Regional Report from Hong Kong

Professor Vivian Wong
Coordinator of Hong Kong Consortium

20 August 2024

香港浸會大學
HONG KONG BAPTIST UNIVERSITY

School of 中醫藥學院
Chinese Medicine

Research Excellence

School of Chinese Medicine

May 17, 2024

香港浸會大學 HONG KONG BAPTIST UNIVERSITY

School of 中醫藥學院 Chinese Medicine

Prestigious Global Recognition to SCM Scholars

Clarivate Highly Cited Researcher 2023

- Professor Lyu Aiping (Cross-field in Web of Science). The sole researcher from HKBU to be honoured with this recognition in 2023

Elected as Members of Academia Europaea

(2022, Clinical & Veterinary Science section)

World's Top 2% Scientists

(released by Stanford University in 2023)

Name	Subject Field
Professor Lyu, Aiping	Clinical Medicine
Professor Bian, Zhaoxiang	
Professor Zhang, Ge	
Dr Tan, Hor Yue	
Professor Li, Min	Clinical Medicine and Biomedical Research
Professor Zhang, Hongjie	Chemistry
Professor Chen, Hubiao	
Professor Han, Quanbin, Simon	
Professor Zhao, Zhongzhen	
Dr Yi, Tao	

香港浸會大學 HONG KONG BAPTIST UNIVERSITY

School of 中醫藥學院 Chinese Medicine

SCM Niche Research Areas

Innovative Drug Discovery and Development Based on Chinese Medicines

1. Precision Medicine and Phenomics

- Highlighted Project - A precision medicine-based therapeutic strategy for rheumatoid arthritis (PI: Prof Lyu Aiping)

2. Translational Medicine and Innovative Drug Discovery

- Research Centres - Centre for Chinese Herbal Medicine Drug Development Limited (CDD)
  - Institute of Systems Medicine and Health Sciences (SMHS)
- Research Project - Aptamer: Molecular Insight & Translational Theranostics (RGC/TRS)
- NMPA Approved Drug - JCM-16021（仁術腸樂）for irritable bowel syndrome

3. Authentication and Testing of Chinese Medicines

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Major Research Projects (2019 - 2023)

RGC Major Collaborative Project

RGC Theme-based Research Scheme HKD50M

Aptamer: Molecular Insight & Translational Theranostics

Prof A.P. Lyu (2020)

Innovation and Technology Commission (ITC) - Inno HK

Centre for Chinese Herbal Medicine Drug Development Limited (CDD)

One of 28 InnoHK Centres, which is the only integrated CM drug research and development centre supported by InnoHK and established and operated by a local university. CDD was established in September 2020. It is the only one-stop service provider for Chinese herbal medicine drugs development from clinical, pharmacy, pharmacology, toxicology to registration

Director: Prof Z.X. Bian

RGC General Research Fund

RGC General Research Fund HKD28M

Prof Z.X. Bian, Prof Q.B.S. Han, Prof G. Zhang, Dr K.H. Cheung, Dr K.C.P Cheung (2023); Prof Q.B.S. Han, Prof M. Li, Prof A.P. Lyu, Prof Z.L. Yu, Dr Y.Y. Yu (2022); Prof Z.X. Bian, Prof Z.L. Yu, Prof H.J. Zhang, Prof G. Zhang, Dr K.H. Cheung (2021); Prof Z.X. Bian, Dr H.L.X. Wong, Dr Y.Y. Yu (2020); Prof A.P. Lyu, Prof Z.L. Yu, Prof H.J. Zhang, Prof Z.Z. Zhao, Dr J. Liu, Dr H.L.X. Wong, Dr J. Xu (2019)

RGC Early Career Scheme

Early Career Scheme HKD5.3M

Dr J. Liu, Dr H.Y. Tan, Dr H.L.X. Wong (2023), Dr Z.Z. Gu (2019)

nature COMMUNICATIONS

ARTICLE

https://doi.org/10.1038/s41467-022-31997-8 OPEN

Targeting loop3 of sclerostin preserves its cardiovascular protective action and promotes bone formation

Yuanyuan Yu[1,2,3,4,12,13✉], Luyao Wang[1,2,3,4,12], Shuaijian Ni[1,2,3,4,12], Dijie Li[1,2,3,4], Jin Liu[1,2,3,4], Hang Yin Chu[2,5], Ning Zhang[2,5], Meiheng Sun[1,2,3,4], Nanxi Li[1,2,3,4], Qing Ren[1,2,3,4], Zhenjian Zhuo[2,5], Chuanxin Zhong[1,2,3,4,6], Duoli Xie[1,2,3,4], Yongshu Li[1,2,3,4], Zong-Kang Zhang[2,5], Huarui Zhang[1,2,3,4], Mei Li[7], Zhenlin Zhang[8], Lin Chen[9], Xiaohua Pan[10], Weibo Xia[7], Shu Zhang[11], Aiping Lu[1,2,3,4,13✉], Bao-Ting Zhang[2,5,13✉] & Ge Zhang[1,2,3,4,13✉]

CDD develops treatments and cures for diseases such as ulcerative colitis and chronic constipation, based on the requirements of the NMPA in China, the Chinese Medicine Council of Hong Kong and the US FDA, targeting the market needs, with the CHM formulas that are supported by evidence-based pre-clinical and clinical research.

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School of 中醫藥學院 Chinese Medicine

Major Research Projects (2019 - 2023)

Hong Kong Grant / PI

HMRF and HMRF COVID-19 HKD27.2M
Prof Z.L. Yu, Dr K.H. Cheung, Dr L. Zhong (2022); Prof M. Li, Prof Z.L. Yu, Dr S.P. Zhang, Dr L. Zhong, Dr H.Y. Tan, Dr X.Q. Fu (2021); Dr H.Y. Kwan, Dr H.L.X. Wong, Dr X.Q. Fu, Dr X. Zhang (2020); Prof Z.X. Bian, Prof M. Li, Prof H.J. Zhang, Prof H.B. Chen, Prof Q.B.S. Han, Dr K.H. Cheung, Dr H.L.X. Wong, Dr A. Iyaswamy, Dr C.K. B. Tong (2019)

Guangdong-Hong Kong Technology Cooperation Funding Scheme (Category C) HKD1.9M
Prof G. Zhang (2022)

Innovation and Technology Support Programme (Mid-stream, theme-based) HKD3.6M
Dr H.L. X. Wong (2022)

ITF HKD3.1M
Dr S.P. Zhang (2021); Prof H.B. Chen, Dr L. Zhong (2020); Prof Z.L. Yu, Dr J. Xu (2019)

CMDF HKD21.3M
Dr C.H. Chow, Dr H.Y. Kwan, Dr H. Li, Dr X. Zhang (2023); Prof Z.X. Bian, Prof Z.L. Yu, Dr L. Zhong, Dr J.G. Zhang, (2022); Dr S.P. Zhang, Dr L. Zhong (2021); Prof M. Li, Prof Y.L. Liu, Dr X. Zhang, Dr K.K. Chua (2020); Prof M. Li, Dr K.M. K. Yue, Dr B. Peng (2019)

Hospital Authority HKD 3.5M
Prof Z.X. Bian, Dr L. Zhong (2020)

Mainland Grant / PI

NSFC Major RMB14.85M
Dr W.P. Chong, (2023); Dr L.F. Li (2020), Prof Z.L. Yu, Prof H.B. Chen (2020); Prof Z.X. Bian (2019)

NSFC Excellent Young Scientists Fund (Hong Kong and Macau) RMB3.3M
Dr H.L.X. Wong (2023), Dr C. Liang (2019)

NSFC Youth Scientists Fund Program RMB0.84M
Dr L. Wang, Dr Z. Deng (2023); Dr L. Zhao (2020)

SZSTI RMB2.2M
Prof Z.L. Yu, Dr H.Y. Kwan (2020)

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School of 中醫藥學院 Chinese Medicine

Industrialization and Entrepreneurship

Aptacure Therapeutics Limited

Aptacure Aptacure Therapeutics Ltd

- Supported by the Incubation Programme of Hong Kong Science Park, Aptacure Therapeutics Limited is a biotechnology company co-founded by Prof Zhang Ge and Dr Berry He, which aiming to develop innovative aptamer drugs to meet unmet medical needs.

HK Authentication Centre of Valuable Chinese Medicines

- With solely licensed patent technologies by HKBU, Hong Kong Authentication Centre of Valuable Chinese Medicines Limited (HKACVCM) was launched and founded by Prof Simon Han. It is a third-party quality control platform to build the confidence of consumers on the tested products, with an extending service spectrum from authentication of valuable Chinese medicines (based on 20+ patents) to routine safety tests and tailor-made manufacturing protocol modification.

Gihon Biotech Limited

Gihon Biotech

- Gihon Biotech Limited is a green biopharmaceutical company founded by Prof Zhang Hongjie and launched to develop skin and health care products enriched in natural ingredients. With advanced health-aging biotechnology, Gihon aims to provide high quality products for improving the life quality of humans.

EC Bot Limited

EC BOT

- EC Bot, founded by Dr Zhang Shiping, aims to develop its patented smartphone tongue imaging technologies into a medical device for tele-health and tele-medicine applications.

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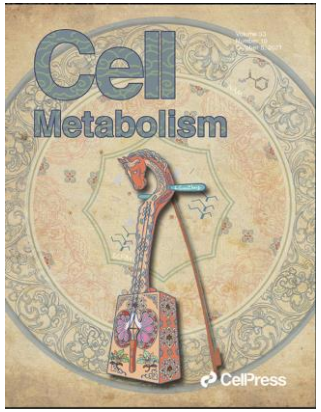
School of 中醫藥學院 Chinese Medicine

Research Publications

SCI[1] Research Outputs Published in High-impact[2] Journals

Year	Number of SCI[1] research papers published in high-impact[2] journals
AY2019-20	21 (out of 161) (13%)
AY2020-21	30 (out of 181) (16.6%)
AY2021-22	49 (out of 187) (26.2%)
AY2022-23	55 (out of 222) (24.8%)



Notes:

