

The GP-TCM RA: Happy Birthday!

The 1st Anniversary of the GP-TCM RA on 16th April 2013 made the day special for the GP-TCM RA and its members. One year ago, the GP-TCM RA was founded during the GP-TCM Congress held in Leiden, the Netherlands, one day after the bylaws of the Association was endorsed by the Board of Directors at the 1st Face-to-Face Meeting of the Board on 15th April 2012.

To introduce the vision of the Association, Executive Council (ExC) Members of the GP-TCM RA recently published a book chapter entitled *The Role of the GP-TCM Research Association to Modernization and Globalization of Traditional Chinese Medicine*. Its web link is as follows. http://link.springer.com/content/pdf/10.1007/978-94-007-6214-5_25

To mark the 1st Anniversary, several members of Board of Directors (BoD) of the GP-TCM RA has conducted and planned a series of promotion activities. For example, President Rudolf Bauer introduced the GP-TCM Research Association at lectures in Beijing (Beijing University of Chinese Medicine, School of Pharmacy, 25.03.2013; Institute of Medicinal Plant Development, 26.03.2013) and Yulin (2013 China-ASEAN summit forum on traditional medicine, organised by International Exchange Center of Traditional Chinese Medicine, State Administration of Traditional Chinese Medicine, 12.04.2013), and in particular in Nanning, where he gave a lecture on "The GP-TCM Research Association – A new international organisation dedicated to best practise in TCM research" at Guangxi Botanical Garden of Medicinal Plants, in Nanning, on 01.04.2013.



President of the GP-TCM RA Professor Rudolf Bauer in Yulin (left) and Beijing (middle and right)

Congratulations on the inauguration of the Vivian Taam Wong Endowed Professorship in Integrative Medicine at the University of Hong Kong on 19th April 2013.





The following Endowed Professorship represents a new venture in academic development. The Professorship will be filled in the near future.

Vivian Taam Wong Professorship in Integrative Medicine

Hong Kong is in a unique position to study the practice of Traditional Chinese Medicine in its pure form because it is illegal for Chinese medicine practitioners to use Western diagnostic and treatment modalities. However, integrating Chinese and Western medicine is practised by most individuals in the community. HKU, with our wide spectrum of world class experts in different



scientific fields, offers fertile research ground for this Professor who would strive to combine the best of both systems to formulate the new medicine of the 21st century, as directed by our former Minister of Health, Prof Chen Zhu. Hence your support for the research on Integrative Medicine would be deeply appreciated.

Professor Vivian Taam Wong

黃譚智媛基金教授席(中西結合醫學) 前國家衛生部陳竺部長:「我們科學家應逐步突破中西醫學之間的 壁壘,建立融中西醫學思想於一體的21世紀新醫學,這種醫學兼取 兩長,既高於現在的中醫,也高於現在的西醫,值得我們為之努力 和奮鬥。」(2007年10月香山) 我窮一生之精力只能引起漣漪,期望藉此教授席喚起各界人士對

找第一生之精力只能引起涟漪,期望籍此教授席唤起谷乔人士对 中西結合醫學研究的關注及支持。

黄譚智媛教授



This Endowed Professorship is a donation by GP-TCM RA BoD member Professor Vivian Taam Wong, to start the Centre for Integrative Medicine Research in HKU.

Hong Kong is in a unique position to study the practice of Traditional Chinese Medicine in its pure form because it is illegal for Chinese medicine practitioners to use Western diagnostic and treatment modalities. However, integrating Chinese and Western medicine is practised by most individuals in the community. HKU, with our wide spectrum of world class experts in different scientific fields, offers fertile research ground for this Professor who would strive to combine the best of both systems to formulate the new medicine of the 21st century, as directed by our former Minister of Health, Professor Chen Zhu. Hence your support for the research on Integrative Medicine would be deeply appreciated.

