). More information on <http://mbg.au.dk/en/news-and-events/news-item/artikel/brian-clark-has-died-marking-the-end-of-an-era-1/>



Happy gathering at the GP-TCM Final Meeting at Kerkrade, the Netherlands (April 2012).
Front: Brian Clark and Geoffrey Burstock; Back: Dorothy Fan, Tai-Ping Fan, Nomi Burnstock

European observations

Now 1. Science funding in the EU is on the brink of a crisis. The bloc's 28 member states and the European Parliament still have not agreed a 2015 budget, which must be set by the end of the year. Last-minute budget deals are common, but this year's negotiations are complicated by an unprecedented backlog of unpaid bills. As EU leaders prepare to meet on 2 December to discuss a compromise, there are concerns about unfulfilled commitments and proposed cuts on research spending. *Nature* unpacks the details (Quirin Schiermeier. Published on 26 November 2014).
<http://www.nature.com/news/unpaid-bills-complicate-eu-science-budget-crisis-1.16392>

Now 2. The E.U.'s recipe to create jobs: Innovate. Horizon 2020, the EU's new funding mechanism, is the concrete translation of Europe 2020, a 10-year strategy proposed by the EC to advance Europe's economy in a "smart, inclusive, and sustainable" way. It reflects the widespread sentiment that Europe has fallen behind the rest of the world in innovation. By supporting areas in which Europe already shows strong competence, especially at the near market stage where crucial funding tends to falls short, the EU aims to emerge as a world leader in the areas targeted and grow its economy at the same time. Along the way, it is creating new opportunities for scientists.
<http://sciencecareers.sciencemag.org/sites/default/files/28%2520Nov%2520Europe%2520Feature.pdf>

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3. Science in the new Europe: Central Europe up close...
<http://www.nature.com/news/after-the-berlin-wall-central-europe-up-close-1.16272>

4. Juncker axes EU chief science adviser role
<http://www.sciencebusiness.net/news/76791/Juncker-axes-EU-chief-science-adviser-role>

5. Juncker Announces EUR 315 billion investment plan (Information provided by the UK Research Office) On 26th November, European Commission President Jean-Claude Juncker set out his vision of a EUR 315 billion investment plan to the European Parliament. In his introduction to the Plan, Juncker set out three areas of action needed to boost growth within the EU economy: structural reforms to modernise and preserve a social market economy; fiscal responsibility to restore confidence and the sustainability of public finances; and a boost to investment. The plan mainly addresses this last point, on the basis that investment levels in the EU are down to EUR 370 billion below pre-crisis norms, while US investment is growing. In addition, debt levels have increased from 60% of European GDP to 90% over the last few years. Juncker emphasised that the proposed investment fund would be additional to money already committed through the structural funds and programmes such as Horizon 2020. The mechanism to be used will be a new European Fund for Strategic Investments, guaranteed with public money from the EU budget and the European Investment Bank (EIB), which will aim to mobilise EUR 315 billion over the next three years. To achieve this, a reserve of EUR 21 billion for the EIB will be created, allowing it to give out loans of up to EUR 63 billion. The idea is that these loans will finance riskier aspects of projects worth up to EUR 315 billion, with private investment making up the remaining EUR 252 billion. The focus of the fund will be to invest in infrastructure, particularly broadband and energy networks and transport infrastructure in industrial centres; education, research and innovation; and renewable energy. This EUR 21 billion will comprise three parts: EUR 5 billion from the EIB; EUR 8 billion from the European Commission; which backs up a EUR 16 billion guarantee given to the fund. Of the EUR 8 billion, EUR 3.3 billion will come from Connecting Europe, EUR 2.7 billion from Horizon 2020 and EUR 2 billion from the budget margin. On the EUR 8 billion investment from the Commission, Juncker made the following statement: "I know that some of you are worried about the impact on the research and infrastructure allocations. You fear that redirecting money from the Horizon 2020 and Connecting Europe budget lines will mean that money is lost. But this is not the case. Every euro from these programmes paid into the Fund creates EUR 15 euros for those very same research and infrastructure projects. We are not just moving money around, we are maximising its input." Alongside the package, Juncker promised regulatory reform to simplify investment. He aims to get the Investment Fund up and running by next June.