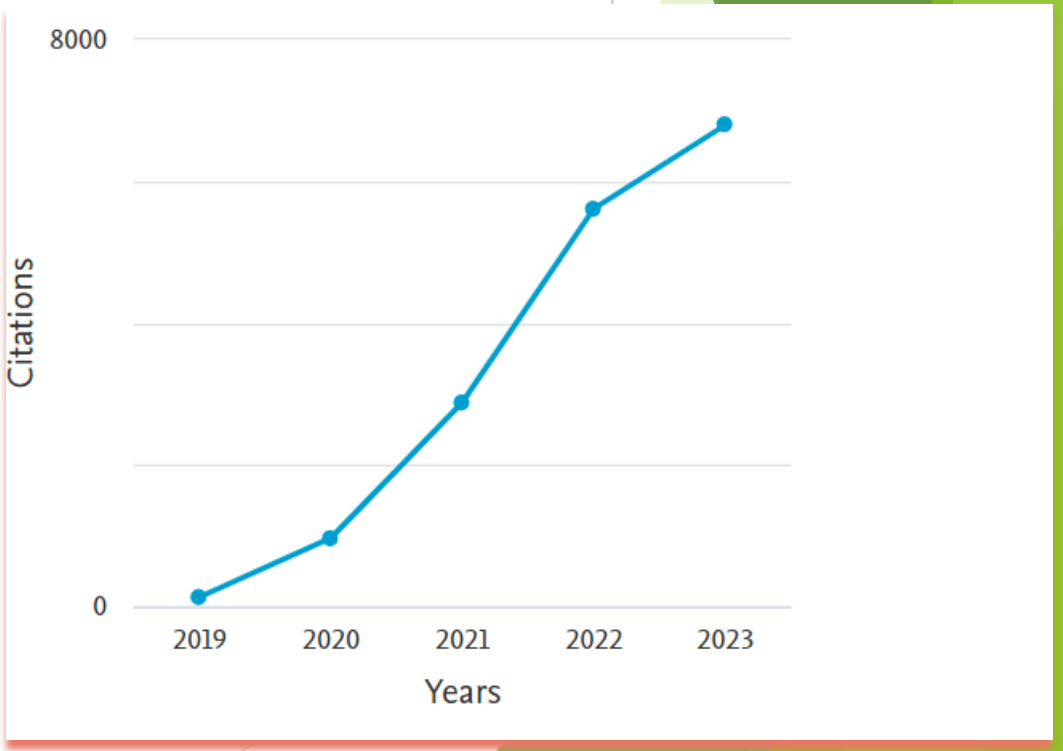
1. *SCI refers to Science Citation Index*
2. *High-impact journals refer to journals with an impact factor of 9 or above*

958 Cited Research Outputs

(2019 - 4.12.2023)

Document h-index: 54

Total citations 16394 in the past 5 years



Source: Scopus

香港浸會大學 HONG KONG BAPTIST UNIVERSITY

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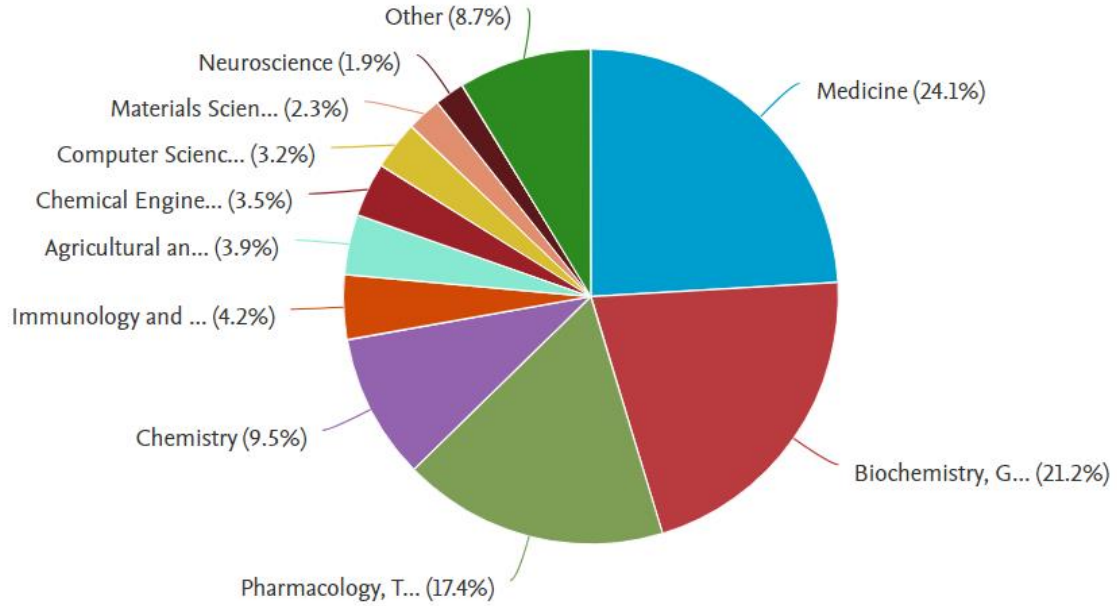
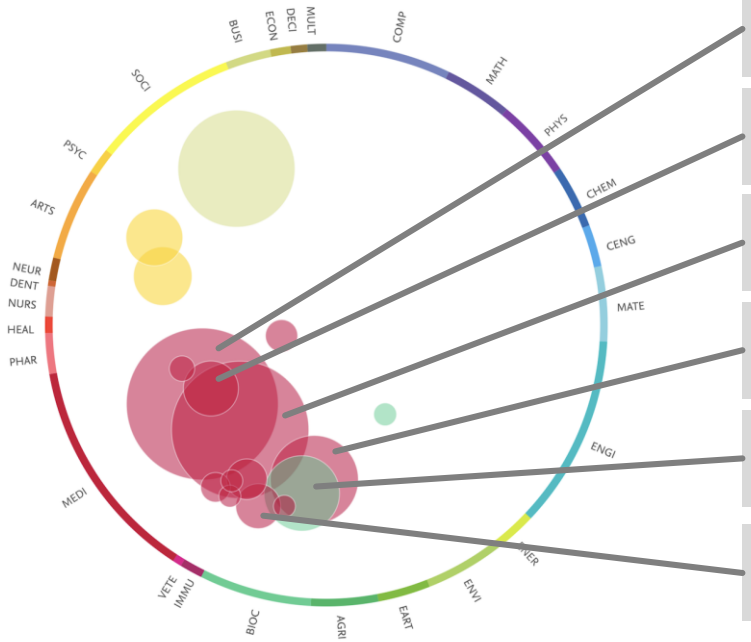
Research Publications

Cited Documents by Subject Area

(2019 - 4.12.2023)



Research Strength of SCM (Medicine)



Obesity; Motor Activity; Child
TC. 18 → Metabolic diseases

Alzheimer disease; Dementia; Amyloid
TC. 32 → Neurodegeneration

COVID-19; SARS-CoV-2; Coronavirus
TC. 1500 → COVID-19

Metagenome; Probiotics; Bacteria
TC. 215 → Metabonomics

microRNA; Long Untranslated RNA; Neoplasia
TC. 219

T-Lymphocytes; Neoplasms; Immunotherapy
TC. 12

→ Cancer research

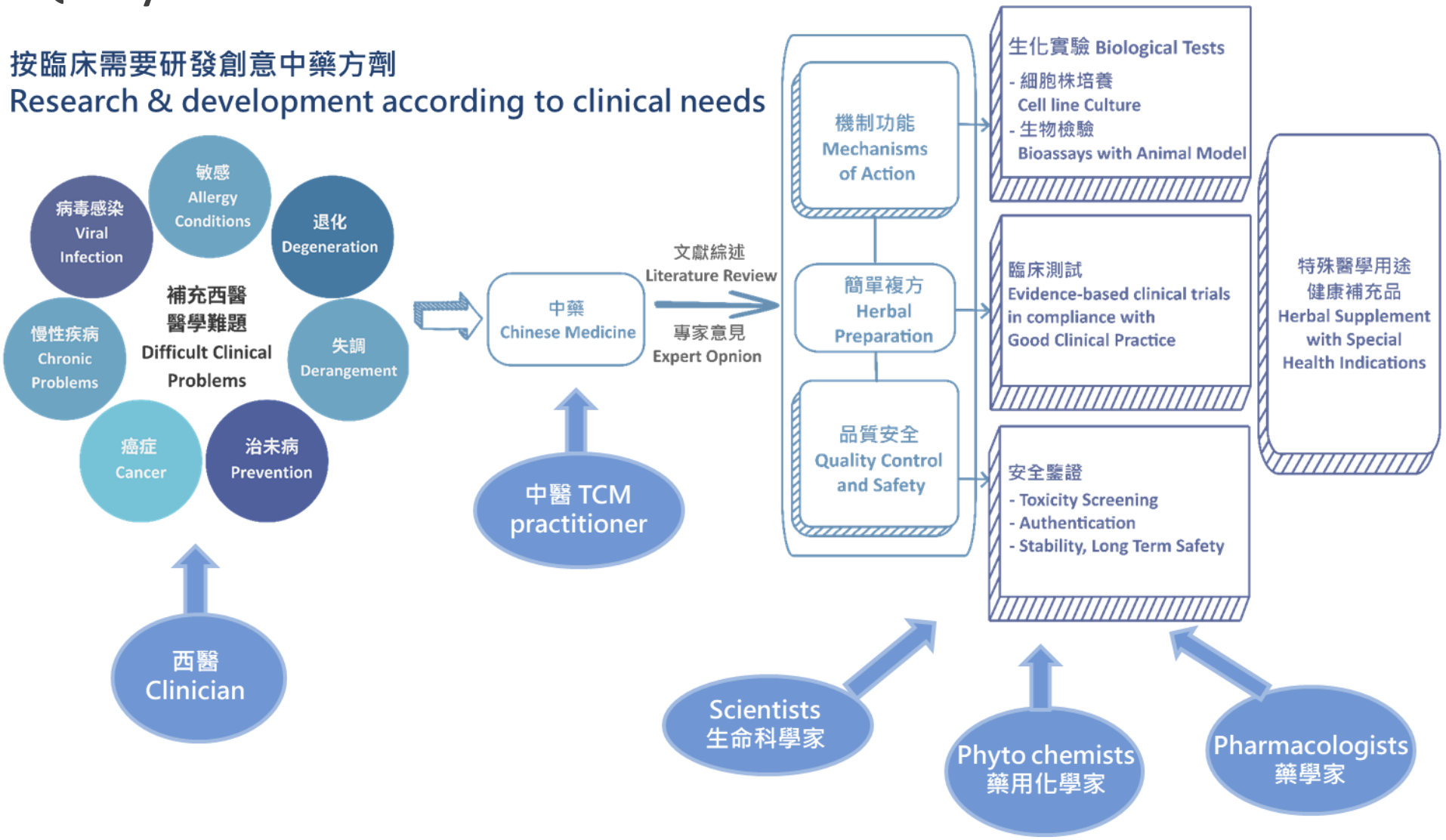
Source: Scopus

CLINICAL RESEARCH ON MEDICINAL PLANT APPLICATIONS
臨床主導藥用植物應用研究

State Key Laboratory of Research on Bioactivities and Clinical Applications of Medicinal Plants (CUHK)
藥用植物應用研究國家重點實驗室 (香港中文大學)

實證為據，品質、安全；瞭解生物機理；臨床測試三結合

Efficacy Driven, Three Prong Approach: Clinical Trial Leading, Biological Tests & Quality Control in Parallel



A randomized trial of Danshen/Gegen in slowing cognitive decline in clinical AD and cerebral small vessel disease
丹參/葛根延緩阿茲海默症和腦小血管疾病所致認知功能下降的臨床研究

Principal Investigators 主要研究員
Department of Medicine and Therapeutics, CUHK
中文大學內科及藥物治療學系

Prof. T. Kwok
郭志銳教授

The 5th D&G Clinical Trial 第五次D&G臨床試驗

Study Aims 研究目的:

