

UK-CGCM 2020-2023 Report

Chair:

Professor Ian Sutherland, Brunel University London

Co-chair:

Dr. Tai-Ping Fan, University of Cambridge

Retired in 2017 and 2020 respectively

New chair and co-chair to be elected during 2023/2024

Mission & Goals of UK-CGCM

- To advance the field of Chinese herbal medicine to benefit human kind through **joint efforts of the academic institutions, industries and regulatory agencies throughout the UK.**
- To develop **platform technologies** required for advancing Chinese herbal medicine by joint efforts.
- To facilitate the interaction and collaboration among different institutes in advancing Chinese herbal medicine by **sharing information.**
- To promote a **high quality evidence-based research** and develop Chinese herbal medicine internationally.
- To assist industry with the development of **new products and their regulatory acceptance**

UK-CGCM

- 1) Bradford University
- 2) **Brunel University London**
- 3) **Cambridge University**
- 4) **King's College London**
- 5) Liverpool John Moores University
- 6) Nottingham University
- 7) **Oxford University**
- 8) Royal Botanic Gardens, Kew
- 9) **UCL School of Pharmacy**
- 10) University of Westminster
- 11) **The UK Centre of Chinese Medicine (CCMUK)**

Professor Ian Sutherland: “We are what we share”



- Brunel’s Advanced Bioprocessing Centre (ABC) is the lead global centre on the extraction and scale-up of active compounds from natural products and Chinese Herbal Medicines (CHMs)
- Although it has been a relatively quiet year, Brunel has been actively collaborating with Chicago University on developing affordable Countercurrent Chromatography Equipment using 3D printing techniques.
- We have also joined a consortium with Tai-Ping Fan in Cambridge and a new company interested in developing novel immune modulators from mixture of medicinal plants. This work is still awaiting intellectual property agreement being put in place and so no details are available at this stage.
- Our research on CCC technology has been dormant for a while, while we have been developing a new academic Chemical Engineering Course.



Retired from Cambridge University in October 2020

Remains research-active in TCM with labs in Xi'an, Wuxi and Jinan

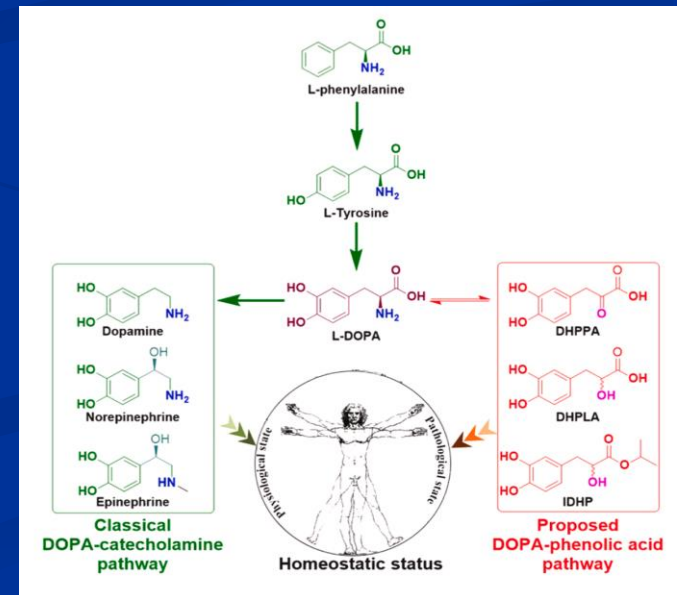
- Treasurer of Good Practice in TCM Research (GP-TCM RA; 2019 – present)
- Executive Deputy Editor-in-Chief, *Journal of Traditional Chinese Medical Sciences*
- Second Prize of International Award for Contribution to Chinese Medicine - Achievement Award in Medical Science of the World Federation of Chinese Medicine Societies (WFCMS) (2022)
- International Advisory Board of International Conference on Genomics (ICG)
- Keynote lecture “Advances in TCM Research and Development in the Big Data Era” in ICG-18 (12-18 April 2023)
- A 45-day lecture tour to 11 cities in China (9 April – 23 May 2023)

15 publications including

- Bai Y *et al.* Discovery and therapeutic implications of bioactive dihydroxylated phenolic acids in patients with severe heart disease and conditions associated with inflammation and hypoxia. *Pharmacol Res.* 2022 Nov;185:106458.

This study provides good evidence that DHPLA (3,4-dihydroxyphenyllactic acid, aka danshensu 丹参素), originally discovered in medicinal plants such as *Salvia miltiorrhiza*, can be generated *de novo* in humans from DOPA as part of a human's defence mechanism against disease. These data underpin the scientific basis of the ethnopharmacological applications of *S. miltiorrhiza* as well as highlighting the therapeutic potential of endogenous, natural or synthetic dihydroxylated phenolic acids and their derivatives in humans.

- Zhu Y *et al.* *In silico* prediction and biological assessment of novel angiogenesis modulators from traditional Chinese medicine. *Front Pharmacol.* 2023 Feb 3;14:1116081.





PUBLICATIONS

- **Xu Q.** WHO International Standard Terminologies on Traditional Chinese Medicine: Use in Context, Creatively. *Integr Med Nephrol Androl.* 2023;10:e00029.
- Wang X, Ma Y, **Xu Q**, Shikovd AN, Pozharitskayae ON, Flisyukd EV, Liu M, Li H, Vargas-Murgag L, Duez P. Flavonoids and saponins: What have we got or missed? *Phytomedicine.* 2023; 109: 154580.
- Zhou S, Yin X, Yuan J, Liang Z, Song J, Li Y, Peng C, Zhao ZZ, Hylands PJ, **Xu Q.** Antifibrotic activities of Scutellariae Radix extracts and flavonoids: comparative proteomics reveals distinct and shared mechanisms. *Phytomedicine.* 2022;100:154049.
- Shepherd A, Brunckhorst O, Ahmed K, **Xu Q.** Botanicals in the health and disease of the testis and male fertility: a scoping review. *Phytomedicine.* 2022;106:154398.
- Feng Y, Chen Z-S, Xu H, **Xu Q.** Editorial: Medicinal plants in the treatment of gastrointestinal cancers: How can OMICS and other advanced approaches help in understanding their mechanisms of action? *Front Pharmacol.* 2022;13:1063915.