6. E.U. Commission wants to divert Horizon 2020 money into new investment fund. On 26th November, Jean-Claude Juncker presented his investment plan to the European Parliament. The new boss of the European Commission has sparked criticism with plans to raid the European Union's science budget to fodder a new investment fund aimed at boosting Europe's sluggish economy and creating new jobs.
<http://news.sciencemag.org/europe/2014/11/e-u-commission-wants-divert-horizon-2020-money-new-investment-fund?rss=1>

7. The £10 million Longitude Prize 2014: Applications are now open for all. The Prize has been launched to help solve one of the greatest challenges of modern medicine – the rise of bacterial resistance to antibiotics.

The challenge of antibiotic resistance was chosen following a public vote on six shortlisted challenges, including how to restore movement to those with paralysis and how to ensure everyone has access to clean water.

The choice of the antibiotic resistance challenge reflects growing public concern about the threat it poses, where misuse of antibiotics leads to the emergence of bacteria that cannot be controlled by available medicines.

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It is being run by Nesta, and is supported by Innovate UK as a funding partner. Click here to enter as a competitor: <http://longitudeprize.org/enter>

8. Harsh reality: Two reports highlight the plight of postdocs on both sides of the pond aiming for academia. When hundreds of UK scientists were asked in a recent exercise to describe high-quality scientific research, the most popular word that they suggested was “rigorous”. Most were probably referring to its dictionary definition as “extremely thorough and careful”. But more than a few must have been aware that the word has some other, equally valid, synonyms: rigidly severe, harsh, tough. www.nature.com/news/harsh-reality-1.16465?WT.ec_id=NATURE-20141204

9. Wellcome changes: The Wellcome Trust, the United Kingdom's largest biomedical-research charity, is rebalancing its funding priorities to focus on early-career scientists, collaborations and high-risk, high-reward projects. The London-based trust, which spends more than £700 million (US\$1.1 billion) a year on biomedical research and outreach, plans to boost funds for postdoctoral fellowships and to introduce small 'seed' grants to support research on innovative ideas for which few preliminary data are available. Separate programmes for new and senior investigators will merge, with candidates' career stages considered in grant-application evaluations — a move designed to favour early-career researchers. The shift comes after lengthy consultations with grant applicants, according to Jeremy Farrar, who took the reins at the foundation in April 2013. In a statement, he said that the new framework would help to channel more resources to the most promising questions. “We want to make sure that as we increase our funding, the right opportunities are available,” he said.

<http://www.nature.com/news/wellcome-trust-wants-research-dreams-to-flourish-1.16394>
<http://www.wellcome.ac.uk/News/Media-office/Press-releases/2014/WTP057957.htm>

10. Europe seeks to streamline drug evaluations in its member states:

http://www.nature.com/nm/journal/v20/n12/full/nm1214-1357.html?WT.ec_id=NM-201412

China reports

1. Biomedical research in China desperately needs innovation. According to a recent report in *China Daily*, Xuetao Cao, president of the Chinese Academy of Medical Sciences (CAMS), president of Global Alliance for Chronic Disease (GACD) and president of the Federation of Immunological Societies of Asia-Oceania (FIMSA) said the country has quite limited world level medical researches and findings despite vast investment by the government into the field: http://www.chinadaily.com.cn/china/2014-11/01/content_18838891.htm

In a *Science* Editorial published on 28th November 2014, Cao depicts scientific innovation in China.

