Newsletter of The GP-TCM Research Association
February-March 2014 Edition

The GP-TCM Research Association (GP-TCM RA) now has a full-time Secretariat office

We are pleased and excited to announce that our Association now has a full-time Secretariat office based in Leicester, UK, which will help us improve communications and help grow our Association. Importantly, GP-TCM RA members now have a central point to which to direct their enquiries and to engage and connect with the GP-TCM RA. The office is responsible for handling all membership enquiries and collecting membership fees and is open between 09:00-17:00 UK Time, Monday to Friday.

You can now also pay for your membership renewal subscriptions by credit/debit card via telephone, email and shortly via a secure porthole on the GP-TCM RA website. You will shortly be receiving a request for membership renewal subscriptions sent out by our new Secretariat and we would kindly ask for prompt payment to save time and prevent costly reminders.

For membership enquiries, please email: membership@gp-tcm.org .
The Full GP-TCM RA contact details are as follows:

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Humberstone Lane
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The GP-TCM RA warmly congratulate Prof. De-an Guo for being honoured as one of the three "TCM Persons of the Year 2013 " (2013年中医药年度人物) for his great contributions to TCM science and for resolving the bottleneck of TCM quality control. The award was made jointly by China's State Administration of TCM (国家中医药管理局) and the *China News of TCM* (中国中医药报). The *China News of TCM* has also highlighted Prof. Guo's research among the top 10 TCM News of 2013.

The other two awardees are:

- Prof. WANG Qi, Beijing University of TCM（北京中医药大学王琦教授）for his great contributions to the TCM physique theory and its contribution to public health.
- Mr. LI Zhenji , Vice President and Secretary-General, World Federation of Chinese Medicine Societies（世界中医药学会联合会副主席兼副秘书长李振吉先生）for his great contributions to TCM quality control and international development.

News from the EU

1. Guidelines on Third Country Participation in Horizon 2020 published on 12 Feb. 2014: http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/3cpart/h2020-hi-3cpart_en.pdf

In accordance with Horizon 2020 Rule for Participation, legal entities from third countries not listed in Annex A (e.g. the USA, Canada, Australia, New Zealand, Brazil, Russia, India, China, Mexico) are expected to be funded by their national governments. *Therefore, they do not automatically qualify for EU funding and will receive it only in the following cases:*

- **When such funding is explicitly foreseen in the relevant call text:** Please be reminded that when the call text simply states that participation of legal entities from e.g. China or Russia 'is

encouraged', this does not mean that such entities will be automatically eligible for funding. *The call text must explicitly mention the existence of such funding.* For these topics (INT-1-2015, INT-2-2015, etc), legal entities established in specified focus area of the topic will be eligible to receive funding from the Union budget.

- **When funding for such participants is provided for under a bilateral scientific and technological agreement or any other arrangement between the Union and an international organisation or a third country:** At present only one such agreement is in place which, as explained in footnote 28 of the Work Programme for Societal Challenge *'Health, demographic change and well-being*', allows any legal entity established in the USA to receive Union funding to support its participation in projects supported under all topics in calls from that particular Challenge. Despite the existence of other bilateral scientific and technological agreements between the EU and many third countries, funding for legal entities from these countries is not envisaged at the moment, although this situation might change in the future.
- **When the Commission deems participation of the entity essential for carrying out the action funded through Horizon 2020:** In this particular case funding can be granted on the grounds that participation by the applicant has clear benefits for the consortium, such as outstanding competence or expertise, access to research infrastructures, access to particular geographical environments, or access to vital data.

New 2. EMA/HMPC Invites Comments from GP-TCM RA Members:

- The European Medicines Agency (EMA) has released a concept paper on the second revision of the guideline on the use of the Common Technical Document (CTD) format in the preparation of a registration application for traditional herbal medicinal products for public consultation. This concept paper is concerned with the revision of the clinical and non-clinical sections of the guideline on the use of the CTD format in the preparation of a registration application for traditional herbal medicinal products (EMA/HMPC/71049/2007 Rev. 1). The revision pertains to the presentation and content of Modules 2, 4 and 5 of dossiers for traditional herbal medicinal products (THMPs) to help future applicants in their submissions.
- The document open for consultation is available by clicking here:

http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2013/12/WC500156812.pdf

- Comments should be provided using the following template:

http://www.ema.europa.eu/docs/en_GB/document_library/Template_or_form/2009/10/WC500004016.doc

- The completed comments form should be sent to hmpc.secretariat@ema.europa.eu.
- Please note that the deadline for comments for this concept paper is **15th March 2014**.