- Study if D&G could reduce the rate of cognitive decline in older people with SVD and hippocampal atrophy
  研究丹參葛根能否降低患有腦小血管疾病和海馬萎縮的老年人的認知能力下降率
- Examine the effects of D&G on hippocampal atrophy and hippocampal sclerosis in cSVD patients with hippocampal atrophy
  探討丹參葛根對患有海馬萎縮的腦小血管 疾病患者的海馬萎縮程度及海馬硬化的影響

Study Design 研究設計:

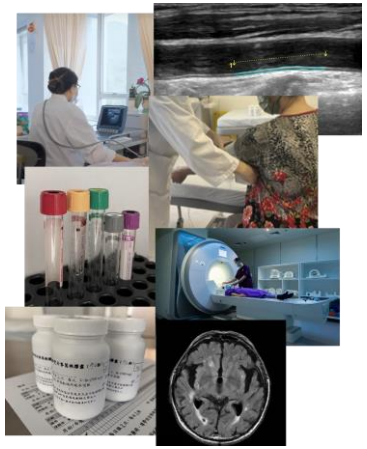
- A randomized, blinded assessment, placebo-controlled study 隨機、雙盲、安慰劑對照臨床研究

Study Population 研究對象:

- 60 AD and cSVD subjects were randomly assigned in a 1:1 ratio to receive D&G capsules (treatment group) or placebo (control group) for 12 months.
  60名 AD和 cSVD受試者以1:1的比例隨機分配，接受D&G膠囊（治療組）或安慰劑（對照組）治療12個月

Parameters of Assessment 評估參數：

- Carotid artery intima-media thickness (IMT) 頸動脈內膜-中膜厚度
- Blood pressure 血壓量度
- Blood tests for biomarkers, plasma lipid, and side effects 血液檢查: 生物標記、血脂和副作用
- Questionnaires for disease assessments: ADAS Cog 針對各研究病例的評估問卷: 生活品質、認知能力評估問卷
- MRI assessment of Hippocampal atrophy and sclerosis 海馬萎縮和硬化的 MRI 評估



Using A Modified Classical Herbal Formula to ameliorate food allergy symptomatology: A pilot single-arm case study
中藥治療食物過敏的安全性和有效性臨床研究

Principal Investigators 主要研究員
Department of Paediatrics, Faculty of Medicine, CUHK
中文大學醫學院兒科學系


Prof. LEUNG TF
梁廷勳教授


Prof. HON KL
梁廷勳教授

Wu Mei Wan has been used to treat for hundreds of years by TCM practitioners to treat intestinal parasite infections and gastrointestinal disorders with symptoms similar to FA and gastroenteritishas. Research showed that FAHF-2, a simplified form of Wu Mei Wan significantly protected mice from anaphylaxis orally challenged with peanut. Here, we further developed a simplified Wu Mei containing 4-herbs formulation (CHFX) to target on food allergy.

Study Aims 研究目的:

- Determine the safety and efficacy of CHFX treatment in children with seafood/nuts or other common food allergy
  確定 CHFX 治療對海鮮/堅果或其他常見食物過敏兒童的安全性和有效性

Study Design 研究設計:

- A pilot single-arm case study 個案對照研究

Study Population 研究對象:

- 40 children with seafood/nuts or other common food allergy to receive CHFX treatment for 6 months
  40 名患有海鮮/堅果或其他常見食物過敏的兒童接受為期 6 個月的 CHFX配方治療

Parameters of Assessment 評估參數：

- Food Allergy Quality of Life Questionnaires (FAQLQ) score 食物過敏生活品質問卷評分
- Allergen specific IgE, IgG4 and total IgE 過敏原特異性 IgE、IgG4 和總 IgE
- Eosinophil Cationic Protein (ECP) and Th1/2 cytokines 嗜酸性粒細胞陽離子蛋白 (ECP) 和 Th1/2 細胞因子
- Episodes of anaphylaxis or epinephrine use due to accidental ingestion of allergens
  因意外攝取過敏原而出現過敏反應或注射腎上腺素
- Safety outcome 安全性结果

Traditional Chinese Medicine Ultrasonic Atomization Treatment for Dry Eye Disease (DED) 中醫藥薰蒸治療乾眼

Principal Investigators 主要研究員
Department of Ophthalmology and Visual Sciences, CUHK
中文大學眼科及視覺科學學系

Prof. CHONG KL
莊金隆教授

Study Aims 研究目的:

- Evaluate the efficacy and safety of TCM ultrasonic atomization treatment for DED
  評估中醫藥超聲霧化治療乾眼症的療效與安全性。

Study Design 研究設計:

- A randomized, placebo-controlled study, comparing the efficacy of TCM ultrasonic atomization treatment in comparison with placebo atomization and standard treatment of topical artificial tears 一項隨機、安慰劑對照的研究，比較中醫超聲霧化治療的療效與安慰劑霧化治療以及常規的人工淚液於治療乾眼症的療效與安全性。

Study Population 研究對象:

- 200 Patients diagnosed with mild to moderate DED to receive treatment for 4 weeks
  200 名患有輕微至中度的乾眼症病人接受為期4週治療

Parameters of Assessment 評估參數 :

- General ophthalmic examinations 一般眼科檢查
- Ocular Surface Disease Index (OSDI) 眼表疾病指數量表
- Symptom Assessment Questionnaire iN Dry Eye (SANDE) 幹眼症狀評估量表
- Schirmer I test (ST) 淚液分泌量
- Corneal specular microscopy 角膜內皮細胞顯微檢查儀
- LipiView II 乾眼脂液檢查儀
- 36-Item Short Form Health Survey 生活品質評估問卷

Li Dak Sum Yip Yio Chin R & D Centre for Chinese Medicine

The Chinese University of Hong Kong

HISTORY

CUHK:

- Started research in Chinese medicine in the 1970s
- A pioneer and leader in the development and research of Chinese medicine in Hong Kong

RDCCM:

- Established in 2015
- From substantial donation made by Dr. Li Dak Sum

Quality Control & Quality Assurance

MISSION

1. To enhance the standard of quality control and assurance of Chinese medicinal materials and products in Hong Kong

2. To develop personnel and expertise in Chinese medicine industry on quality control, assurance and clinical trial management

3. To strengthen the strategic position of Hong Kong as the international hub of Chinese medicine research, development and education.

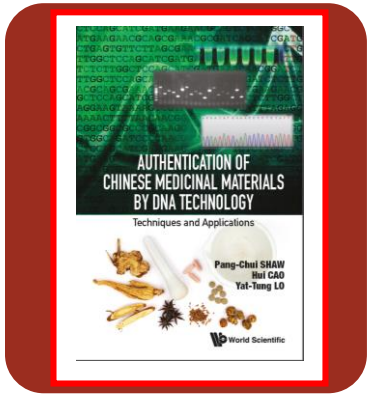
OUR CENTRE

Research Collaboration

Collaborates with local, mainland China & overseas institutes

Activities

Organises Workshops, Seminars, International Conferences & Study Tours



Knowledge Transfer

Publishes Educational Videos, Reference Books, Review Articles, Newspaper Interviews, etc.

政府中藥檢測中心
Government Chinese Medicines Testing Institute
GDIDC 广东省药品检验所 GUANGDONG INSTITUTE FOR DRUG CONTROL
NIFDC 中国药检

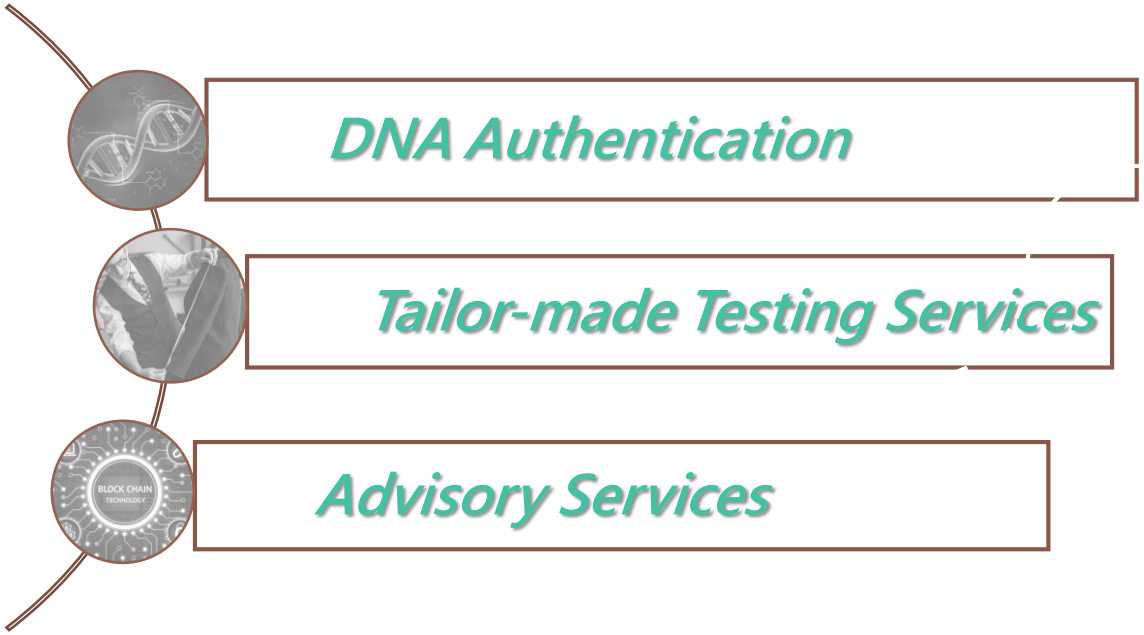
Services and R &D

Provides R & D and Services with Regulatory Bodies

SPIN-OFF COMPANIES

https://origene.hk/

康源分子鑒定檢測有限公司
OriGene DNA Testing Company Limited
Established in 2021



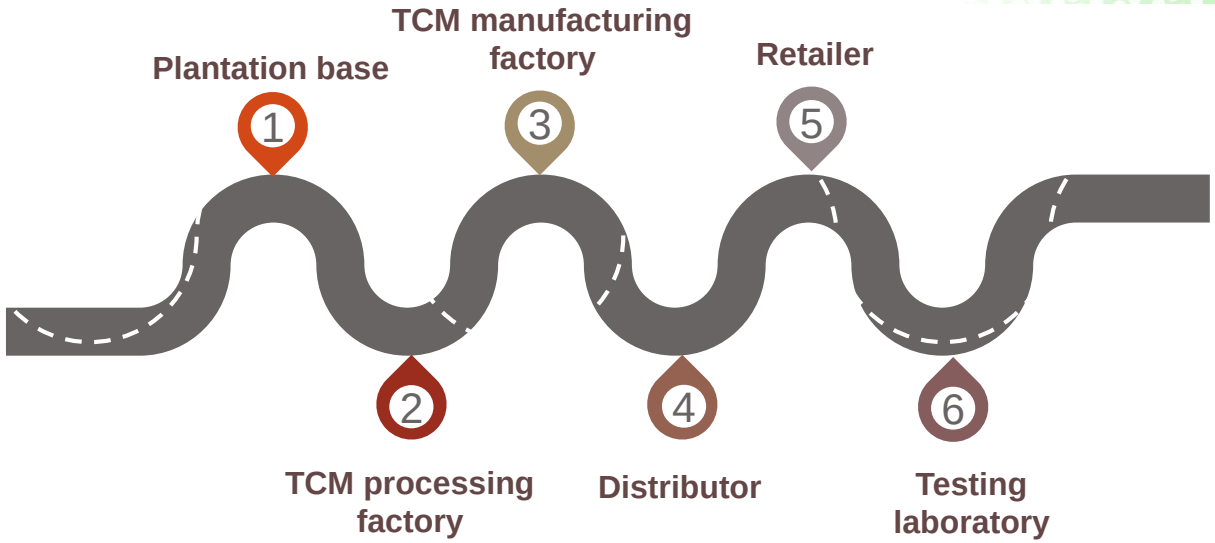
- ***DNA Authentication***
- ***Tailor-made Testing Services***
- ***Advisory Services***

https://herbchain.hk/

A charitable body under **Section 88** of IRD

草藥鏈有限公司
HerBChain Co., Limited
Established in 2021

來源可查、
Source tracking,
去向可追、
Whereabouts verification,
責任可究。
Responsibility affixing.