Abstract: As the most populated country in the world, China carries an immense disease burden. Thanks to the rising life expectancy of its citizens, urbanization, and lifestyle changes that have accompanied rapid economic growth, the disease spectrum in China has expanded. Noncommunicable chronic conditions such as cardiovascular diseases, diabetes, and cancer are now major contributors to ill health. Fortunately, an overhaul of the national health care system has been under way, with universal health care coverage now available for more than 95% of the population. Such a sea change is also needed in China's biomedical research environment. This requires transforming a system that has existed for decades. The good news is that China is not shying away from this challenge.

<http://www.sciencemag.org/content/346/6213/1035.short>

For more about Xuetao Cao, you are encouraged to read a *Lancet* paper by David Holmes published 1 year and a half ago, entitled *Xuetao Cao: reforming medical research in China*.

[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(13\)61188-5/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)61188-5/fulltext)

You might also be interested in listening to Cao's perspectives on the chronic disease challenge facing China – A report from China's Ministry of Health released in 2013 highlights that 85 percent

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of all deaths in China are due to chronic diseases and that's significantly higher than the rest of the world at 65%, according to the World Health Organization (WHO).

<http://www.gacd.org/media/resources/videos/china-ncds>

2. International collaboration in science: a Chinese perspective. (Jane Qiu. *Natl Sci Rev* (June 2014) 1 (2): 318-321) International collaboration has been crucial for boosting science in China in the past few decades. But the role China plays in major international projects largely depends on research fields and can vary widely. As the country strives to reach new heights in its innovation capacity, there are heated debates over how China can get the most out of international collaboration, what the government's role should be, and whether Chinese researchers should work alone in some cases to build their strength beyond mainstream science. In a forum organized by National Science Review, its executive associate editor Mu-ming Poo discusses these issues with five leading scientists in China. <http://nsr.oxfordjournals.org/content/1/2/318.full.pdf+html>

For more National Science Review articles by Jane Qiu please visit:

Higher education and research innovation in China, published online November 10, 2014.

<http://nsr.oxfordjournals.org/content/early/2014/11/27/nsr.nwu073.1.full.pdf+html?sid=cf52727e-f53d-47c9-abdd-901ac231bb88>

China's funding system and research innovation. *Natl Sci Rev* (March 2014) 1 (1): 161-163.

<http://nsr.oxfordjournals.org/content/1/1/161.full.pdf+html?sid=d7cea6a3-5b89-4a79-b47f-4bda7dd1f03c>

3. Nature Index: A new global indicator for high quality science shows growing strength of China. The growing contribution to science of Chinese institutions such as *Chinese Academy of Sciences* is one striking pattern revealed in the *Nature Index*, launched in early November 2014. High quality science outputs of 20,000 institutions worldwide can now be easily analysed with the new *Nature Index*. The *Nature Index* database tracks the author affiliations of nearly 60,000 high quality scientific articles published per year, disambiguating over 20,000 research institutions worldwide. The database is compiled by Nature Publishing Group in collaboration with Digital Science.

http://www.nature.com/press_releases/nature-index.html

<http://www.natureindex.com/>

4. China headed to overtake EU, US in science & technology spending, OECD says: Squeezed R&D budgets in the EU, Japan and US are reducing the weight of advanced economies in science and technology research, patent applications and scientific publications and leaving China on track to be the world's top R&D spender by around 2019, according to a new report of the Organisation for Economic Co-operation and Development (OECD).

Gross domestic expenditure on R&D (GERD) in 2012 was USD 257 billion in China, USD 397 billion in the United States, USD 282 billion for the EU28 and USD 134 billion in Japan.