New 3. FDA Press Release (19 Feb., 2014)

http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm386372.htm

FDA and EMA strengthen collaboration in pharmacovigilance area

The U.S. Food and Drug Administration and the European Medicines Agency (EMA) have set-up a new 'cluster' on pharmacovigilance (medicine safety) topics. Clusters are regular collaborative meetings between the EMA and regulators outside of the European Union, which focus on specific topic areas that have been identified as requiring an intensified exchange of information and collaboration. Building on the experience of previous regular videoconferences between the FDA and the EMA in this area and on the recent creation of the EMA's Pharmacovigilance Risk Assessment Committee, this cluster will provide a forum for a more systematic and focused exchange of information on the safety of medicines.

The FDA and the EMA have already set-up such clusters to discuss issues related to biosimilars,

medicines to treat cancer, orphan medicines, medicines for children, blood-based products, among other topics. Health Canada and the Japanese Pharmaceuticals and Medical Devices Agency are also involved in some of these clusters.

"The work of protecting the health and safety of the American people cannot be done in isolation," says Janet Woodcock, Director, M.D., Director of the FDA's Center for Drug Evaluation and Research. "It is part of a larger collaborative global effort between the FDA and its international regulatory partners to ensure the health and safety of all our citizens."

As part of the new cluster, discussions on shared pharmacovigilance issues will now take place between the agencies on a monthly basis by teleconference. This increased degree of interaction will allow the agencies to work swiftly in the area of the safety of medicines and to coordinate communication activities. The creation of this cluster is the latest step in the FDA's and the EMA's broader approach to expand and reinforce international collaboration.

"In an increasingly globalised pharmaceutical market, collaboration between medicines' regulators is essential," explains Guido Rasi, the EMA's Executive Director. "Medicines' regulators are inter-dependent: any action taken in one territory has repercussions on the rest of the world. International cooperation is a key area of work for the agency."

This type of collaborative effort is important for ensuring the safety and quality of medicines distributed to consumers throughout the globe. The new cluster will help medicines' regulators harmonize efforts to keep medicines safe, regardless of location.

Canadian and Japanese regulatory authorities will participate in the meetings of the cluster on pharmacovigilance as observers. The information exchange is covered by confidentiality arrangements between the FDA and the other participants.

Movements in the pharmaceutical industry

Bayer buys TCM company Dihon (滇虹药业):

http://www.reuters.com/article/2014/02/27/us-dihon-bayer-idUSBREA1Q0LO20140227
http://www.dihon.com/en/

