GP-TCM Monthly Newsletter June 2010

Consortium News:

Appointment of new GP-TCM members and changes of membership:

1. Appointment of Dr. Debbie Shaw (Guy's & St Thomas' NHS Foundation Trust, UK) as a Co-Chair of the GP-TCM Standard Operating Protocol (SOP) Panel, along with Prof. Kelvin Chan (Australia) and Prof. Pierre Duez (Belgium) as Co-Chairs. Debbie is one of the earliest initiators of the SOP issue and one of the founding members of the Panel. She has always firmly supported the work of Kelvin and Pierre, and has actively contributed to various discussions and led a number of new initiatives, such as the discussion on the names of Chinese herbal medicines. As Kelvin has recently moved to Australia and Pierre has taken up more demanding leadership in WP3, it is envisioned that, with three of them working together as Co-Chairs, the activities of the Panel will be promoted significantly in the following 2 years of GP-TCM. The SOP Panel will provide principles, quality control protocols and technical support throughout the lifespan of the GP-TCM project. The forthcoming focuses of the Panel will be: (i) to have the Draft GP-TCM SOP Guideline updated and put online; (ii) to have the issues of greatest importance identified and then discussed in regular teleconferences in a coordinated manner, starting after the 1st GP-TCM Annual Meeting, where the work of the Panel will be featured. **Warmest congratulations, Debbie!**

2. Welcome Mrs. Ingrid Hook of Trinity College Dublin (TCD), Ireland, to join GP-TCM as a consortium member dedicated to WP2 (extraction and component analysis). Ingrid is Head of the Department of Pharmacognosy and then Head of the School of Pharmacy and Pharmaceutical Sciences at TCD. Her teaching and research career has concentrated on the study and health implications of medicinal/toxic plants. Her main areas of expertise were identification, quality control and cell culture. She placed particular emphasis on under-researched plants, those of European phytotherapy interest, or plants with a potential for commercialisation. For phytochemical work Ingrid liaised with Dr. Helen Sheridan (a WP2 member) and for molecular systematics with Dr. Trevor Hodkinson (Botany, TCD). The group had funding success for several projects and although research-specific time was short, and teaching time long, Ingrid has successfully produced a portfolio of original publications. As a member for many years of Phytochemical Society of Europe and Society for Medicinal Plant and Natural Product Research (also widely known as GA), Ingrid and her research students, presented communications on a regular basis. Ingrid has plenty of experience for committee work as a member of the European Scientific Cooperative on Phytotherapy (ESCOP), a member of the Irish Medicines Board (IMB) and of the IMB Scientific Committee on Herbal Medicinal Products. **Warmest congratulations, Ingrid!**

3. Welcome Ms. Nadine Su and Mr. Marshall Ma (Link China Pharma Solutions, UK) to join GP-TCM as non-beneficiary members devoted to WP7 and WP10 (R&D and Management). In particular, they will participate in discussions on market entry standards of Chinese herbal medicines in WP7 and will the management team to translate some of our web contents from English into Chinese. Nadine obtained her BA degree in China and master's degree in the UK. She has over ten years of experience in project coordination and management, as well as customer account management in China and the UK. As an important team member, Nadine developed and managed banking projects and had successfully helped an Australian company to launch its products in China. She worked in the UK as a customer account manager in a British medical supplies company before joining Link China Pharma Solutions as Marketing Director. Marshall earned his bachelor's and master's degrees in China and his second master's degree at Manchester University (UK) in 1991. He worked for one of China's top University Research Institutes to successfully organise and publish the influential report "China 2000 Educational and Training Development Strategy" as part of "China 2000 Social and Economic Development Strategy". After working at Vodafone for several years, Marshall started Link China Solutions Ltd in 2004, focusing on collaborations of mutual benefits between the UK and China, specialising in R&D projects, licensing and market entry in the global market and with a special interest in promoting modernisation of TCM globally. Marshall is proudly one of the founding members of Vass Foundation, a charitable organisation dedicated to fight the threat of malaria infection in African children. **Warmest congratulations, Nadine and Marshall!**