A blockchain-based informative platform

香港城市大學
City University of Hong Kong

Sphygmopalpation Using E-Skin Tactile Sensory Feedback to Reveal Fundamental TCM Pulse Patterns

Inspection, *Listening/Olfaction*, *Inquiring*, and ***Palpation***

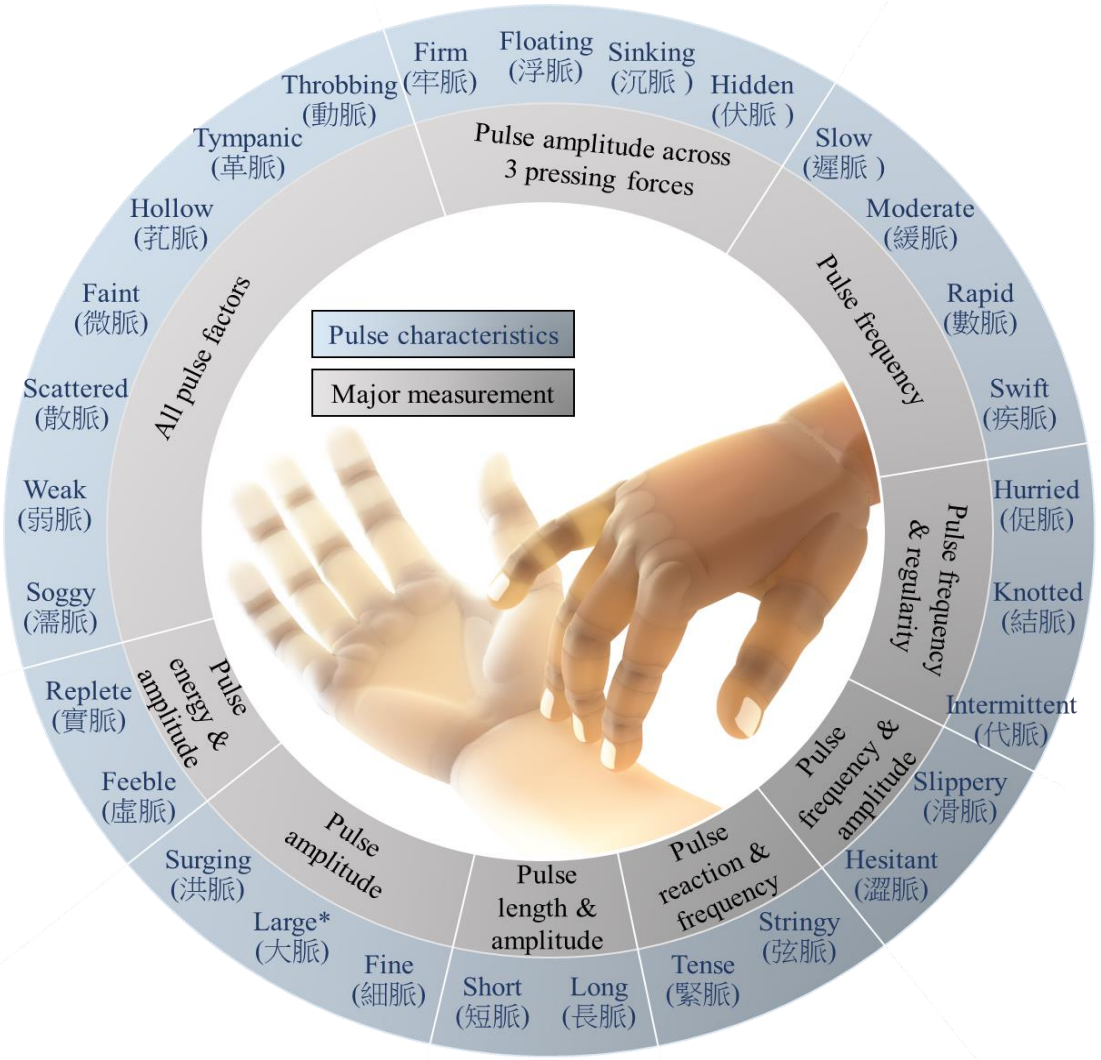
Wen Jung LI
李文榮

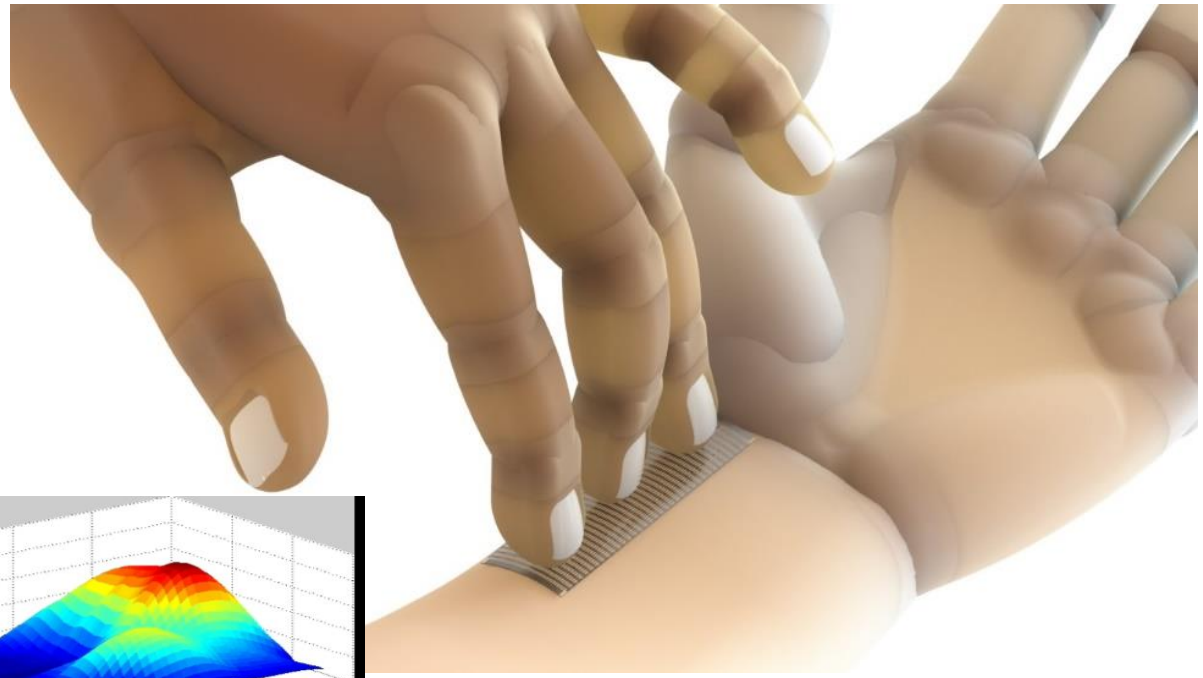
TCM Collaborators:
Prof. SHEN Jiangang 沈劍剛 (HKU) and Prof. Vivian TAAM WONG 黃譚智媛教授 (HKU)

www.wenjungli.org

Dept. of Mechanical Engineering
City University of Hong Kong, Hong Kong SAR

Skin-like Flexible Pressure Pulse Sensors





- Shift the paradigm of TCM palpation from ***experience-based*** to ***digitally-based***.
- Ultimately create a **standardized database** for TCM palpation pulse waves --similar to the MIT-BIH Arrhythmia Database for electrocardiograph.

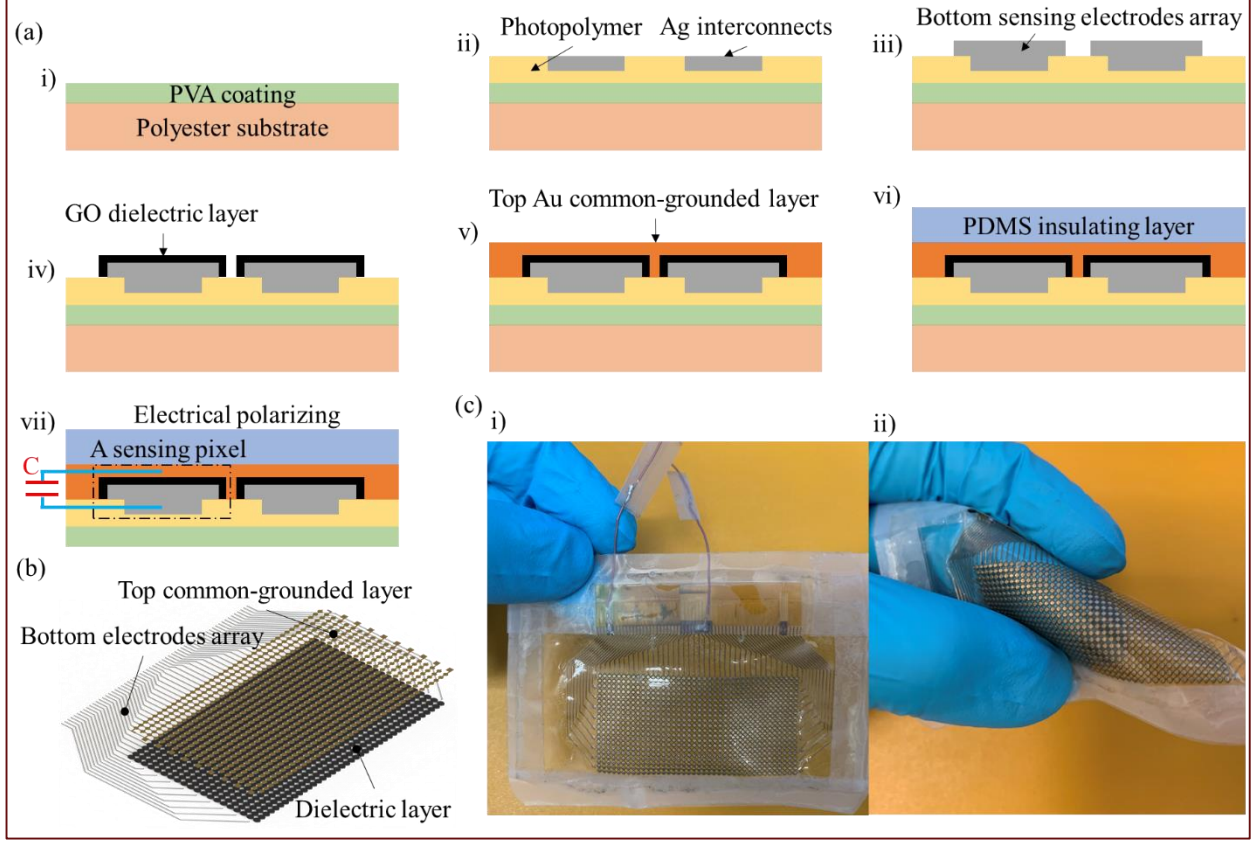
- Past Work: Robotics Fingers and flexible sensing arrays for pulse pattern acquisition