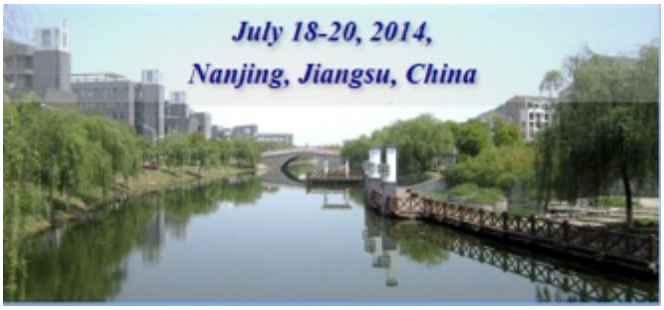
Meeting Reports

The 12th Teleconference of the GP-TCM RA Board of Directors was held at 9:00-11:00 GMT = 10:00-12:00 CET = 17:00-19:00 Beijing Time = 20:00-22:00 Sydney local time, Monday 13th January 2014. Attendees: Rudolf Bauer (Chair), Kelvin Chan, Tai-Ping Fan, Aiping Lu, Nicola Robinson, Vivian Wong, Rob Verpoorte and Qihe Xu (Minutes). Apologies were received from Pierre Duez, Peter Hylands, De-an Guo and Monique Simmonds, with written reports received from De-an, Peter and Pierre. The meeting approved Minutes of the 11th BoD teleconference (9th December 2013) and received reports from President (Rudolf Bauer), President-elect (De-an Guo), Vice President (Qihe Xu), Secretary-General (Tai-Ping Fan) and Treasurer (Peter Hylands), as well as Board members such as Vivian Wong on successful grant application and other activities promoting integrative medicine in Hong Kong. The meeting especially focused on official announcements, abstract submission form and conference grants of the 3rd Annual Conference to be held in Nanjing on 18th-20th July 2014, membership service and professional management, preparation of the GP-TCM RA elections, Interest Group business, as well as grant applications under Horizon 2020. The 13th teleconference will be held on 13th March 2014.

Future Meetings

1. The 3rd GP-TCM RA Annual Meeting invites abstract submission: The 3rd GP-TCM RA Annual Meeting & the 5th Annual Meeting of the TCM Pharmaceutical Analysis Specialty

Committee of WFCMS will be held in Nanjing, China on 18th-20th July 2014. Confirmed speakers and other details: www.gp-tcm.org/wp-content/uploads/2013/03/First-Announcement-V9.pdf



Abstract submission deadline: 31st May 2014.

Abstract submission form can be downloaded from the GP-TCM RA website: http://www.gp-tcm.org/2013/05/3rd-annual-meeting-of-the-good-practice-in-traditional-chinese-medicine-research-association-gp-tcm-ra-18-20-july-2014/

Special note: Selected abstracts will be published as a supplement in European Journal of Integrative Medicine.

New **2. The 13th Meeting of Consortium for Globalization of Chinese Medicine (CGCM)** will be held in Beijing on 27th-29th August, 2014. The Meeting is to be hosted by China Academy of Chinese Medical Sciences. It will provide a platform for regulatory-industrial-academic exchanges and potential research collaborations, on various frontiers of TCM. Details and preliminary programmes of the meeting will be announced soon.

News from GP-TCM Members

New **1. Featuring WHO Collaboration Centre for Traditional Medicine at RMIT University, Melbourne, Australia ….**

With three key members of the WHO Collaboration Centre for Traditional Medicine at RMIT University.
L-R: Tony Zhang, Charlie Xue, Tai-Ping Fan and Ji-Ming Ye

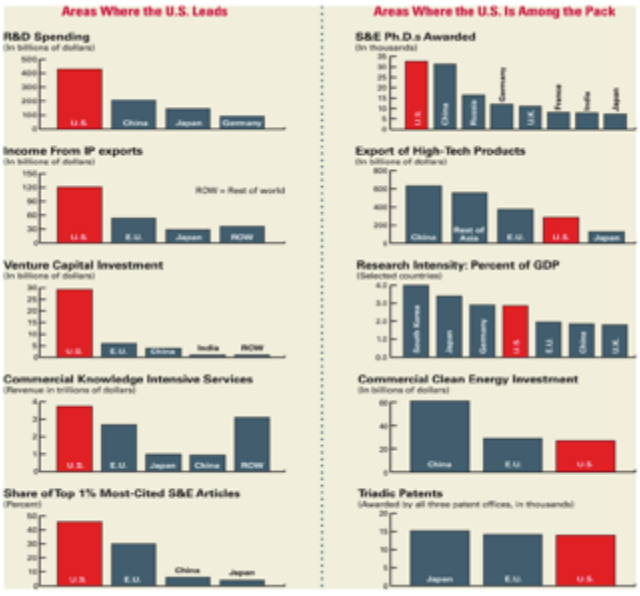
Deputy Vice-Chancellor David Adams

As a 2013 RMIT Foundation International Visiting Fellow, Secretary-General Tai-Ping Fan visited the WHO Collaboration Centre for Traditional Medicine at RMIT University in Dec. 2013. He also visited RMIT's Health Innovations Research Institute. To explore future collaborations, he had active discussions with Deputy Vice-Chancellor David Adams, Profs Charlie Xue, Tony Zhang and Ji-Ming Ye as well as Drs Brian May, Johannah Shergis and Juan Carlos Molero on their multi-disciplinary collaborative research to rigorously evaluate the therapeutic benefits and safety of ginseng for patients with moderate COPD. The work is funded by National Health and Medical Research Council. http://www.rmit.edu.au/chinese-med/gears