On behalf of the GP-TCM RA BoD, Secretary-General Tai-Ping Fan and Vice-President Qihe Xu wrote to pay tributes to Professor Wong's sterling efforts, and show their appreciation for her extraordinary generosity in propelling the advancement of TCM and integrative medicine.

GP-TCM RA Activities and Calls for Action:

1. Comments invited on draft monographs of Chinese herbs for the European Pharmacopoeia: The Commission of the European Pharmacopoeia decided in 2005 to establish monographs for the most important herbal TCM decoction pieces. These monographs specify quality parameters for identity, purity, and the content of pharmaceutically relevant constituents, and are legally valid in 36 European countries (include link to the open access review article Bauer, R., Franz, G. Modern European monographs for quality control of Chinese herbs. *Planta Medica*, 2010;76(17): 2004-2011). Currently a working party at the European Directorate for the Quality of Medicines & Health Care (EDQM) is elaborating these monographs, and several members of GP-TCM RA are involved in this work. Elaboration of these monographs follows *Guide for the work of the European Pharmacopoeia* and the workflow is precisely fixed:

http://www.edqm.eu/site/PAPHSG_10_42_DEF_Guide_for_the_work_of_the_Europeapdf-en-7785-2.html http://www.edqm.eu/medias/fichiers/Procedure_1_Workflow.pdf

Drafts of the monographs which have been elaborated by the working party are published in the journal *Pharmeuropa* and are open for comments for three months. *Pharmeuropa* is available on-line with open access: http://pharmeuropa.edgm.eu/home/



All GP-TCM RA members are invited to regularly check the published drafts, to test the suggested methods, and to submit comments via their national pharmacopoeia authorities.

So far, the European Pharmacopoeia has adopted and published 31 monographs of Chinese herbs. Many more are in progress. The status of a monograph can be searched in the Knowledge Database of EDQM: <u>http://extranet.edqm.eu/publications/recherches_sw.shtml</u>

All members are invited to actively participate in this process.

2. The 7th **GP-TCM RA BoD Meeting was held at 10:05-12:15 GMT on Wednesday 13th March 2013 as a Skype teleconference.** The teleconference was chaired by Professor Rudolf Bauer and was participated by Professor Kelvin Chan, Professor Pierre Duez, Dr. Tai-Ping Fan, Professor De-an Guo, Professor Peter Hylands, Professor Vivian Wong and Dr. Qihe Xu. The meeting approved the minutes of the 6th BoD teleconference held on 18th December 2012 and informed the outcomes of the recent Executive Council (ExC) teleconference held on 26th February 2013. It reviewed progresses and achievements in the past months, congratulated Professor **De-an Guo** for the two prestigious honours that he recently received, extended sincere appreciation of the excellent work by **Alan Koo**, our Webmaster and Executive Editor of the GP-TCM RA. Strategic and membership issues were the focus of the 130-min meeting. Some housekeeping and administrative details were also discussed. The 8th and 9th BoD teleconferences will be held on 2nd May and 4th July, which will be followed by the 3rd BoD Face-to-face meeting in Graz in late August during the GP-TCM RA and CGCM Joint Annual Meeting.

3. The 1st **GP-TCM RA Secretariat and Treasurer Joint Meeting was held in London on the 8th Apr. 2013.** The meeting was chaired by Secretary-General Dr. Tai-Ping Fan and attendees included Treasurer Prof. Peter Hyalnds, Dr. Qihe Xu (Vice President and Vice Secretary-General) and Membership Secretary Dr. Rui Fang. Overall planning, key administrative links and future regular secretariat meetings were discussed and database management was demonstrated. It was agreed that more BoD members and regular members with the needed expertise would be invited to join the Secretariat to increase the quality of our service delivered to our members. After the meeting, BoD members Prof. Pierre Duez, Prof. Nicola Robinson (Publicity Secretary) and Life Member Dr Xuebin Dong gladly accepted invitations from Tai-Ping and Qihe and became "newblood members" of the Secretariat. They will join Tai-Ping, Qihe, Rui, as well as Webmaster Alan Koo, on 21st May in a teleconference to discuss overall administrative planning and labour division. Any GP-TCM RA members who are interested in taking on any future administrative duties of the Association please contact secretary-general@gp-tem.org.