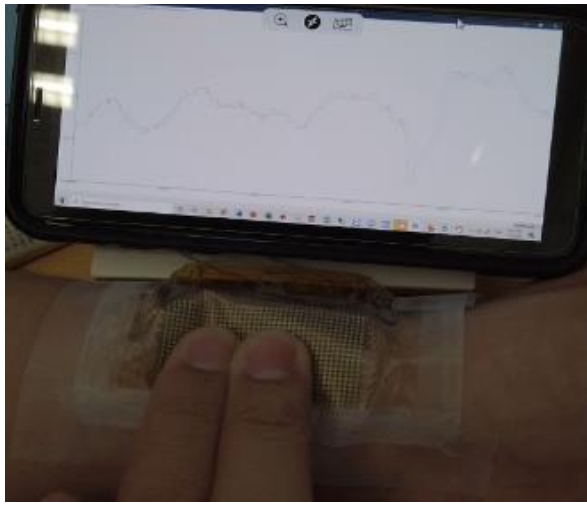
Smart-skin Sensors by Micro-3D Printing

3D打印的智能柔性皮膚

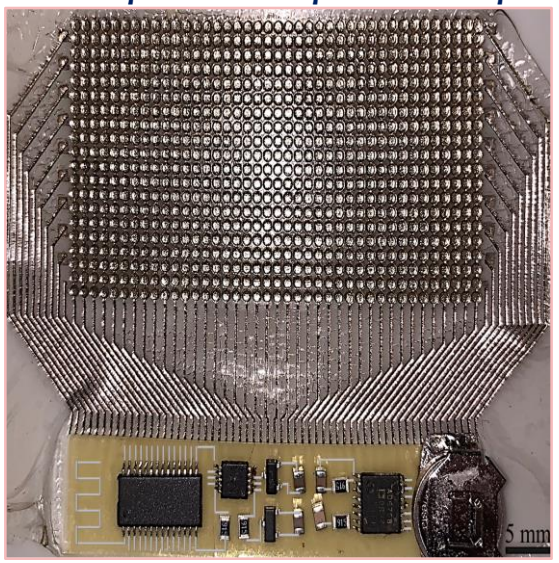
- **Flexible “skin-like” sensor (柔软类肤传感器)**
- **Record palpation force (按脉的力度)**

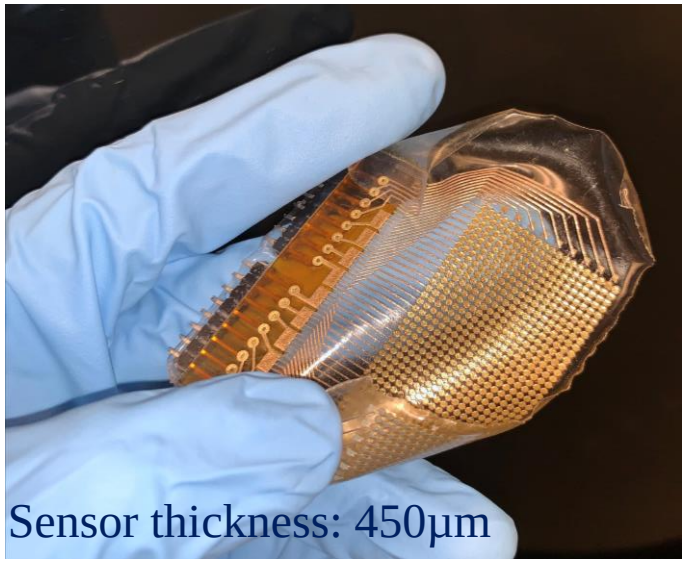
Fabrication Process (製造過程):





360μm 400μm 450μm



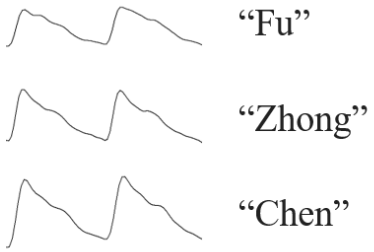


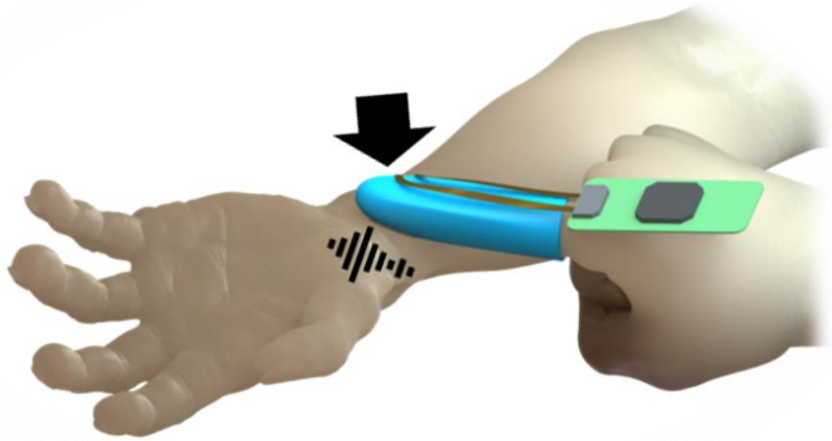
Sensor thickness: 450μm

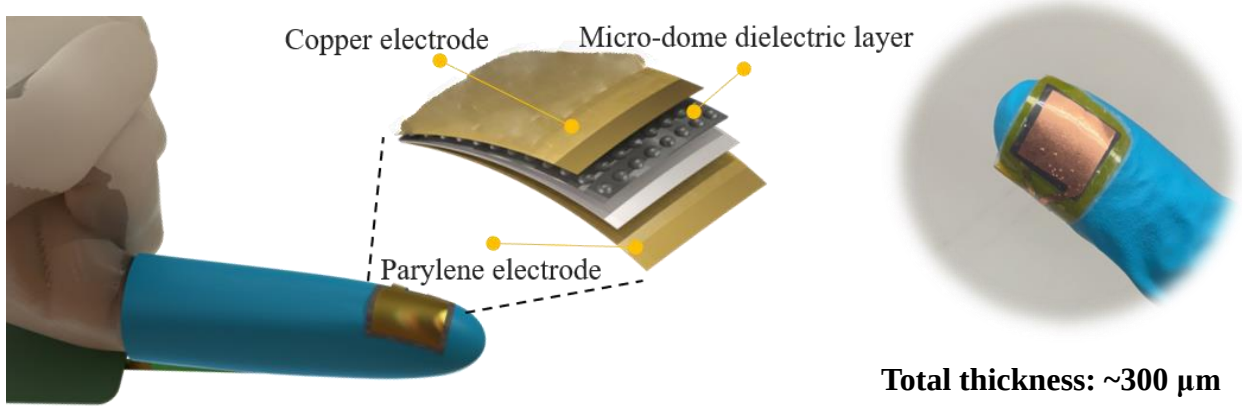
- Ongoing Work: Ultrathin E-Skin Sensors to allow TCM doctors to have tactile sensations while taking pulses of patients using the flexible sensors – ***allowing digitalization of the 28 TCM pulse patterns.***

"E-Skin" TCM Pulse Sensor

Pressure level



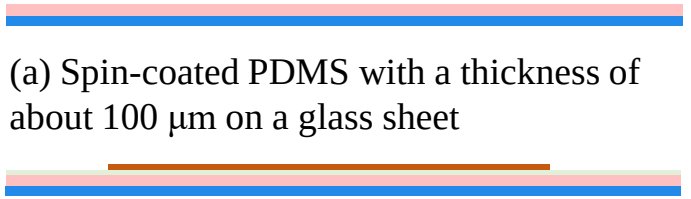




Total thickness: ~300 μm

Features:

- **Soft texture**, does not affect the TCMPs to take the pulse
- **High sensitivity and good repeatability**



(a) Spin-coated PDMS with a thickness of about 100 μm on a glass sheet

(b) Adhesive 0.02 μm copper foil on PDMS and patterned copper foil by photolithography

(c) Use of parylene film as another electrode substrate

(d) Fix the P-GO/PDMS dielectric layer to the parylene electrode with optical adhesive

(e) Fix two electrodes and the dielectric layer with optical adhesive to complete the fabrication.