2. Prof. Kelvin Chan attended meetings in Abu Dhabi and Taiwan. On 10th December 2013, GP-TCM RA BoD member Kelvin was invited to speak at the *25th Anniversary Conference of the Public Health & Research Department Zayed Complex for Herbal Research & Traditional Medicine* in Abu Dhabi. The theme of the meeting was "Development Strategies for the 21st Century". Following this meeting, Kelvin attended, as both an invited speaker and a session chairman, the *2013 Cross-Strait Symposium on Chinese Medicine and Natural Products* on 14th December at China Medical University, Taichung, Taiwan. Delegations from Mainland China, Taiwan, Macao and Hong Kong, including many GP-TCM RA members and friends, attended the meeting hosted by China Medical University (Taiwan), a GP-TCM RA Corporate Member. After the meeting, Kelvin and other guests enjoyed a fantastic tour of Sun-Moon Lake, Ali-Shan Mountain, etc.

Recommended Readings

1. 2014 *Science* Indicators: Areas where US and other powers lead and lag?
http://www.sciencemag.org/content/343/6172/718.full



J Mervis Science 2014;343:718

2. *Nature* report: Major stem cell biology breakthroughs in mice may transform tomorrow's personalised medicine? A new way of creating stem cells that is cheaper, faster and more efficient than before could transform the ability of scientists to develop "personalised medicine" where a patient's own healthy skin or blood cells can be used to repair damaged tissues, such as heart disease or brain injury.
http://www.nature.com/news/acid-bath-offers-easy-path-to-stem-cells-1.14600
http://www.independent.co.uk/news/science/stem-cell-breakthrough-japanese-scientists-discover-way-to-create-embryoniclike-cells-without-the-ethical-dilemma-9093235.html

…, but this is quickly questioned:

http://www.the-scientist.com/?articles.view/articleNo/39211/title/Stress-Induced-Stem-Cell-Method-Questioned/

3. What is in a name? The need for accurate scientific nomenclature for plants. J Ethnopharmacol. 2013 Dec 25. pii: S0378-8741(13)00902-1.

Confucius says: "If the name is not right then speech will not be in order and if speech is not in order then nothing will be accomplished." (孔子曰："名不正则言不顺,言不顺则事不成"）.This article is so far the most comprehensive documentation on scientific naming of plants. You are highly recommended to read this article along with a GP-TCM publication in the same journal by Chan K et al, entitled "Good practice in reviewing and publishing studies on herbal medicine, with special emphasis on traditional Chinese medicine and Chinese materia medica"
http://www.sciencedirect.com/science/article/pii/S0378874113009021
http://www.sciencedirect.com/science/article/pii/S0378874112000517

4. Why is research on herbal medicinal products important and how can we improve its quality? Journal of Traditional and Complementary Medicine, 2014;4:1-7.

Research on herbal medicinal products is increasingly published in "Western" scientific journals dedicated primarily to conventional medicines. Publications are concerned mainly not only on the issues of safety and interactions, but also on efficacy. In reviews, a recurring complaint has been a lack of quality studies. In this opinion article, the authors present the case of Chinese herbal medicines as an example. They analyse the potential reasons for problems and propose some ways forward…
http://www.jtcm.org/temp/JTraditCompMed411-2619047_071630.pdf

5. UK scientists found that Chinese medicine could hold key to treating inflammatory illnesses:
http://www.yorkshirepost.co.uk/news/main-topics/general-news/chinese-medicine-could-hold-key-to-treating-inflammatory-illnesses-1-6468591

6. Report from Ghana: The use of herbal medicinal products and supplements has increased tremendously over the past three decades with not less than 80% of people worldwide relying on them for some part of primary healthcare. With such growing use of herbal medicines, this paper especially focuses on issues related to adverse reactions and challenges in monitoring safety.

http://www.frontiersin.org/Journal/10.3389/fphar.2013.00177/full?utm_source=newsletter&utm_medium=email&utm_campaign=Pharmacology-w4-2014

7. Pharmacological tools for the development of traditional Chinese medicine. Xuan Liu *et al.* *Trends Pharmacol Sci.* 2013 Nov; 34(11):620-8. doi: 10.1016/j.tips.2013.09.004.
https://www.cell.com/trends/pharmacological-sciences/abstract/S0165-6147(13)00167-3