4. The 2nd **GP-TCM RA ExC Meeting was held at 13:00-14:30 BST, 19th Apr. 2013 as a Skype teleconference.** The teleconference was chaired by Professor Rudolf Bauer and was attended by Dr. Tai-Ping Fan, Professor De-an Guo and Dr. Qihe Xu. It served as a preparatory meeting for the 8th BoD t/c to be held on 2nd May and especially addressed strategic issues, membership issues, the 2nd Annual Meeting to be held in Graz, Austria and its related finance and bursaries etc.

Meeting Reports

1. The International Congress of Complementary Medicine Research (ICCMR) 2013 Annual Conference was held in London: The ICCMR 2013 (Long term conditions: developing global integrative and sustainable solutions) was held at the Institute of Education, University of London, on 11th-13th April. There were a number of good representations from China, including GP-TCM Consortium member Prof Jianping Liu from Beijing. There were a broad range of symposia, workshops and posters covering various topics including systematic review training, health economics, safety issues. GP-TCM RA BoD members Prof. Kelvin Chan and Prof. Nicola Robinson presented three posters. Prof. Robinson was also involved in two workshops – "Integrative medicine and CAM in health professions education" and "The International Society for Complementary Medicine Research (ISCMR) Young Researchers Session" and there were 4



additional posters from her team. In the Young Researchers Session, she described the issues in getting work published and there were also 3-minute presentations by 5 professors working in the CAM field about lessons learned and what had helped them in their career. The finale resulted in 'speed dating' with 10 professors which really 'mixed everyone up' and encouraged them to discuss their career paths and research collaborations. CAMbrella, the *EU Pan-European Research Network for Complementary and Alternative Medicine*, an EU FP7 project, also had symposia at the conference to disseminate its findings. Their final conference was held in Brussels on November 29, 2012. See http://www.cambrella.eu/home.php for further information.

Of special note was a symposium on "Using and receiving placebos in clinical practice: patients and doctors perspectives". There was a debate around whether it is unethical not to use the placebo as it is so commonly used by conventionally medically trained doctors as identified in a recent survey (No. 3 paper in **Recommended Readings and Recent News**).

On the TCM scene, there were very few mechanistic investigations on herbal medicines; however, studies on acupuncture, Taichi and Qigong on chronic diseases and in particular, areas of musculoskeletal disorders and cancer received most attention. The focus of the conference is mainly that of an integrative clinical approach. Of interest to GP-TCM RA members would be the relevance of clinical guidelines and how they are used in practice. This is an area that the special issue of the *European Journal for Integrative Medicine* (The first item in **Invitations from Journals**) will focus on.

Next year the conference will be held in Miami on 13th-16th May 2014 (www.IRCIMH.org/2014). Research abstracts will be due on 15th October. The 2015 meeting will be held in Jeju Island in South Korea hosted by the Korean Institute of Oriental Medicine in Daejon.

Two posters of Prof. Chan and Prof. Robinson have been uploaded onto the GP-TCM RA website. Any interested party, please visit: <u>http://www.gp-tcm.org/2013/04/research-posters-iscmr-2013/</u>



GP-TCM RA BoD members Prof. Nicola Robinson and Prof. Kelvin Chan at their ISCMR posters, Apr. 2013