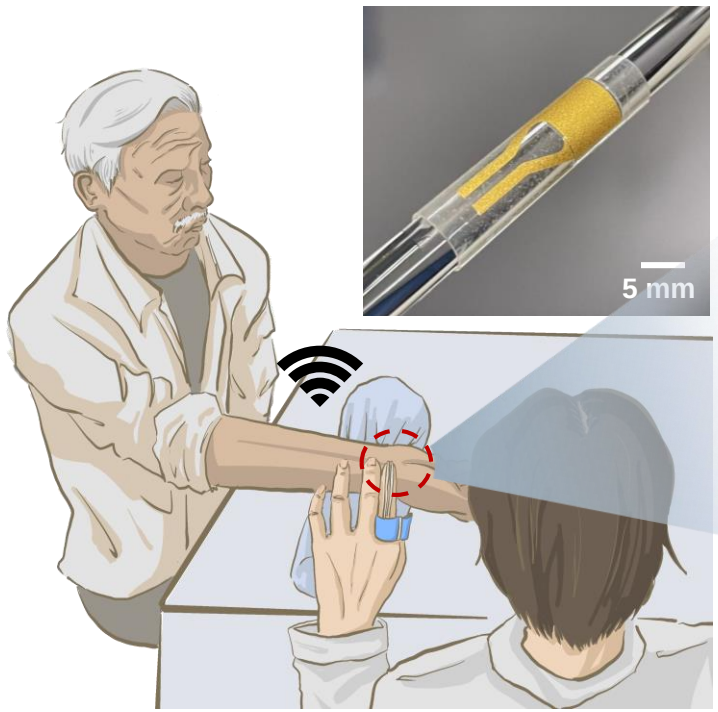
PDMS Glass sheet Gold Copper

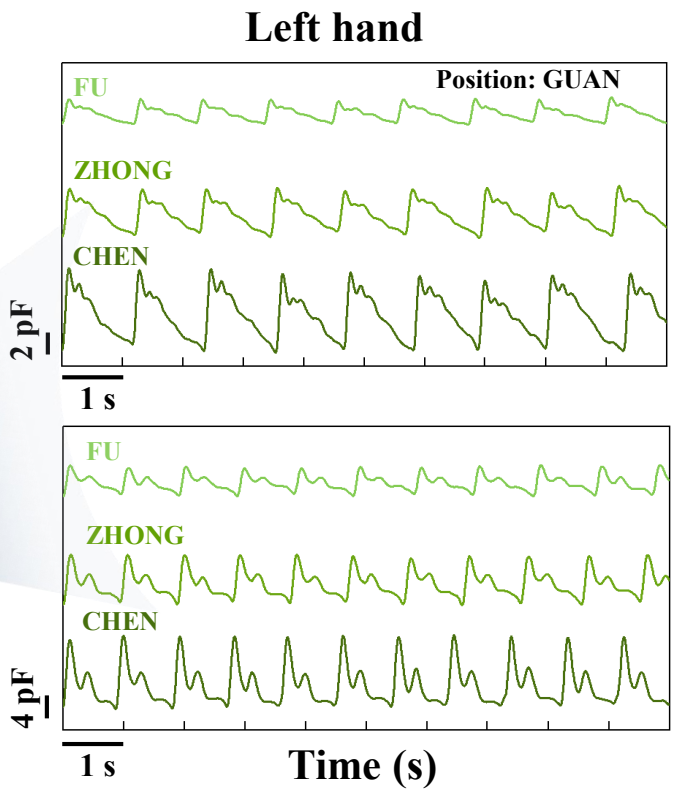
Parylene Micro-dome dielectric layer

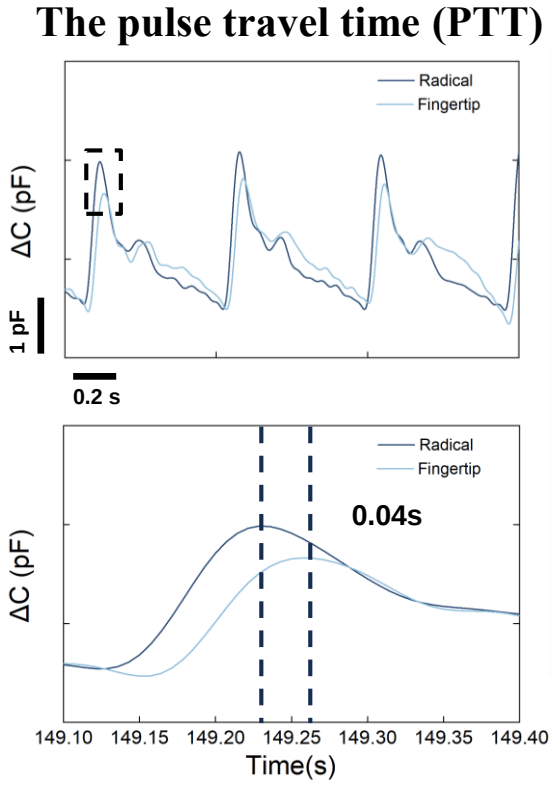
The fabrication process of the pulse sensor

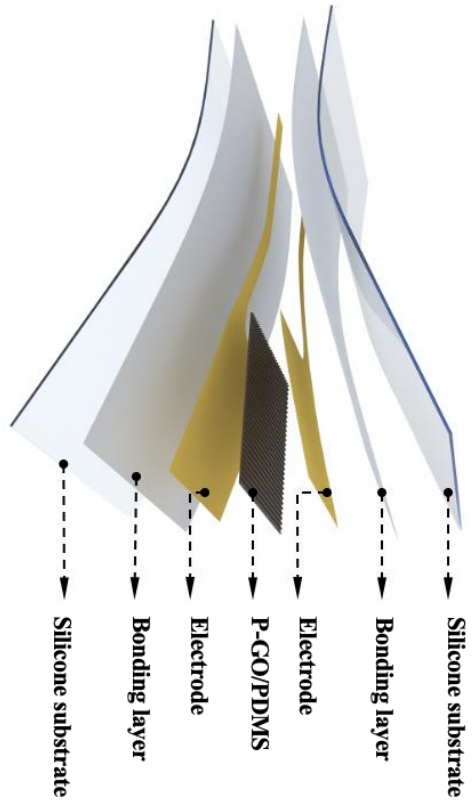
- Future Work: Ultra E-Skin sensors at different parts of the body to detect pulses and ‘pulse wave velocities’ of blood flow in real-time.

High-sensitivity wearable pulse sensor

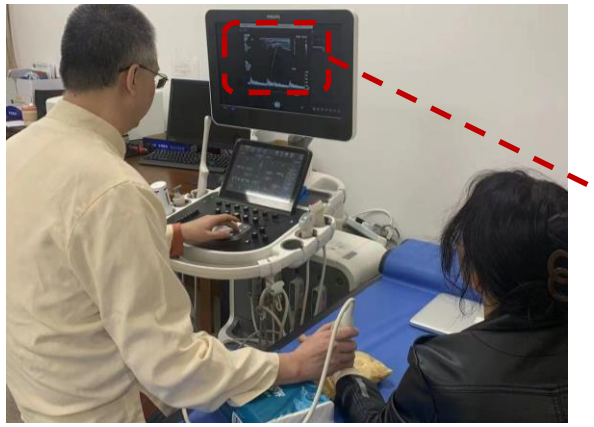


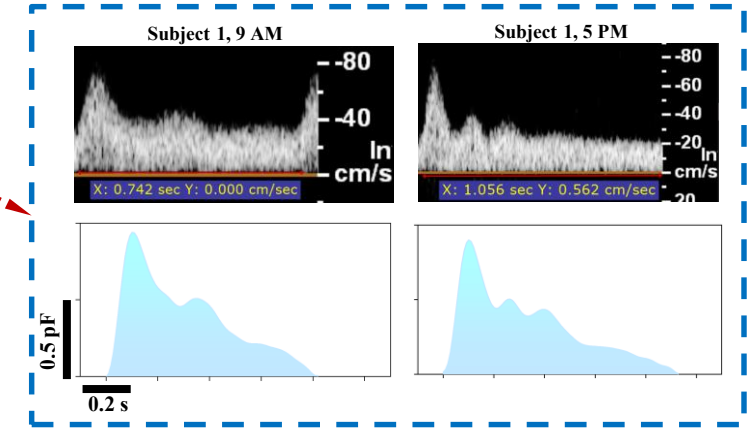


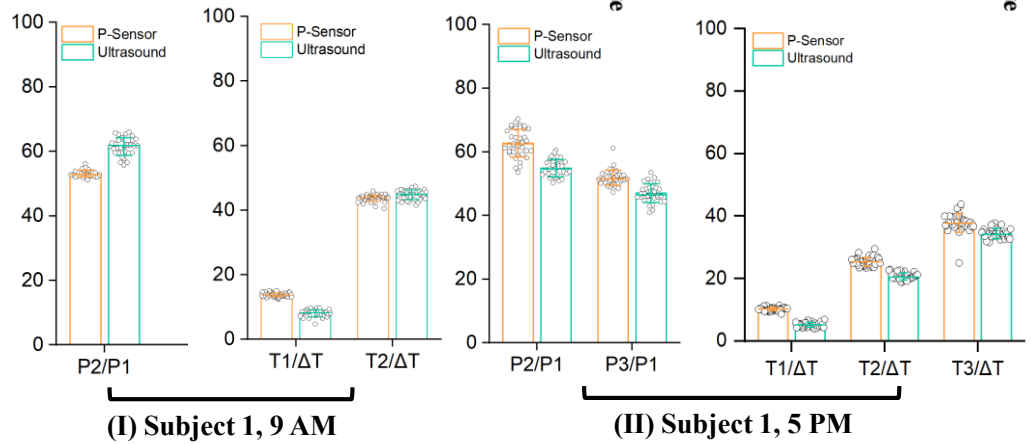




Comparison of pulse waveform and blood flow rate curves







Research Centre for Chinese Medicine Innovation

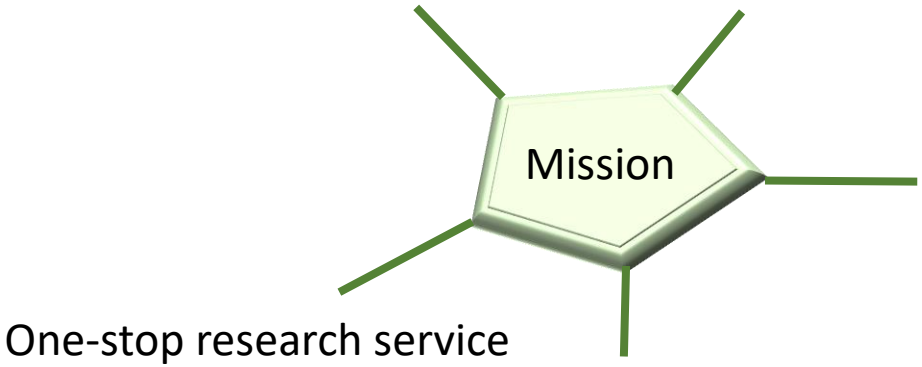
Research Centre for
Chinese Medicine Innovation
中醫藥創新研究中心

- In 2021, PolyU allocated HK$15 million to establish the Research Centre for Chinese Medicine Innovation (RCMI).
- To become a leading research institute for the research and application of Chinese medicine treatment and practices for improving public health and well-being.

Mission and Vision

Inter-disciplinary and translational research

High impact research



scientific- exchange hub & nurturing young scientist

One-stop research service

Application in primary care

Research Centre for Chinese Medicine Innovation

Preparation of standardized CM and quality control standard for studies

Herbal standardization & QC platform

Preclinical platform (Pharmacology & disease model)

In vitro & *in vivo* models for efficacy & mechanistic studies

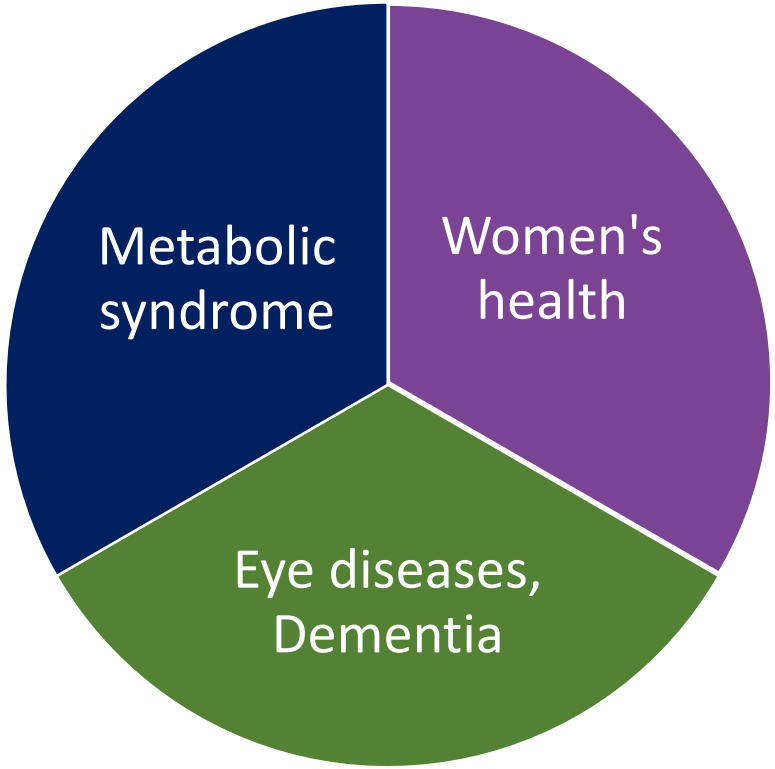
Clinical studies

Advice on the planning and implementation of clinical studies

The research conducted at the Research Centre for Chinese Medicine Innovation (RCMI) not only involves the use of single herbs but also focuses on the study of Traditional Chinese Medicine (TCM) formulas.