Pharmacology as a modern science was introduced in China approximately 150 years ago, and has been used since then to study traditional Chinese medicine (TCM). Pharmacology has experienced its own development over this time and continues to provide new tools for the study of TCM. In the present review, three models for the pharmacological study of TCM are considered: (i)

chemistry-focused study; (ii) target-directed study; and (iii) systems-biology-based study. These approaches correspond to recent developments in pharmacology, and in particular to new tools available to the field. Representative achievements and the pharmacological tools used to study TCM are reviewed. Pharmacology has played, and will continue to play, an indispensable role in elucidating the chemical basis, biological targets, and mechanisms of action of TCM medicines, and in developing a scientific basis for the theory of TCM.

Table 1. Comparison of the three models of pharmacological study of TCM

Model	Dating from	Main study objects	Techniques	Achievements or goals
Chemistry-focused study	1920s	Chemical components of TCM medicines; pharmacological activities of the components	Chemical isolation and modification techniques; pharmacodynamics techniques	Development of TCM components or their derivatives into modern medicines; confirmation of the effectiveness of TCMs
Target-directed study	1950s	Targets of TCM compounds; targets of TCM medicines	Molecular biology techniques; computational techniques	Understanding the mechanism of TCM compounds; finding new uses for established TCM medicines
Systems-biology-based study	2000s	Syndrome differentiation or pattern classification (Zheng); combined use of TCMs (compound TCM formulae)	Systems biology techniques such as genomics, proteomics, metabolomics, interactome mapping, bioinformatics	Understanding TCM theory for both disease classification and combined use of TCMs