4. Dr. Mirko Bayer of WP2 to become a non-beneficiary member: Mirko has been contributing to WP2 activities as a local assistant to the WP2 Coordinator Prof. Peter Proksch at University of Düsseldorf (Germany). As of 1st July 2010, Mirko will start a new job as the assistant of the general management team of CAELO (http://www.caelo.de), a company nearby Düsseldorf that deals with herbal medicines. The company trades in high quantities of medicinal plants, including those described in the German and European Pharmacopoeias, and many plant medicines used in TCM. CAELO delivers plants to

pharmacies and has established chemical and botanical quality standards. Mirko will continue to contribute to WP2 activities as a non-beneficiary member. On behalf of GP-TCM consortium and the management team, we would like to thank Mirko for his contribution to the project activities and we look forward to further collaborating with him at his new position!

5. Welcome Dr. Artitaya Lophatananon (University of Warwick, UK) to join GP-TCM as local assistant to the WP6 Coordinator Prof. Ken Muir (clinical studies). Artitaya's main area of research is epidemiology of cancer. She has been working on both prostate and breast cancer studies. These studies aim to identify risk/protective factors of the diseases. One of the key areas Artitaya is particularly interested in is chemopreventive agents such functional foods, herbal products and any agents occur naturally in the diet (such as capsaicin, phytoestrogens). Artitaya has been involved with traditional medicine survey carried out in 2008 while she was working at the University of Nottingham. In addition to her professional interest, Artitaya has also personal interest in TCM since in Thailand (her home country) TCM has been well established as alternative treatment for many generations. **Warmest congratulations, Artitaya!**

Consortium Events:

1. The 2nd e-MSM (Electronic Management and Science Meeting) was held on 11th June 2010: The Skype teleconference was held on 11th June 2010 and brought together 9 senior consortium members across CO, SOP, and other GP-TCM committees. The group discussed a number of issues, including a report from the Consortium Coordinator to mark the 1st Anniversary of GP-TCM, an update of the TEST-GP Marie Curie Initial Training Network grant application, the 1st Annual meeting at Henley (UK), Europe's new society of TCM research, month 12 deliverables, project website and SOP Panel discussions.

2. A business tour of the GP-TCM Coordinator around Hong Kong, Macao and mainland China: To mark the 1st Anniversary of GP-TCM, Dr. Qihe Xu visited Hong Kong, Macao and mainland China in late May and early June 2010. The trip was kindly sponsored by the King's College London (KCL)-Hong Kong University (HKU) collaboration fund. In Hong Kong, Qihe visited the laboratories of Dr. Hani El-Nazemi, Assistant Coordinator of GP-TCM and Prof. Allan Lau, a non-beneficiary member of GP-TCM. It has been agreed that collaborations on anti-fibrotic herbs research within the existing KCL-HKU partnership framework should be further explored and follow-up meetings in July (in the UK) and August (in Hong Kong) have been planned.

In University of Macau (UM), interactions with the highest level of the university authorities, including University Council Chairman Dr. Daniel Chi Wai Tse and Rector Prof. Wei Zhao were very successful. Discussions with GP-TCM Advisory Board member Prof. Yitao Wang, Director of UM Institute for Chinese Medicine and many UM PIs were highly productive and 2 consortium experts have been identified from UM and will be appointed soon.

In Beijing, interactions with GP-TCM Advisory Board Member, Prof. Shilin Chen, President of Institute for Medicinal Plant Development (IMPLAD) of Chinese Academy of Medical Sciences and individual PIs were highly productive and proposal on founding a UK-China joint centre on Chinese medicine research was made and possible implementation models will be discussed.

In both Hong Kong and Macao, Qihe addressed students and scientists on his research on anti-fibrotic herbs and has introduced the GP-TCM consortium to the audience.

Group photo of Qihe, other speakers and the audience at University of Macau.

Prof. Yitao Wang presented a souvenir to Qihe at the end of the seminar.