Meeting Invitations

1. AFERP & STOLON International Symposium, Brussels, 22-24 May 2013. This will be the first joint symposium of two scientific associations in the field of natural products: *"The French Association for the Study and Research in Pharmacognosy - AFERP"* and *"The Fungal - Plant Science Association Teacher-Researchers of Pharmacy Faculties in French – STOLON"*. Among the local organisers of this symposium, there are two GP-TCM RA members: Pierre DUEZ (pduez@ulb.ac.be) and Caroline STEVIGNY (caroline.stevigny@ulb.ac.be). The symposium programme includes lectures covering various aspects of the identification of new pharmacologically active natural prototypes, the botanical identification of plants and harvesting,



their uses in ethnopharmacology, the isolation and structural identification of active principles, the *in vitro* and *in vivo* pharmacokinetic and toxicological studies and analytical methods for quality control and rapid identification of known compounds. Among the invited speakers, three are GP-TCM members: Monique Simmonds, Rob Verpoorte and Qihe Xu. The goal of this workshop is to bring together researchers in this multidisciplinary field of natural substances of biological interest, including members of the AFERP and STOLON associations, but this event will be open to other national and international researchers in this interdisciplinary field. This is a chance to meet French researchers in the field; if you remember, France has been absent from GP-TCM activities so far. More details about this event is available on the website of the AFERP association (early registration before March 1): www.aferp.univ-rennes1.fr

2. International Conference of Traditional and Complementary Medicine on Health 2013 (ICTCMH 2013) will be held in Taiwan in 24-26 May 2013. It aims to convene world experts in traditional medicine, herbal remedy, and dietary therapy to share the recent scientific evidence and to enhance international collaboration in globalising traditional medicine. Venue: National Research Institute of Chinese Medicine, No. 155-1, Sec. 2, Linong St., Beitou District, Taipei 11221, Taiwan. Official Language: English. Website: http://ictcmh2013.aoetek.com/regist; http://ictcmh2013.nricm.edu.tw/registration

3. The 4th Annual Meeting of The Specialty Committee of TCM Pharmaceutical Analysis of WFCMS & International Conference on Phytopharmaceutical Analysis will be held on 21-23 June 2013 in Tianjin, China. With Professor De-an Guo as a core organiser, the scientific topics of this meeting include: (1) Current quality standards of different pharmacopeia and harmonization, (2) New technologies, methods and trends of TCM quality control, (3) Quality control in processing of Chinese crude drugs, decoction slices, and (4) New technologies, methods and progress of in vivo analysis of TCM. For more information, please contact Xingyun Hou: Telephone: +886 021-81886192 Fax: +886 021-81886191; E-mail: hxy0122@163.com.

4. The 54th Natural Products Annual Meeting of the American Society of Pharmacognosy (ASP) will be held in July 2013 in St Louis MO, USA. Over 500 international attendees are expected. The ASP 2013 website is now live: www.asp2013.org

5. The 12th Meeting of Consortium for the Globalization of Chinese Medicine (27-29 August 2013) and the 2nd Annual Meeting of the GP-TCM Research Association (30 August 2013) will be held in Graz, Austria. Please reserve these dates. Detailed information will follow.

Invitations from Journals

1. *European Journal of Integrative Medicine* announces a special issue: Clinical Guidelines for Integrated Practice. The journal is affiliated with the Research Council for Complementary Medicine (www.elsevier.com/eujim); Editor-in-Chief: Prof. Nicola Robinson (UK). The Co-Editors of this Clinical Guidelines special issue will be Prof. Jianping Liu, Dr. Myeong Soo Lee and Prof. Nicola Robinson. The invitation from the journal reads: "Clinical guidelines are designed to support decision-making processes in patient care. How relevant are they to practice, are they used in practice, do they improve care, how are they constructed and disseminated? Often the content of a guideline is based on a systematic review of clinical evidence as well as best practice and expert opinion. Evidence-based healthcare is now regarded as gold standard motivated and has been supported by clinicians, politicians and management who are rightly concerned about quality, consistency and costs. Many have been developed, though the process is time- and resource consuming. Many have been disseminated, but have they had a major impact on practice? This special issue will be open access (all articles free to access and download) to facilitate access to and use of the guidelines. This means publication charges will apply for successful submissions. For more information, please see www.elsevier.com/eujim.