<http://www.oecd.org/newsroom/china-headed-to-overtake-eu-us-in-science-technology-spending.htm>

5. China arrests ex-security chief Zhou Yongkang, the most senior Chinese official to be investigated for corruption.

<http://www.bbc.co.uk/news/world-asia-china-30352458>

Meeting reports

1. The 19th GP-TCM RA BoD Teleconference was held 10-11.40am GMT on 17th December 2014. The meeting was attended by Rudolf Bauer (Chair), Pierre Duez, Tai-Ping Fan, De-an Guo, Peter Hylands, Nicola Robinson, Monique Simmonds, Vivian Wong, Qihe Xu (minutes), received apologies from Kelvin Chan, Aiping Lu and Rob Verpoorte. Rudi summarised the past 2 years and a half of GP-TCM RA as a happy and successful experience. The meeting approved the minutes of the 18th BoD t/c and received reports from the President, Vice Presidents, Treasurer,

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Secretary-General, the Mons Meeting Local Chairman and Chairmen of Interest Groups. Rudi shared in advance his editorial as President of GP-TCM RA for the December issue of GP-TCM RA Newsletter to thank everyone of the BoD and to celebrate the teamwork of the Board. He was congratulated by Board members for his recent election to the new role of President-elect of the International Society of Ethnopharmacology (ISE). A few BoD members attended an ISO/TC 249 meeting in Shanghai on in mid-Dec. 2014 and the prospects for future collaborations were discussed. To enable the development of an up-to-date membership database and facilitate members to pay in different manners, it was approved by the BoD that a proposal to amend bylaws to extend non-paid membership from two to three years would be e-mailed to all members for approval. De-an updated his recent interactions with the French Academy of Science and informed the Board that the Chinese thirteenth Five-year Plan for Drug Discovery project has been drafted, in which TCM globalisation is one of the important fields.

The following appointments were approved and congratulated by the BoD: Nicky was appointed Secretary-General; Tai-Ping and Qihe were appointed Editor-in-Chief and Co-Editor of the GP-TCM RA Newsletters, respectively. Additional co-opted BoD member candidates were also discussed. As this was the last BoD meeting Qihe would attend and organise, he thanked all BoD members for all the fabulous support in all these GP-TCM/GP-TCM RA years, and in the future. To strengthen cooperation with the GP-TCM RA Secretariat provided by AssociAction, it was decided that the Treasurer, the current and new Secretary-General would try to visit AssociAction together in January 2015. This was the last BoD meeting chaired by Rudi. He expressed his full confidence in the new BoD under the leadership of De-an and reiterated his full support, a feeling and sentiment shared by all attendees. Finally, Rudi on behalf of himself and the BoD wished every member a Merry Christmas and Happy New Year!

2. 2014 Integrative Traditional and Modern Medicine International Forum was organised by the Chinese Medical Advancement Foundation and Taiwan Association for the Education of Chinese Medicine, under the auspices of Department of Chinese Medicine and Pharmacy, Ministry of Health and Welfare, Taiwan. Besides consensus achieved in Taiwan, updated advancement and challenges were presented from around the world, including Korea, Japan, Hong Kong, Europe, and the USA. Prof. Yung-Chi Cheng gave the global view. Prof Vivian Taam Wong represented Hong Kong but covered China as well. It ended with discussion on the promotion of research, education and practice in Integrative Medicine; the enhancement of resource allocation and the extension of influence.



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Future meetings:

1. The 4th GP-TCM RA Annual Meeting: Joint Meeting of the GP-TCM RA, the TCM Chemistry Specialty Committee and the TCM Pharmaceutical Analysis Specialty Committee of the WFCMS will be held in Mons, Belgium, on 13-15 July 2015.

The meeting provides a platform for regulatory-industrial-academic exchanges and potential research collaborations, on various frontiers of TCM.

Now, meeting website is open:
www.umons.ac.be/tcm-mons2015

With the opening of the website, **invitations for abstract submission, registration and hotel bookings are also open.** First come first served!



Great news: Mons is N°2 of the top 10 list from CNN along prestigious cities/locations !!!