Classical and famous TCM formulae

- Gui Zhi Fu Ling Wan
- Gegen Huangqin Huanglian Tang
- Huangqi Guizhi Wuwu Tang
- Wu Ling San
- Huanglian Jiedu Tang



Insomnia

- Suan Zao Ren Tang
- Er Xian Tang
- Danggui Liuhuang Tang

Osteoporosis

- Erzhi pills

- Gui Pi Tang
- Huangqi Guizhi Wuwu Tang
- San Huang Tang

Major Research Directions

- **Women Health**
- **Metabolic Syndromes**
- **TCM practice and innovations**
- **TCM based ocular drug discovery**
- **Long Covid Project: Using Traditional Chinese Medicine (TCM)-based rehabilitation for management of Long COVID symptoms**

RCMI Funding Scheme:

- Tier 1 : Interdisciplinary Collaborative Research (7 funded projects)

- Tier 2: Exploratory Research (20 funded projects)

Major Research Directions

Tier 1: Interdisciplinary Collaborative Research 交叉學科合作研究

Dr Do Chi-wai (SO)	Potential therapeutic functions of Traditional Chinese Medicines in ocular disease management
Prof. Hector Tsang (RS)	Traditional Chinese Medicine (TCM)-based body works as integrative solutions for physical and psychological wellness: Addressing sedentariness in middle-aged office workers and sleep disturbance in older adults
Dr Jerry Yeung (SN)	Acupoint Herbal Plasters for Insomnia in Peri-menopausal Women
Dr Kenneth Cheng (HTI)	Identification and development of evidence-based Chinese medicine for the treatment of type 2 diabetes by targeting adipose tissue inflammation
Dr Seto Sai-wang (ABCT)	Multi-target strategy of Chinese herbal medicine for menopause-associated cognitive decline
Prof. Shamay Ng (RS) **Dr Billy So (RS)** **Dr Thomson Wong (RS)**	Acupoints stimulation works as integrative solutions for physical and psychosocial wellness: Addressing sleep disturbance in stroke survivors and exercise-induced muscle soreness in young athletes
Dr Vincent Keng (ABCT)	The pre-clinical evaluation of traditional Chinese medicine (TCM)-derived compounds in the treatment of non-alcoholic fatty liver disease

Tier 2: Exploratory Research 探索性研究

Dr CHEN Guoqing (SZRI) - Mechanism study of inducing oncosis via targeting NDRG2 for anti-hepatocellular carcinoma activity of Arnicolide D

Dr CHEN Sibao (FSN) - A natural sesquiterpenoid lactone, brevilin A suppresses growth of triple negative breast cancer via decreasing PD-L1 expression

Dr XIAO Huihui (SZRI) - Development of a hydrogel carrying vanillic acid for treatment of periodontal diseases

Dr LI Xiaoxiao (SZRI) - Anti-neuroinflammation effects of natural flavone Tricin on cognitive impairment in mice

Dr ZHANG Huan (FSN) - Study of the effects of traditional Chinese medicine combined with probiotics against hypercholesterolemia

Dr TSOI Bun Amy (FSN) - Evaluating the neuroprotective effect of Coicis semen using ischemia/reperfusion animal model

Dr Franklin CHOW (HTI) - Investigation of the anti-multidrug resistance organisms (MDRO) properties of Lantana camara L. extracts

Dr Daisy ZHAO (FSN) - Mechanistic insights into the anti-diabetic effects of Rubus suavissimus leaf extract in association with gut-derived metabolites

Dr Sonata YAU (RS) - Investigation of the novel effects of Fufang Zhenzhu Tiaozhi on treating Depression: involvement in increased adiponectin levels

Dr Grace XIE (SN) - A pilot neuroimaging and laboratory-based experimental study to explore the effect of Tai Chi on the alleviation of white matter lesions among migraine with aura women

Dr ZHOU Liping (SO) - Investigation of the effectiveness of Chi-Ju-Di-Huang-Wan in treatment of dry eye disease and the underlying mechanism

Dr CAI Yin (HTI) - Clematis filamenttosa Dunn (Gan-Mu-Tong) protects against heart failure with preserved ejection fraction through re-balancing cardiac energy substrate metabolism

Dr Kim LI (RS) - Mechanistic study of licorice in enhancing chemotherapeutic efficacy of doxorubicin in breast cancer treatment: focus on the regulation of vascular normalization.

Dr Christina POON (FSN) - Study of kidney-tonifying Chinese herbal medicine Cistanches Herba (CH) and its bioactive compounds on myogenesis for the management of sarcopenia

Dr SU Jingjing (SN) - AI-based motion analysis for home-based TaiChi and mindful awareness training for people with metabolic syndrome: A pilot randomized controlled trial

Dr SETO Sai-wang (FSN) - The active substance and intervention mechanism of Traditional Chinese Medicine Formula on the treatment of Long CONVID based on Network pharmacology

Dr Samantha SHAN (SO) - San Huang Tang, a Traditional Chinese Medicine-Based glaucoma treatment: Novel Agent Targeting MicroRNAs to Regulate Extracellular Matrix Proteins in Trabecular Meshwork Cells.

Dr Katherine LAM (SN) - Around the turn: A feasibility cluster randomized controlled trial of using auricular acupressure to abstain from drug abuse through training nursing students

Dr Eileen CHENG (SN) - Self-acupressure with or without Tai Chi Zhan-Zhuang for pain, fatigue, and sleep disturbance in breast cancer survivors: A pilot randomized controlled trial

Dr DONG Nai-ping (FSN) - Development of a bioinformatic platform for analysis of high throughput mass spectrometry based multi-omics data for understanding the effect of Traditional Chinese Medicine on ageing

Major Research Directions

Research Direction	Areas	RCMI Funding Schemes
Women's Health	• **Menopause-associated cognitive decline** • **Insomnia in Peri-menopausal Women**	**Tier 1 : Interdisciplinary Collaborative Research** (7 funded projects)
Metabolic Syndromes	• **Type 2 diabetes** • **Non-alcoholic fatty liver disease**	

TCM practice and innovations	• **Acupoints stimulation**
	  • Sleep disturbance in stroke survivors
	  • Exercise-induced muscle soreness in young athletes
	• **Mind-Body Exercises: Taichi and Qigong**
	  • Sedentariness in middle-aged office workers
	  • Sleep disturbance in older adult
	  • Pain, Fatigue and sleep disturbance in breast cancer survivors
	• **Bioinformatic platform for understanding of TCM on ageing**
		Tier 2: Exploratory Research
		
		(20 funded projects)

TCM based ocular drug discovery	• **Glaucoma** • **Dry Eye Disease (DED)** • **Diabetic retinopathy (DR)**	

Long Covid Project: Using Traditional Chinese Medicine (TCM)-based rehabilitation for management of Long COVID symptoms	• **Treatment of insomnia, anxiety, depression and cognitive disturbances (brain fog),**
	  • Jia-Wei Xiaoyao-San (JW-XYS)
	• **treatment of cardio-related symptoms including: shortness of breath, tachycardia, cough**
	  • Sheng-Mai Yin (SMY)	

Innovation and Technology Fund (ITF)

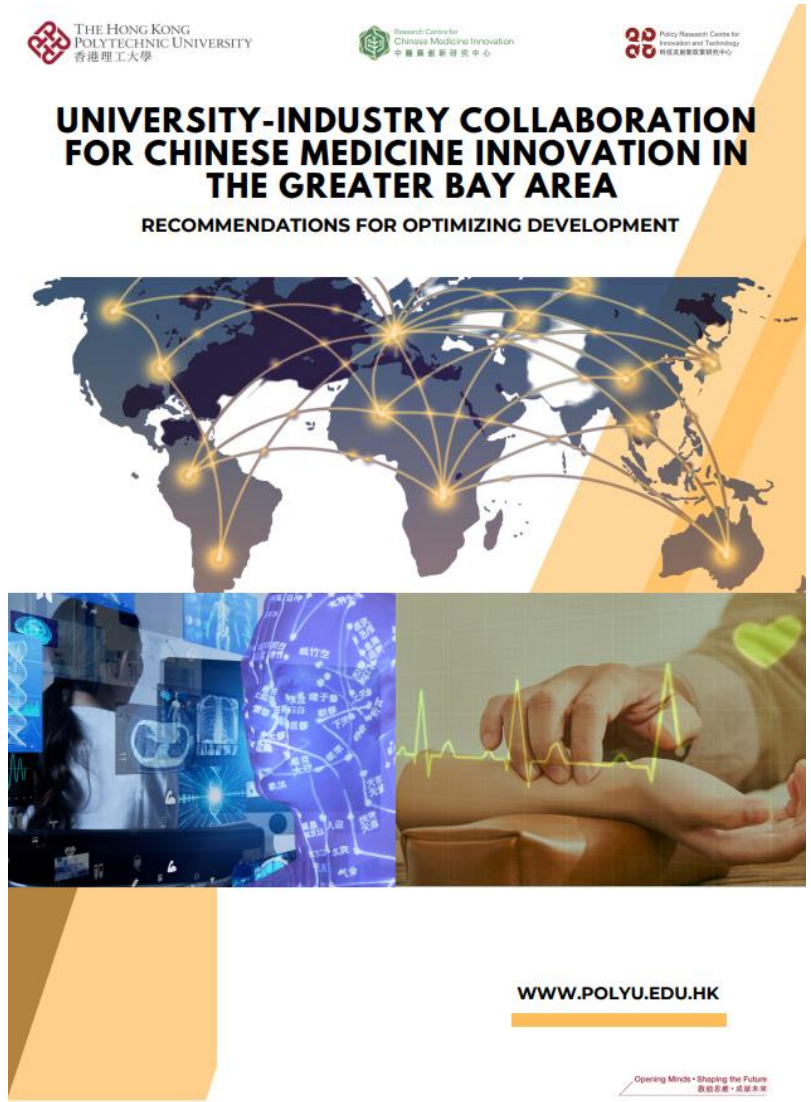
Project Title	Project duration	Project Coordinator
Discovery of Natural Antiosteoporotic Lead Compounds from Microbial Transformation	2022-01-01-2023-12-31	Prof Man-sau WONG DoRCMI
Discovery of Novel Anticancer Drugs Targeting LIF Pathway Based on Heat-Clearing and Detoxicating Traditional Chinese Medicine	2022-01-01-2023-12-31	Dr Sibao CHEN RCMI Member
Chinese Herb Huperzine A-derived Dimers for Osteochondral Repair and Regeneration	2021-10-01-2023-09-30	Dr Chunyi WEN RCMI Member
Advancing Application of the Active Compounds of Chinese Herbal Medicine Formulas on Counteracting Depression: Investigation of the Synergistic Activation on PACAP-mediated Rapid and Lasting Antidepressant Effects	2022-09-01-2024-08-31	Dr Sonata YAU RCMI Member
Research and Development of a novel fermented Chinese herbal medicine for combating obesity and its associated metabolic disorders	2023-10-01-2026-01-31	Dr. Daisy ZHAO RCMI Member

Policy Paper on University-Industry Collaboration for Chinese Medicine (CM) Innovation in the Greater Bay Area

- The paper outlines recommendations to policymakers for capitalizing on the opportunities arising from the dynamic consumer market and talent pool in the Greater Bay Area (GBA) with the aim of fostering the development and innovation in the traditional Chinese Medicine (CM) industry.