2. An earlier invitation from the European Journal of Integrative Medicine: Ensuring and Improving patients safety in Integrative health care: Keeping patients safe is a vital part of all



healthcare. Improving patient safety involves assessing how patients could be harmed, preventing or managing risks, reporting and analysing incidents. This special issue will be co-edited by Dr. Hugh MacPherson, Prof. Heather Boon and Prof. Nicola Robinson. For details, please visit:

 $\label{eq:http://www.gp-tcm.org/2013/01/call-for-papers-ensuring-and-improving-patients\%C2\%92-safety-in-integrative-health-care-the-european-journal-of-integrative-medicine/$

The European Journal of Integrative Medicine invites authors to contribute to this special issue planned for late 2013. Please submit your articles to www.elsevier.com/eujim

3. Invitation from Evidence-Based Complementary and Alternative Medicine (eCAM): eCAM would like to inform GP-TCM RA members about an upcoming Special Issue on "Efficacy and Safety of Medicinal Plants used in the Management of Diabetes Mellitus," which will be published in November 2013. The deadline for submission is 5th July, 2013. The Special Issue is open to both original research articles as well as review articles. You can find the Call for Papers for this Special Issue at: http://www.hindawi.com/journals/ecam/si/681090/cfp/

Recommended Readings and Recent News on TCM

1. TCM International (<u>www.chinamedis.com</u>) Beijing East Linden Science & Technology Co. Ltd. invites GP-TCM RA members to visit their website, including their patent database and TCM translation system that are undergoing intensive development, and sincerely seek collaborations worldwide. Interested parties please contact <u>cs@chinamedis.com</u>.

2. Gökmen MR, et al. The Epidemiology, Diagnosis, and Management of Aristolochic Acid Nephropathy: A Narrative Review. (Ann Intern Med 2013;158:469-477): It has been 20 years since the first report of a rapidly progressive renal disease that is associated with the consumption of Chinese herbs containing aristolochic acid (AA) and is now termed aristolochic acid nephropathy (AAN). Recent data have shown that AA is also the primary causative agent in Balkan endemic nephropathy and associated urothelial cancer. AAN is associated with a high long-term risk for renal failure and urothelial cancer, and the potential worldwide population exposure is enormous. This evidence-based review of the diagnostic approach to and management of AAN draws on the authors' experience with the largest and longest-studied combined cohort of patients with this condition. It is hoped that a better understanding of the importance of this under-recognized and severe condition will improve epidemiologic, preventive, and therapeutic strategies to reduce the global burden of this disease. http://annals.org/article.aspx?articleid=1667269

3. Howick J, et al. Placebo use in the United Kingdom: results from a national survey of primary care practitioners. (*PLoS One.* 2013;8(3):e58247):

Surveys in various countries suggest 17% to 80% of doctors prescribe 'placebos' in routine practice, but prevalence of placebo use in UK primary care is unknown. Thus, a web-based questionnaire was administered to a representative sample of UK general practitioners. Following surveys conducted in other countries the authors divided placebos into 'pure' and 'impure'. 'Impure' placebos are interventions with clear efficacy for certain conditions but are prescribed for ailments where their efficacy is unknown, such as antibiotics for suspected viral infections. 'Pure' placebos are interventions such as sugar pills or saline injections without direct pharmacologically active ingredients for the condition being treated. The survey was initiated in April 2012; two reminders were sent and electronic data collection was closed after 4 weeks. RESULTS: 1715 general practitioners were surveyed and 783 (46%) completed the questionnaire. 12% of respondents used pure placebos while 97% used impure placebos at least once in their career. 1% of respondents used pure placebos, and 77% used impure placebos at least once per week. Most (66% for pure, 84% for impure) respondents stated placebos were ethical in some circumstances. **CONCLUSION AND IMPLICATIONS:** Placebo use is common in primary care but questions remain about their benefits, harms, costs, and whether they can be delivered ethically. Further research is required to investigate ethically acceptable and cost-effective placebo interventions.