2. The 8th International Workshop Metabolomics Basics and Applications to Plant Sciences, Leiden, The Netherlands, 13-17 April, 2015. Please address enquiries to: plantsandmetabolomics@gmail.com.
www.plantsandmetabolomics.nl

3. The 16th Congress of the International Society of Ethnopharmacology (ISE) will be organized May 16-18, 2016, in Yulin, Guangxi Province, P.R. China.
http://www.gx.xinhuanet.com/newscenter/2014-12/11/c_1113603233.htm

The "International Society for Ethnopharmacology" (ISE) is an international scientific organization of researchers dedicated to the interdisciplinary study of the pharmacological activities of traditional medicines. ISE is also committed to the preservation and conservation of such practices for future generations (<http://www.ethnopharmacology.org>). The Society was established during the 1st Congress of Ethnopharmacology in Strasbourg (France) in 1990, with Academician Prof. Xiao Peigen as one of the founding Board members. Today it has members from 37 different countries and is registered as a charity organization. China is currently represented in the Board by Prof. Peng Yong, IMPLAD, Beijing, and Prof. Xiao Peigen, who has been awarded honorary board membership due to his outstanding contributions to ethnopharmacology. The President-Elect of ISE, Prof. Rudolf Bauer, handed over the flag of ISE to the Mayor of Yulin city during a ceremony in Yulin on 10th of December 2014.

Yulin is called the Southern Herbal City and is well known to host the third largest Chinese medicinal plant market. It was also the launching ceremony of the "China Southern Herbal Garden" which is an agricultural and educational developing project of an area of ca. 25 ha. Huge cultivation of *Dendrobium* has already been established.

The ISE conference in Yulin will focus on research, protection, inheritance, innovation, and development of traditional medical knowledge and medicinal plants. It will be another milestone of ethnopharmacological conferences in China and shall as an important platform for scientific exchange and collaboration attract many scientists from outside and inside China.

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L: Prof. Rudolf Bauer, handed over the flag of ISE to the Mayor of Yulin city. R: Tree planting on the occasion of the launching ceremony of the "China Southern Herbal Garden" Prof. Miao Jinhua, Director of Guangxi Botanical Garden of Medicinal Plants, Wang Kai, CP Committee Secretary of Yulin City, Prof. Rudi Bauer.

Genomics in progress:

1. Close the gaps in human genome. Geneticists have a dirty little secret. More than a decade after the official completion of the Human Genome Project, and despite the publication of multiple updates, the sequence still has hundreds of gaps — many in regions linked to disease. Now, several research efforts are closing in on a truly complete human genome sequence, called the platinum genome.

<http://www.nature.com/news/platinum-genome-takes-on-disease-1.16375>

2. Genomics: Mice in the ENCODE spotlight. The mouse genome was sequenced in 2002 as a primary model in which to study gene function and human diseases and to develop drugs. This was followed by maps of transcribed messenger RNA molecules and of long, non-protein-coding RNAs, which facilitated such experiments and analysis. Yet although 17 mouse strains have been sequenced, genome function and regulation cannot be understood by sequence analysis alone. Now, in four papers recently published in *Nature*, the Mouse ENCODE Consortium presents data sets that dramatically enhance our understanding of the regulation of the mouse genome, and of the similarities and differences compared with the human genome.

<http://www.nature.com/nature/journal/v515/n7527/full/515346a.html>

<http://www.nature.com/nature/journal/v515/n7527/pdf/nature13992.pdf>

<http://www.nature.com/nature/journal/v515/n7527/pdf/nature13972.pdf>

<http://www.nature.com/nature/journal/v515/n7527/pdf/nature13985.pdf>

Recommended readings:

1. A compound isolated from the dried resin of *Toxicodendron vernicifluum* (漆子) is a potent inhibitor of TGF- β 1-induced Smad3 phosphorylation and hinders kidney fibrosis in a renal fibrosis model (Jun Ai, et al. GQ5 Hinders Renal Fibrosis in Obstructive Nephropathy by Selectively Inhibiting TGF- β –Induced Smad3 Phosphorylation. *J Am Soc Nephrol*, published ahead of print November 12, 2014). TGF- β 1, via Smad-dependent or Smad-independent signaling, has a central role in the pathogenesis of renal fibrosis. This pathway has been recognized as a potential target for antifibrotic therapy. Here, we identified GQ5, a small molecular phenolic compound isolated from the dried resin of *Toxicodendron vernicifluum*, as a potent and selective inhibitor of TGF- β 1-induced Smad3 phosphorylation. In TGF- β 1-stimulated renal tubular epithelial cells and interstitial fibroblast cells, GQ5 inhibited the interaction of Smad3 with TGF- β type I receptor (T β RI) by blocking binding of Smad3 to SARA, suppressed subsequent phosphorylation of Smad3, reduced nuclear translocation of Smad2, Smad3, and Smad4, and downregulated the transcription of major fibrotic genes such as α -smooth muscle actin (α -SMA), collagen I, and fibronectin. Notably,

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intraperitoneal administration of GQ5 in rats immediately after unilateral ureteral obstruction (UUO) selectively inhibited Smad3 phosphorylation in UUO kidneys, suppressed renal expression of α -SMA, collagen I, and fibronectin, and resulted in impressive renal protection after obstructive injury. Late administration of GQ5 also effectively attenuated fibrotic lesions in obstructive nephropathy. In conclusion, our results suggest that GQ5 hinders renal fibrosis in rats by selective inhibition of TGF- β 1-induced Smad3 phosphorylation.

<http://jasn.asnjournals.org/content/early/2014/11/11/ASN.2014040363.abstract>

2. Sensation research just had a major breakthrough in 2014. There are 3 recent *Nature* papers on sensation & transforming mechanical energy into electrical signal: Touch and pain sensation are separable. According to a recent paper, an ion channel called Piezo2 is the major transducer of mechanical forces for touch sensation in mice... Piezo2 is a rapidly adapting, mechanically activated ion channel expressed in a subset of sensory neurons of the dorsal root ganglion and in cutaneous mechanoreceptors known as Merkel-cell-neurite complexes.
<http://www.nature.com/nature/journal/v516/n7529/full/nature13980.html>

"Our results indicate that Piezo2 is the Merkel-cell mechanotransduction channel and provide the first line of evidence that Piezo channels have a physiological role in mechanosensation in mammals." <http://www.nature.com/nature/journal/v509/n7502/full/nature13251.html>

"Merkel cells signal static stimuli, such as pressure, whereas sensory afferents transduce dynamic stimuli, such as moving gratings. Thus, the Merkel cell-neurite complex is a unique sensory structure composed of two different receptor cell types specialized for distinct elements of discriminative touch."

<http://www.nature.com/nature/journal/v509/n7502/full/nature13250.html>

3. What is the best way to go about replicating the work of others?

To avoid such unfair judgments, Nobel prize-winning psychologist Daniel Kahneman earlier this year proposed a new etiquette for replication. He suggested that certain actions could be taken by replicating labs to avoid what he calls adversarial replication. These include contacting the original lab and discussing the protocol; inviting the original author to comment on the proposed replication experiments; discussing any amendments to the protocol; and allowing reviewers to read the correspondence. "The rules are designed to motivate both author and replicator to behave reasonably even when they are thoroughly irritated with each other," Kahneman wrote in a commentary outlining his suggested guidelines, posted to *Scribd* in May.

Kahneman's model for replication represents just one of many ways labs can go about trying to reproduce the work of others. In fact, some researchers don't agree that it's always beneficial to fully involve the original lab in a replication attempt.

Nonetheless, the Reproducibility Project: Cancer Biology, will soon begin to roll out the results from a massive set of replication attempts. The largest coordinated effort of its kind, the cancer project is attempting to redo the main experiments from the 50 most-cited papers in cancer biology from 2010 to 2012. Over the coming months, results from the project will be published in *eLife*.