Forthcoming GP-TCM and non-GP-TCM Meetings:

1. The 1st GP-TCM Annual Meeting will be held on 27th-30th July 2010: The 1st Annual Meeting, which is also known as the 4th Management and Science Meeting (MSM) of the GP-TCM consortium, will be held on 27th-30th July 2010 at Henley Business School, Greenlands, Henley-on-Thames, Oxfordshire, RG9 3AU, UK. The meeting will gather GP-TCM members to review the progress and pitfalls of the 1st project year and plans for the 2nd year. The event will start with a welcome dinner at 7pm on 27th July 2010 and will continue with two and a half days of workshops and interactive discussion sessions. The meeting agenda can be obtained via the consortium website (http://www.gp-tcm.org/2010/04/the-4th-management-and-science-meeting-msm/).

2. International Congress on Ethnopharmacology with a focus on TCM and speakers from GP-TCM: The 11th Congress of the International Society of Ethnopharmacology (ISE 2010), which is under the theme "Continuity and change in ethnopharmacology: Trans-disciplinary science for our future" will take place in Albacete, Spain from the 20th-25th September 2010. The Congress will be one of the most exciting and prestigious events in the field of medicinal plant sciences.

A key focus of the congress will be on the changing role of TCM both in China and the West. A wide range of activities are foreseen and this includes three keynote / plenary lectures and a symposium on the topic:

- Closing Keynote Lecture by Rudi Bauer (Graz): TCM in the West - Benefits or Bane from an ethnopharmacolical perspective.
- Plenary Lecture by Zhongzhen Zhao (Hong Kong): Globalising TCM: Historical experiences and needs for the future.
- Plenary Lecture by Caroline Weckerle (Zurich): Ethnic medicines in China- a look beyond TCM.

Symposium: East meets West - From Traditional Chinese Medicine to modern Phytomedicines (chaired by De-An Guo and Michael Heinrich) with contributions as follows:

- Wei-Dong Zhang: Learning History to Develop Traditional Chinese Medicine.
- Monique S.J. Simmonds, Christine Leon, Melanie-Jayne Howes, Alan Paton, Robert Allkin, Geoffrey C. Kite, Elaine Porter: Authentication of plants used in medicines, especially traditional Chinese medicine – challenges and opportunities.
- Brigitte Kopp: Aconitum in Traditional Chinese Medicine - A valuable drug or an unpredictable risk?
- Aiping Lu and Xiaojuan He: Anti-oxidant and anti-fatigue and immune modulations of mixture of Ganoderma lucidum, American Ginseng and Fermentation Cordyceps in rats and mice.

Please note that the deadline for early registration and abstract submission of the ISE 2010 has been extended to 27th June 2010. For further details, please visit the website (www.ISE2010.org). All submissions need to be made via this website.

News and Views

1. Novartis' multiple sclerosis (MS) blockbuster highlights potential of nature's drugs. Peter Landers. *The Wall Street Journal*. 22 June, 2010. http://online.wsj.com/article/SB10001424052748704256304575320714138159240.html

A few days ago, a panel of FDA experts pushed Novartis' fingolimod one more step toward a historic approval as the world's first oral MS therapy. That step is just the latest, though, in a 25-year R&D odyssey that has been illuminated by the Wall Street Journal's Peter Landers.

Fingolimod is the brainchild of Tetsuro Fujita, a professor at Kyoto University who felt that nature's pharmacopeia could provide a powerful immunosuppressant. His work focused on Asian fungi which attack insects in the winter and use their corpses as a cradle for new fungi in the summer. They later concentrated on a fungus (Cordyceps sinensis; "winter-insect-summer-plants" 冬虫夏草) that had long been used in Chinese herbal remedies but which had to be chemically tweaked to make it less toxic.

Dr. Fujita tested his creations on rats before settling on fingolimod, which Daniel Vasella personally licensed for Novartis back in 1997. Originally intended as a treatment for transplant patients, whose immune systems often reject new organs, Novartis switched over to MS after seeing a drop in relapses among patients. And while the drug has side effects, the clear benefits have so far made this drug an odds-on favorite for an approval.

Novartis, meanwhile, has set up a research unit that is spotlighting other Chinese remedies that could be reconstituted as powerful new therapies. "We're well aware that there are some very interesting compounds that reside in that area," said Novartis's head of global development, Trevor Mundel.