4. Kim EJ, et al. Evidence-based toxicity evaluation and scheduling of Chinese herbal medicines. (*J Ethnopharmacol* 2013;146:40-61)



INTRODUCTION: While there is an increasing number of toxicity report cases and toxicological studies on Chinese herbal medicines, the guidelines for toxicity evaluation and scheduling of Chinese herbal medicines are lacking. The aim of this study was to review the current literature on potentially toxic Chinese herbal medicines, and to develop a scheduling platform which will inform an evidence-based regulatory framework for these medicines in the community. MATERIALS AND **METHODS:** The Australian and Chinese regulations were used as a starting point to compile a list of potentially toxic herbs. Systematic literature searches of botanical and pharmaceutical Latin name, English and Chinese names and suspected toxic chemicals were conducted on Medline, PubMed and Chinese CNKI databases. RESULTS: Seventy-four Chinese herbal medicines were identified and five of them were selected for detailed study. Preclinical and clinical data were summarised at six levels. Based on the evaluation criteria, which included risk-benefit analysis, severity of toxic effects and clinical and preclinical data, four regulatory classes were proposed: Prohibited for medicinal usage, which are those with high toxicity and can lead to injury or death, e.g., aristolochia; Restricted for medicinal usage, e.g., aconite, asarum, and ephedra; Required warning label, e.g., coltsfoot; and Over-the-counter herbs for those herbs with a safe toxicity profile. CONCLUSION: Chinese herbal medicines should be scheduled based on a set of evaluation criteria, to ensure their safe use and to satisfy the need for access to the herbs. The current Chinese and Australian regulation of Chinese herbal medicines should be updated to restrict the access of some potentially toxic herbs to Chinese medicine practitioners who are gualified through registration. http://www.sciencedirect.com/science/article/pii/S0378874112008616

5. The science behind acupuncture is explored in a open-access Special Issue of *Medical Acupuncture:* <u>http://online.liebertpub.com/toc/acu/25/2</u>

6. The UK's Medicines and Healthcare products Regulatory Agency (MHRA) warns of the dangers of taking unlicensed herbal medicines containing aconite (MHRA, 16-04-13)

The MHRA has recently become aware that an unlicensed herbal product, Zheng Tian Wan $\mathbb{E} \mp \pi$, containing aconite, a prescription only medicine, is being marketed and prescribed by TCM practitioners for the treatment migraine. Aconite (also known as monkshood) and herbal products containing this ingredient can cause serious and potentially fatal adverse reactions if consumed. Zheng Tian Wan is manufactured by the Shenzhen 999 Chinese Medicine Investment & Development Co., Ltd. The product is said to include prepared aconite. In TCM, Aconitum rootstocks are processed by soaking or boiling them in water in order to hydrolyse the aconite alkaloids into their less toxic, aconine derivatives. Toxicity can, however, result when such processes are not controlled or the final product is not quality checked appropriately. Cases of cardiotoxicity resulting from the ingestion of badly prepared Aconitum species used in TCM have been reported from Hong Kong.

Possible side effects: Since 1999, the MHRA has received 3 reports of adverse reactions suspected to be associated with products containing aconite. Two of the cases involved TCM products containing multiple ingredients. The first patient experienced palpitations, aches and pains with shortness of breath and generally felt unwell but recovered after stopping the TCM product. The second patient developed kidney problems and required dialysis and the third patient actually prepared a tincture from the herbs and developed dizziness, nausea the feeling of pins and needles in their face, lips, arms and legs. They were admitted to hospital but recovered after stopping the aconite product.

http://www.mhra.gov.uk/Safetyinformation/Generalsafetyinformationandadvice/Herbalmedicines/Herbalsafetyupdates/Allherbalsafetyup dates/CON263932

7. The UK's Home Office has reduced restrictions governing the storage and prescription of GW Pharma's cannabis-based multiple sclerosis medicine Sativex (*PharmaTimes* 11-04-13). http://www.pharmatimes.com/Article/13-04-11/Home_Offices_eases_restrictions_on_GW_s_Sativex.aspx