<http://www.the-scientist.com/?articles.view/articleNo/41265/title/The-Rules-of-Replication/>

4. *Nature* announces this year's outstanding science mentors in Ireland or Northern Ireland. Whether you are a mentor or a mentee, this paper by the Editor-in-chief of *Nature* deserves a read. <http://www.nature.com/nature/journal/v515/n7527/full/nj7527-453a.html>

5. Contamination: The toxic side of rice. Rice is the main source of arsenic in food — it absorbs the metalloid more readily than other cereal grains. Around the world, researchers are looking for ways to rid rice of a troublesome companion. This could also be of great relevance to medicinal plants and traditional Chinese medicine.

http://www.nature.com/nature/journal/v514/n7524_suppl/full/514S62a.html

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6. New drugs from fish oil could aid artery repair - “What we’re trying to do is turn an angioplasty into a mosquito bite: we want it to get injured and resolve, not get injured and scar.”

http://www.dddmag.com/news/2014/11/new-drugs-fish-oil-could-aid-artery-repair?et_cid=4282793&et_rid=45532557&type=cta

7. The Scientist Top 10 Innovations 2014

<http://www.the-scientist.com/?articles.view/articleNo/41486/title/Top-10-Innovations-2014/>

8. Nature Medicine lists of “Notable Advances” and “Drugs That Make Headlines”:

http://www.nature.com/nm/journal/v20/n12/full/nm1214-1368.html?WT.ec_id=NM-201412

http://www.nature.com/nm/journal/v20/n12/full/nm1214-1370.html?WT.ec_id=NM-201412

9. Vision matters. Compare the visions of the two leading soft-drinks companies in America in the 1920’s. One was a Boston-based company called Moxies. Their stated aim was “to sell herb-based drinks”. Nothing to get excited about there. The other company’s vision was “to quench the thirst of a nation”. That company was Coca Cola. Today, nobody remembers Moxies...

<http://businesslightsideas.com/?p=475>

10. Special inputs from the *European Journal for Integrative Medicine (EuJIM)*. In issue 6, 2014 of the EuJIM you will find all the peer reviewed open access abstracts from the GP-TCM RA conference held in Nanjing last year:

<http://www.sciencedirect.com/science/journal/18763820/6/6>

The open access editorial written by the president and president elect of GP-TCM RA - **The therapeutic value of natural products derived from Chinese medicine—A systems based perspective** <http://www.sciencedirect.com/science/article/pii/S187638201400300X>

The following virtual special issues of the EuJIM are designed to group articles are issued monthly and the following are currently available as follows.

Virtual Special Issue on Herbal Medicine: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-herbal-medicine/>

Infectious Disease: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-infectious-disease/>

Virtual Special Issue on IM Services: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-im-services/>

Virtual Special Issue on Diagnostics: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-diagnostics/>

Virtual Special Issue on Systematic Reviews: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-systematic-reviews/>

Virtual Special Issue on Mental Health: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-mental-health/>

Virtual Special Issue on Women's Health: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-womens-health/>

Virtual Special Issue on Qualitative Methods: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-qualitative-methods/>

Virtual Special Issue on Children: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-children/>

Cancer: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-cancer/>

Acupuncture: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/virtual-special-issues/virtual-special-issue-on-acupuncture/>

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EuJIM is currently inviting contributions to the following special issues for 2015:
<http://www.journals.elsevier.com/european-journal-of-integrative-medicine/call-for-new-special-issue-submissions/si-on-diagnostic-techniques-and-outcome-measures-for-integra/>

Diagnostic Techniques and Outcome Measures for Integrated Health:

<http://www.journals.elsevier.com/european-journal-of-integrative-medicine/call-for-new-special-issue-submissions/si-on-diagnostic-techniques-and-outcome-measures-for-integra/>

Paediatric integrative Medicine: <http://www.journals.elsevier.com/european-journal-of-integrative-medicine/call-for-new-special-issue-submissions/si-on-paediatric-integrative-medicine/>

Complementary Medicine for Sexual and Reproductive Health:

<http://www.journals.elsevier.com/european-journal-of-integrative-medicine/call-for-new-special-issue-submissions/si-on-complementary-medicine-for-sexual-and-reproductive-hea/>

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