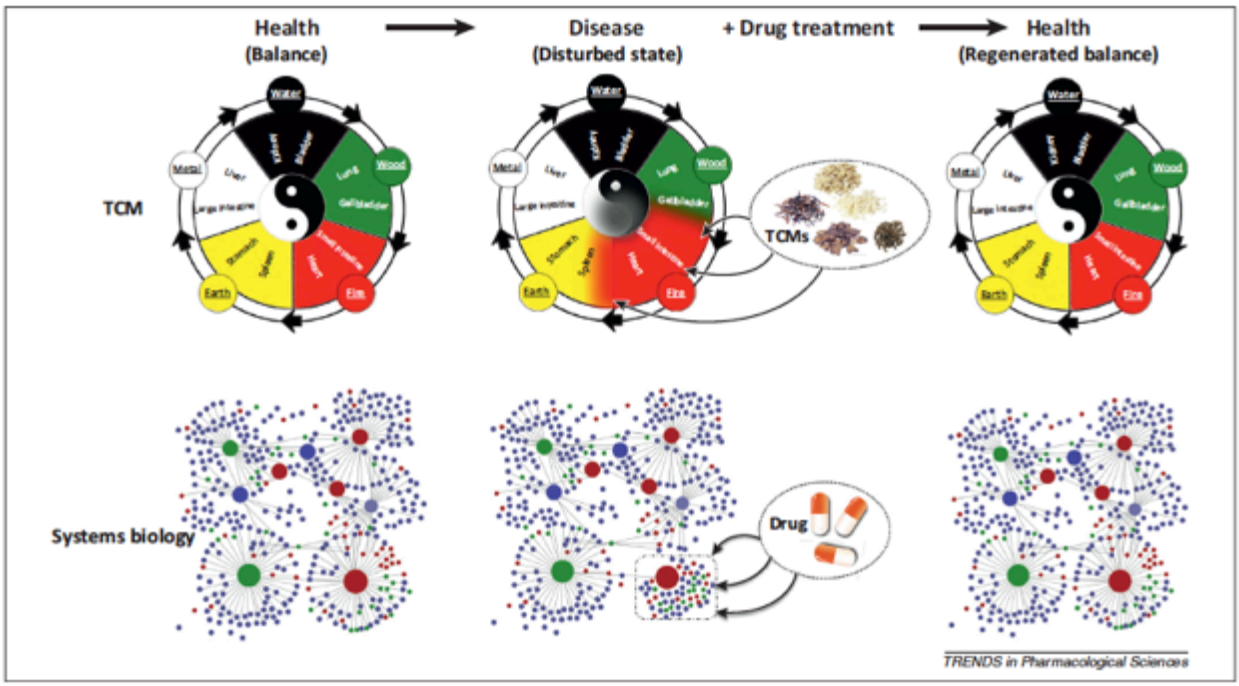


Figure 1. Similarity between TCM theory and systems biology. Both TCM theory and systems biology consider a healthy organism as a balanced system with complicated connections between its components. In TCM theory, the balance is kept by interaction among *Wuxing* (metal, water, wood, fire, earth) and different organs/*Zang* (liver, large intestine, stomach, spleen, heart, small intestine, lung, gall bladder, kidney, bladder). In systems biology, the balance is kept by networks at different levels among genes, proteins, cells, organs, and tissues. If the balance is disturbed, the organism will exhibit diseases. However, with the help of drug treatment, the system in TCM theory and the system in systems biology have the ability to regenerate the balance.

…. but David Hawkes & Joanne Benhamu argued that Pharmacological examination of TCM should be evidence based…. *Trends Pharmacol Sci. 2014 Feb;* 35(3): 111-112. doi:10.1016/j.tips.2014.01.002.

http://www.cell.com/trends/pharmacological-sciences/fulltext/S0165-6147(14)00011-X

New **8. Stranger than fiction: Get ready to be inspired by plants!** What do cells, genes, mutations, transposons, RNA silencing, and DNA recombination have in common? All were discovered first in plants. In the post-genomic era, plant DNA is challenging preconceptions about the evolution of life, including our own species.
http://www.the-scientist.com//?articles.view/articleNo/38729/title/Genomes-Gone-Wild/

9. Elder pharmacology. Studying and treating the chronic diseases associated with aging needs serious revamping:

In both Europe and China, we are facing an aging society. How is the evidence base of our current medical practice in the elderly? What lies in the future?

http://www.the-scientist.com//?articles.view/articleNo/38688/title/Elder-Pharmacology/

10. New CT scans reveal acupuncture points: What is the nature of acupuncture points? Modern imaging technology may help answer this fundamental question…
http://www.healthcmi.com/Acupuncture-Continuing-Education-News/1230-new-ct-scans-reveal-acupuncture-points

Chenglin Liu, *et al.* **X-ray phase-contrast CT imaging of the acupoints based on synchrotron radiation.** *J. Electron Spectrosc. Relat. Phenom.* (2014) http://dx.doi.org/10.1016/j.elspec.2013.12.005

CT scans reveal anatomical structures of acupuncture points. A CT (computerized tomography) scan is a series of X-rays used to create cross-sectional images. In this study published in the *Journal of Electron Spectroscopy and Related Phenomena*, Chenglin Liu *et al.* used in-line phase contrast CT imaging with synchrotron radiation on both non-acupuncture points and acupuncture points. The CT scans revealed clear distinctions between the non-acupuncture point and acupuncture point anatomical structures.

Acupuncture points have a higher density of micro-vessels and contain a large amount of involuted microvascular structures. The non-acupuncture points did not exhibit these properties.

The researchers note that the state-of-the-art CT imaging techniques used in this study allow for improved three-dimensional (3D) imaging of a large field of view without artifacts. This greatly improves imaging of soft tissue and allowed the researchers to make this important discovery.

The acupuncture points ST36 (Zusanli) and ST37 (Shangjuxu) were shown to have very distinct structural differences than surrounding areas. At the acupuncture points, microvascular densities with bifurcations “can be clearly seen around thick blood vessels” but non-acupuncture point areas showed few thick blood vessels and none showed fine, high density structures. The acupuncture points contained fine structures with more large blood vessels that are several dozen micrometers in size plus beds of high density vascularization of vessels 15-50 micrometers in size. This structure was not found in non-acupuncture point areas.

The researchers note that the size of an acupuncture point “can be estimated by the diameter of microvascular aggregations….” They also commented that other research has found unique structures of acupuncture points and acupuncture meridians using MRI (magnetic resonance imaging), infrared imaging, LCD thermal photography, ultrasound and other CT imaging methods. The researchers commented that many studies using these technological approaches have already shown that acupuncture points exist. They note that “the high brightness, wide spectrum, high collimation, polarization and pulsed structure of synchrotron radiation” facilitated their discovery. They concluded, “Our results demonstrated again the existence of acupoints, and also show that the acupoints are special points in mammals.”