2. The tale of our other genome

Liping Zhao. *Nature* 465, 879-880 (2010) Published online 16 June 2010; doi:10.1038/465879a. http://www.nature.com/nature/journal/v465/n7300/full/465879a.html

http://news.sciencenet.cn/htmlnews/2010/6/233547.shtm

The groundwork for analysing the human microbiome - sequencing the collective genome of all our resident microorganisms - is now done. This work is of significance for understanding both human health and disease.

Did you know that humans have two genomes? Indeed, although most people appreciate that humans inherit a genome, many fail to realize that the collective genetic information encoded in all the microorganisms acquired from the environment, which are collectively known as the microbiome and generally live harmoniously with us, constitutes a second genome.

3. Acupuncture for mice - Study hints at biological mechanism for alternative therapy. **Daniel Cressey**. *Nature* 465, 538 (2010) Published online 1 June 2010; doi:10.1038/465538a

Long derided by much of the mainstream medical community, acupuncture seems to have just got a little bit less alternative.

Despite anecdotal evidence claiming benefits in treating ailments from allergies to pain, acupuncture faces two big challenges to acceptance in mainstream medicine. Many reviews of clinical trials have concluded that there is no evidence of efficacy for most conditions beyond the placebo effect[1], and there is no scientifically accepted mechanism for how the treatment works.

Research in mice has now provided a biochemical explanation that some experts are finding more persuasive[2], although it might account for only some of the treatment's supposed benefits. "Our study shows there is a clear biological mechanism behind acupuncture," says Maiken Nedergaard, a neuroscientist at the University of Rochester in New York, who led the research.

Nedergaard's team wanted to find out whether the neuromodulator adenosine, which is produced when tissue is injured and has pain-dulling effects, was involved in the purported pain-relieving effects of acupuncture. After inducing pain in the right hind paws of their mice, the researchers inserted and rotated an acupuncture needle just below the 'knee', at a place known in humans as the 'Zusanli point'. For about an hour after the treatment the mice took longer to respond to touch or heat on the paw, indicating that their pain had been dulled. The team found that adenosine levels had increased at the acupuncture site, and that mice lacking a key cell receptor for adenosine did not show the same response.

"One thing that's really nice about this is they approach this question with a specific and firm hypothesis," says Vitaly Napadow, a neuroscientist who studies acupuncture at Harvard Medical School in Boston, Massachusetts. Although sceptical that the mechanism could explain, for example, how acupuncture could relieve headaches, he says that "in conditions such as carpal tunnel syndrome, a mechanism such as that described in this paper might very well be important".

Dominik Irnich, head of the Multidisciplinary Pain Centre at the University of Munich in Germany, and a doctor who uses acupuncture, notes that other studies have proposed mechanisms such as the release of endorphins or other neurotransmitters[3,4]. But Nedergaard says that these would act on the whole nervous system — her study found no effect when acupuncture was applied to the rodents' pain-free left legs, suggesting that there is not a central mechanism.

Edzard Ernst, who studies the effectiveness of alternative therapies at the Peninsula Medical School in Exeter, UK, says that the mechanism is credible, but that the work does not address whether acupuncture is an effective treatment. "If the clinical effect is not beyond placebo, which most of the well-controlled clinical trials seem to suggest, the mechanism is irrelevant and the true mechanism is placebo," he says.

Jana Sawynok, a pharmacologist who studies the pain-modulating effects of adenosine at Dalhousie University in Halifax, Canada, notes that caffeine blocks the adenosine receptor pinpointed in this study. Given the caffeine intake of many countries where acupuncture trials are carried out, this could be a serious confounding issue in trials, she suggests.

Nedergaard says her work may open the way to making acupuncture more effective. Her study also treated the mice with a drug called deoxycoformycin, which suppresses the breakdown of adenosine and is approved in the United States for treating some types of leukaemia. The drug prolonged the pain-relieving effects of the acupuncture treatment by more than an hour; Nedergaard is now trying to organize a trial of this strategy in humans.

References

1. Ernst, E. J. Pain Symptom Manage. 37, 709-714 (2009). 2. Goldman, N. et al. Nature Neurosci. doi:10.1038/nn.2562 (2010). 3. Clement-Jones, V. et al. Lancet 316, 946-949 (1980). 4. Bing, Z. et al. Pain 47, 71-77 (1991).

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