8. Flu TCM: just a placebo? (*Global Times* 09-04-13) http://www.globaltimes.cn/content/773810.shtml#.UWvT4IVU2Uc



9. Experts urge regulations following TCM scandal (*China Daily* 16-04-13):

http://www.chinadaily.com.cn/china/2013-04/16/content_16412250.htm

10. China's Chinese patent medicine industry (*SBWire* 15-04-13) has been running in good condition, with the revenue increasing from RMB 142 billion in 2008 to RMB 360 billion in 2012 at a CAGR of 26.2%. Over the same period, the total profit maintained a CAGR of 26.6%, and the gross margin remained higher than the average level of the overall pharmaceutical industry. http://www.sbwire.com/press-releases/china-chinese-patent-medicine-industry-expected-to-grow-33-to-39-new-research-report-at-researchmozus-236865.htm

Finally, Cambridge and King's joined forces in establishing DNA structure: 60 years on...

The discovery of the structure of DNA (posted 25th April 2013) Today marks the 60th anniversary of the famous edition of Nature, which revealed the secrets of DNA and detailed the physical and chemical basis of how characteristics are passed down through the generations. Two of the three historic papers about the structure of DNA published in Nature on 25 April 1953 were written by scientists from the Randall Institute at King's College London. This Institute at King's was the first to bring together physicists, chemists and biologists and to apply physical techniques to the solution of biological problems. Work on DNA began at King's by Maurice Wilkins and Ray Gosling. In the summer of 1950, using a moistened sample of DNA fibres and an X-ray diffraction camera they had modified by filling it with hydrogen to reduce background scattering, they obtained the clearest pictures so far of the crystalline pattern of DNA. In the same year their colleague Alec Stokes suggested that the patterns obtained by their images showed that the molecule was helical in structure. 'Photo 51', taken by Rosalind Franklin and Ray Gosling at King's in 1952, can claim to be one of the world's most important photographs. It demonstrated the helical structure of DNA and, with their own deductions, enabled James Watson and Francis Crick of the University of Cambridge to build the first correct model of the DNA molecule. Their Nature paper (A Structure for Deoxyribose Nucleic Acid) was published alongside Molecular Structure of Deoxypentose Nucleic Acids by M H F Wilkins, A R Stokes & H R Wilson; and Molecular Configuration in Sodium Thymonucleate, by R Franklin and R G Gosling.

http://www.kcl.ac.uk/newsevents/news/newsrecords/2013/04-April/The-discovery-of-the-structure-of-DNA.aspx

Crick Memorial Meeting - 60th Anniversary of DNA Structure (Cambridge, UK, 25th April 2013). To commemorate the 60th anniversary of the publication of the structure of DNA, and the approaching centenary of the birth of Francis Crick, the Federation of European Biochemical Soceities (FEBS) and the Agouron Institute sponsored in conjunction with Gonville and Caius College a unique and historic meeting given by colleagues who were present at the time and by historians of science. This was the last decennial meeting in which those colleagues were likely to be able to present lectures. Video recordings of all of the day's talks are available on http://www.ch.cam.ac.uk/content/crick-memorial-meeting-60th-anniversary-dna-structure

Cambridge scientists discover quadruple-helix DNA in human cells. Sixty years after Francis Crick and James Watson famously declared that they had discovered the double- helix structure of DNA, a new generation of Cambridge scientists have published a paper confirming the presence of four-stranded "quadruple helix" DNA in human cells, a discovery which they claim may lead to the development of new drugs to fight cancer. The paper, published in *Nature Chemistry*, proves the existence of the quadruple-helix DNA structures, known as G-quadruplexes, in regions of DNA rich in guanine, one of the four building-blocks of genetic code. While previous studies had shown that these structures could form in vitro, they were not believed to occur naturally in human cells. http://www.varsity.co.uk/news/5447

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