In another interesting study, Minyoung Hong *et al.* used an amperometric oxygen microsensor to detect partial oxygen pressure variations at different locations on the anterior aspect of the wrist. The researchers concluded that partial oxygen pressure is significantly higher at acupuncture points. Below are images from the study measuring the increase of partial oxygen pressure combined with an overlay of the local acupuncture point locations. The images map the Lung, Pericardium and Heart channels and their associated local points. Acupuncture points P7 and P6 clearly show high oxygen pressure levels as do the other acupuncture points in the region.

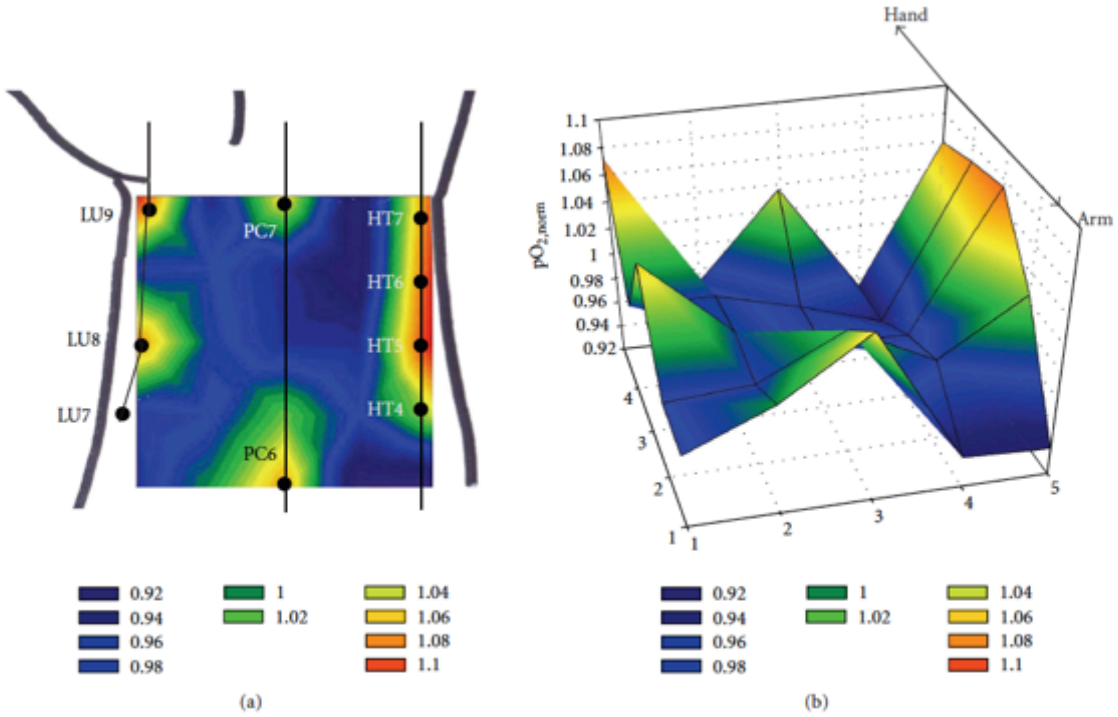


FIGURE 4: (a) 2-D and (b) 3-D illustration for the color-coded contour plots for a typical example of the two-dimensional oxygen measurement over the wrist skin. A linear change in the $pO_{2,norm}$ values was assumed between two adjacent points.