ACADEMIC CITIZENSHIP

- BoD member and Co-Chair of the Pharm/Tox Interest Group, GP-TCM Research Association
- Invited talks at Beijing and Shanghai Universities of TCM and international meetings:
 - TCM-inspired nephrology & pharmacology; and
 - Traditional medicine international standards and guidelines.



UNIVERSITY OF
OXFORD

Dr Yu-Ling Ma 马玉玲

Oxford Chinese Medicine Research Centre



- Xin Su Ning (XSN 心速宁) is a China patented and certified herbal medicine used to treat premature ventricular contractions (PVCs) since 2005. It is derived from a classical TCM formula Huanglian Wen Dan Decoction formulated with 11 Chinese herbal medicines to treat cardiac ventricular arrhythmia.
- Wang T *et al.* (2019a) Ion Channel Targeted Mechanisms of Anti-arrhythmic Chinese Herbal Medicine *Xin Su Ning* *Front. Pharmacol.*, 6 Feb 2019 <https://doi.org/10.3389/fphar.2019.00070>
- Wang T *et al.* (2019b) A Network Pharmacology Study of the Multi-Targeting Profile of an Antiarrhythmic Chinese Medicine Xin Su Ning *Front. Pharmacol.*, 23 Sept 2019 <https://doi.org/10.3389/fphar.2019.01138>
- Ma Y *et al.* (2020) Investigation of the Cellular Pharmacological Mechanism and Clinical Evidence of the Multi-Herbal Antiarrhythmic Chinese Medicine Xin Su Ning *Front. Pharmacol.*, 6 May 2020 <https://doi.org/10.3389/fphar.2020.00600> XSN is an effective multicomponent antiarrhythmic medicine to treat PVC without adverse effect in patients, which is convincingly supported by its class I & III pharmacological antiarrhythmic mechanism of blocking hERG potassium channels and hNav1.5 sodium channel reported in our earlier publication and prolongs action potential (AP) duration both in ventricular myocytes and with computational simulation of human AP.
- Wang X *et al.* (2021) Xin Su Ning — A Review of Basic and Clinical Pharmacology Integrated With Traditional Chinese Medicine Antiarrhythmic Theory *Front. Pharmacol.*, 11 Nov 2021 <https://doi.org/10.3389/fphar.2021.657484>
- This article has been highly valued and featured online in Global SciCode: *The Power of Traditional Chinese Medicine in Cardiac Care*, calling them groundbreaking achievements, and setting a model for traditional drug research. <https://www.scipod.global/dr-yu-ling-ma-the-power-of-traditional-chinese-medicine-in-cardiac-care/>



University College London School of Pharmacy
Pharmacognosy and Phytotherapy
Prof. Michael Heinrich



- Collaborations with IMPLAD now focusing on quantitative analyses of diverse medicinal floras continue (R. Y. Yao and Prof P.G. Xiao), e.g. *Frontiers in Pharmacology* 14, 1136446, 2023
- ConPhyMP statement – we now offer an interactive tool for what is needed in the reporting of results on the pharmacology, toxicology and clinical effectiveness of medicinal plant extracts (of course including TCM) based on a consensus statement developed in 2022- <https://ga-online.org/best-practice/> (Consensus-based reporting guidelines for **Phytochemical Characterisation of Medicinal Plant** extracts (ConPhyMP)) - *Frontiers in Pharmacology* 13 - 2022 | <https://doi.org/10.3389/fphar.2022.953205>. It would be great if the CGCM would help in disseminating the tool
- A core focus of research remains on the treatment of infected wounds (with funding from the Velux Foundation) using a combination of traditional medicine (like TCM drugs) and photodynamic therapy (e.g. <https://www.thieme-connect.com/products/ejournals/abstract/10.1055/a-1578-8778>)
- We continue to have strong links with the U. Westminster (Dr. A Booker) ‘next door’ as well as the Royal Botanic Gardens, Kew, London
- Since 2022 MH has been he has been a Yushan Fellow at China Medical University (Taichung) (<https://yushan.moe.gov.tw/TopTalent/EN/Intro>) establishing close collaborations with colleagues working on Chinese medicine at CMU and other Taiwanese universities



UK Centre of Chinese Medicine
英国中医药中心

George He MMedSci FRSM



The UK Centre of Chinese Medicine (CCMUK; ccmuk.org) is a not-for-profit organisation committed to supporting the advancement of Chinese medicine in the UK.

- This centre is born out of the long-standing relationship between the UK, Europe and Chinese medicine which extends back to the 16th century.
- Our neutral platform has established partnerships with several leading education and research institutions in the UK and China, including UCL School of Pharmacy, Shanghai University of TCM and Nanjing University of TCM.
- Together, we aim to promote collaboration and undertake various academic endeavours such as high-quality conferences, basic and clinical research projects, academic exchange programmes, and study trips for practitioners.
- Guided by a professional advisory committee of prominent researchers, academics, scholars and clinical professionals, CCMUK's intends to advance the development of high-quality Chinese medicine through a number of projects. By developing a higher standard, we believe the influence of Chinese medicine will increase, as well as its capability to transform lives and society.