Hong M. *et al.* Heterogeneity of Skin Surface Oxygen Level of Wrist in Relation to Acupuncture Point. *Evidence-Based Complementary and Alternative Medicine*. Volume 2012 (2012), Article ID 106762. http://dx.doi.org/10.1155/2012/106762

These measurements are not needled points but are natural resting states of acupuncture points absent stimulation. A truly unique finding, acupuncture points exhibit special oxygen characteristics. Acupuncture points and acupuncture channels are scientifically measurable

New **11. Dopamine mediates vagal modulation of the immune system by electroacupuncture.** Rafael Torres-Rosas *et al.* *Nature Medicine* 20, 291–295 (2014). doi:10.1038/nm.3479. Previous anti-inflammatory strategies against sepsis, a leading cause of death in hospitals, had limited efficacy in clinical trials, in part because they targeted single cytokines and the experimental models failed to mimic clinical settings. Neuronal networks represent physiological mechanisms, selected by evolution to control inflammation, that can be exploited for the treatment of inflammatory and infectious disorders. Here, we report that sciatic nerve activation with electroacupuncture controls systemic inflammation and rescues mice from polymicrobial peritonitis. Electroacupuncture at the sciatic nerve controls systemic inflammation by inducing vagal activation of aromatic L-amino acid decarboxylase, leading to the production of dopamine in the adrenal medulla. Experimental models with adrenolectomized mice mimic clinical adrenal insufficiency, increase the susceptibility to sepsis and prevent the anti-inflammatory effects of electroacupuncture. Dopamine inhibits cytokine production via dopamine type 1 (D1) receptors. D1 receptor agonists suppress systemic inflammation and rescue mice with adrenal insufficiency from polymicrobial peritonitis. Our results suggest a new anti-inflammatory mechanism mediated by the sciatic and vagus nerves that modulates the production of catecholamines in the adrenal glands. From a pharmacological perspective, the effects of selective dopamine agonists mimic the anti-inflammatory effects of electroacupuncture and can provide therapeutic advantages to control inflammation in infectious and inflammatory disorders. http://www.nature.com/nm/journal/v20/n3/full/nm.3479.html; http://www.nature.com/nm/journal/v20/n3/full/nm.3501.html

12. A special issue on "Network Pharmacology in Traditional Chinese Medicine" to be published on-line on Friday, 14 March 2014, in *Evidence-Based Complementary and Alternative Medicine* (eCAM) http://dx.doi.org/10.1155/2014/138460; http://www.hindawi.com/journals/ecam/2014/138460/

Editorial by Shao Li, Tai-Ping Fan, Wei Jia, Aiping Lu and Weidong Zhang

Network pharmacology is becoming a cutting-edge research field in current drug discovery and drug development thanks to rapid progress in systems biology, network biology, and chemical biology. By integrating reductionist and systems approaches as well as computational and experimental methods, network pharmacology has great potential to act as the next generation mode of drug research. Network pharmacology studies emphasize the paradigm shift from "one target, one drug" to "network target, multicomponent therapeutics," highlighting a holistic thinking also shared by traditional Chinese medicine (TCM). In TCM, the perspective of holism has long been central to herbal treatments of various diseases. Characterized by holistic theory and rich experience in multicomponent therapeutics, TCM herbal formulae offer bright prospects for the control of complex diseases in a systematic manner. Thus, introducing network pharmacology in TCM will provide novel methodologies and new opportunities for discovering bioactive ingredients and endogenous/exogenous biomarkers, revealing mechanisms of action and exploring scientific evidence of numerous herbs and herbal formulae in TCM on the basis of complex biological systems of human body. Moreover, the integration of TCM and network pharmacology can greatly promote the progress of network pharmacology as well. …… In summary, TCM network pharmacology is a new interdisciplinary frontier in both ancient TCM and modern drug discovery and development fields, which represents valuable interactions and exchanges between traditional Chinese medicine and those of network, pharmacological, biomedical and computational sciences. This special issue provides a high-profile venue for dissemination of significant scientific findings in TCM network pharmacology. It is just the beginning. We encourage researchers in TCM and related fields to support the development of this novel and promising direction.

Acknowledgements

Contributions from Prof. **Rudolf Bauer** (Austria), Prof. **Kelvin Chan** (Australia), Prof. **Pierre Duez** (Belgium), Dr. **Tai-Ping Fan** (UK), Prof. **De-an Guo** (China), Prof. **Lixing Lao** (China), Prof. **Olavi Pelkonen** (Finland), Prof. **Nicola Robinson** (UK), Prof. **Michael Heinrich** (UK), Dr. **Qihe Xu** (UK), Prof. **Charlie Xue** (Australia) and Prof. **Tony Zhang** (Australia) are gratefully acknowledged.

Pond in Emmanuel College

Lawn in Downing College

Cambridge in spring 2014