The key recommendations are:

1. Enhancing Hong Kong's CM Research and Development Ecosystem
2. Promoting the Internationalisation of CM
3. Commercialisation and Innovation of CM Health Maintenance Products
4. Constructing a Bio-digital Product Innovation Hub

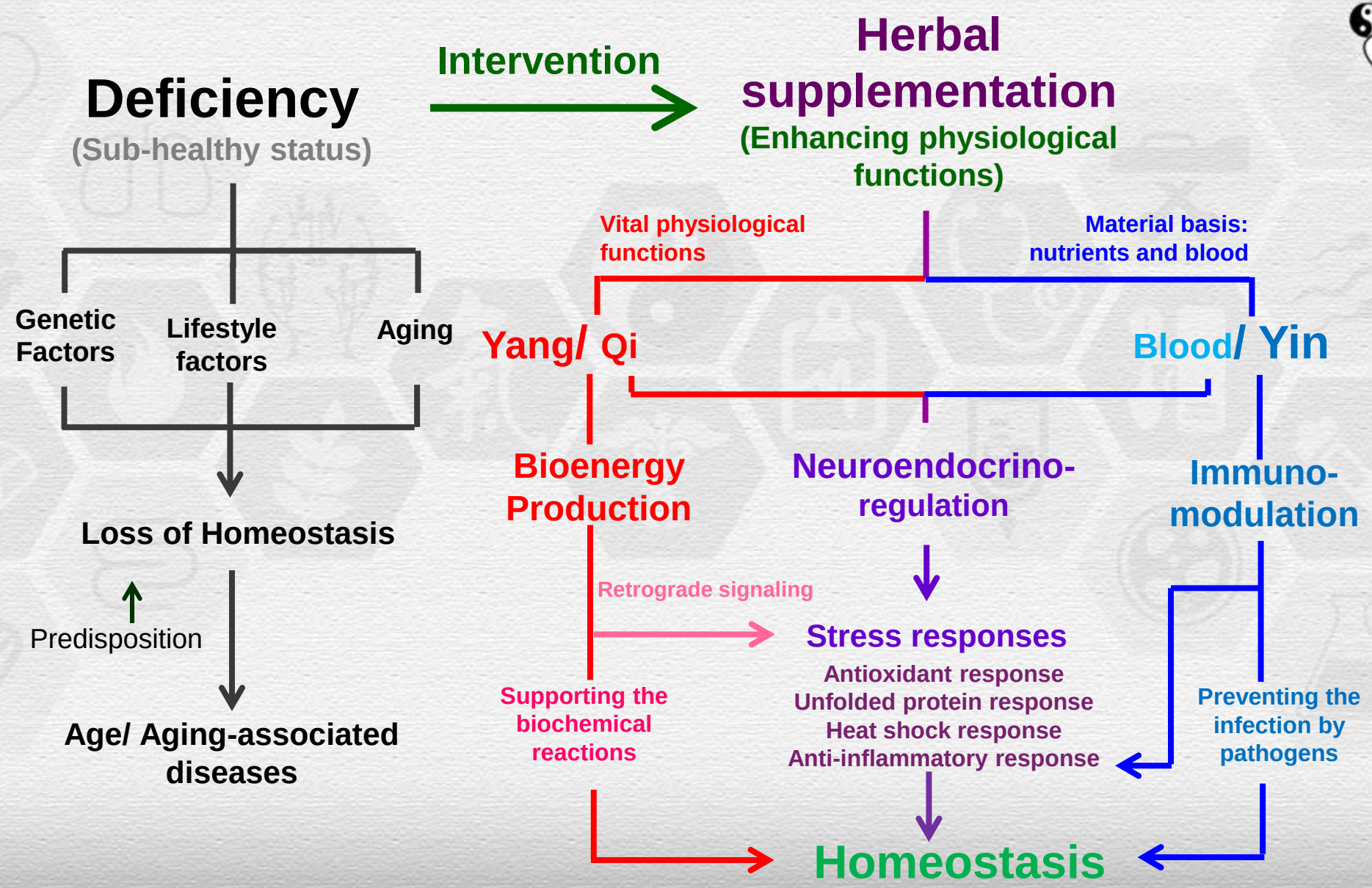


Prof Robert Ko

RKLab, Division of Life Science

Hong Kong University of Science & Technology

Investigation on the pharmacological basis of Chinese tonifying herbs with different functional categories



Chinese Medicine

BioMed Central

Review

Open Access

Enhancement of ATP generation capacity, antioxidant activity and immunomodulatory activities by Chinese Yang and Yin tonifying herbs

Kam Ming Ko* and Hoi Yan Leung

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Scientific Research Publishing

Chinese Medicine, 2018, 9, 63-74

http://www.scirp.org/journal/cm

ISSN Online: 2151-1926

ISSN Print: 2151-1918

Differences in the Mechanisms by Which Yang-Invigorating and Qi-Invigorating Chinese Tonifying Herbs Stimulate Mitochondrial ATP Generation Capacity

Pou Kuan Leong, Hoi Yan Leung, Wing Man Chan, Kam Ming Ko*

Division of Life Science, The Hong Kong University of Science and Technology, Hong Kong, China

Email: *bcrko@ust.hk

Scientific Research Publishing

Chinese Medicine, 2021, 12, 1-9

https://www.scirp.org/journal/cm

ISSN Online: 2151-1926

ISSN Print: 2151-1918

Antioxidant and Immunopotentiating Effects of *Cordyceps* Mycelium Extract, Chicken Essence, and Their Combination in Experimental Models

Hoi Yan Leung[1], Choly Tat Ming Yan[2], Kam Ming Ko[1*]

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Scientific Research Publishing

Chinese Medicine, 2023, 14, 57-67

https://www.scirp.org/journal/cm

ISSN Online: 2151-1926

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Cell-Based Biological Markers for Blood-Enriching Chinese Herbs: Erythropoietin Production in HepG2 Cells and Nitric Oxide Release in Human Umbilical Vein Endothelial Cells (HUVECs)

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Division of Life Science, Hong Kong University of Science & Technology, Hong Kong, China

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Scientific Research Publishing

Chinese Medicine, 2023, 14, 68-78

https://www.scirp.org/journal/cm

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ISSN Print: 2151-1918

Differential Effects of Yin- and Yang-Chinese Tonifying Herbs on Innate and Adaptive Immunity

Hoi Yan Leung, Kam Ming Ko*

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HK University of Science and Technology

TCM-FTP: Fine-Tuning Large Language Models for Herbal Prescription Prediction

X Zhou, X Dong, …, R Zhang, X Zhou, NL Zhang

HKUST, Beijing Jiaotong University, Guang'anmen Hospital

- Large language model (LLM) fine-tuned on clinical records on digestive system disorders
- Achieving high accuracy in prescription prediction, including dosage prediction
- Drastically outperforming previous methods for the task and LLMs not fine-tuned for the task

Input	主诉: 腹泻36年,现病史: 病情稳定,肠鸣午后易发,腹泻偶作,腹胀减轻,腹部畏寒减轻,无胸闷气短,腹痛偶作,偶有心悸,睡眠可,小便正常,舌暗红,苔黄腻,舌下脉络迂曲青紫,脉弦 Chief Complaint: Diarrhea for 36 years. Present Medical History: The condition is stable, with increased bowel sounds in the afternoon, occasional episodes of diarrhea, reduced abdominal distension, alleviated aversion to cold in the abdomen, no chest tightness or shortness of breath, occasional abdominal pain, occasional palpitations, normal sleep, normal urination. Dark red tongue with yellow greasy coating, sublingual veins are tortuous and purplish, and the pulse is string-like.
Output (Ground Truth)	党参 15,茯苓 45,麸炒白术 30,蜜甘草 10,山药 15,炒白扁豆 10,陈皮 6,白芍 15,诃子肉 20,乌梅 10,莲子肉 15,黄芩 10,黄连 7,北败酱草 20,醋莪术 15,丹参 20,醋延胡索 15,麸煨肉豆蔻 7,醋五味子 10,盐补骨脂 7,生白术 10,生槟榔 7,苦参 10,生牡蛎 20,生龙骨 20
TCM-FTP (ShenNong, ours)	麸煨肉豆蔻 7,黄连 7,乌梅 10,茯苓 45,诃子肉 20,白芍 15,醋五味子 10,炒白扁豆 10,麸炒白术 30,醋莪术 15,丹参 20,生白术 10,黄芩 10,北败酱草 20,莲子肉 15,醋延胡索 20,陈皮 6,盐补骨脂 7,生槟榔 7,蜜甘草 10,党参 15,甘松 10,山药 15
Mengzi (T5 base)	党参 15,生白术 15,麸炒白术 30,茯苓 45,白芍 15,黄芩 10,黄连 6,北败酱草 20,大血藤 20,马齿苋 20,木香 10,生槟榔 10,当归 10,陈皮 10,防风 7,肉桂 3,山药 20,炒薏苡仁 20,蜜甘草 7,醋莪术 9,醋三棱 9,乌梅 10,醋五味子 10,白花蛇舌草 20,半枝莲 10,麸炒芡实 20,莲子肉 20,煅赤石脂 20,车前草 20,盐补骨脂 7,煨肉豆蔻 7,煅赤石脂 20
GPT-3.5	人参 10,陈皮 6,附子 3,干姜 3,甘草 3,川楝子 10
GPT-4.0	白术 10,陈皮 6,茯苓 10,木香 6,砂仁 5,肉桂 3,甘草 5,当归 10,黄芩 10,佩兰 6,防风 6,草果 6
Rank from TCM expert	**TCM-FTP (ShenNong, ours)** > Mengzi (T5 base) > GPT-4.0 > GPT-3.5

Category	Model	Precision	Recall	F1-score
MLC models & topic models	MLKNN [42]	0.5365	0.4626	0.4968
	LinkLDA [37]	0.5267	0.4572	0.4895
	LinkPLSALDA [39]	0.5311	0.4614	0.4938
TCM prescription prediction models	PTM [5]	0.5372	0.5777	0.5567
	TCMPR [43]	0.5241	0.4570	0.4882
	KDHR [44]	0.4917	0.3898	0.4349
	PresRecST [12]	0.5061	0.4016	0.4419
Pre-trained Language models	GPT-3.5	0.0570	0.0725	0.1049
	GPT-4.0	0.0605	0.0761	0.0111
	Mengzi (T5-base) [45]	0.7332	0.7474	0.7403
TCM-FTP(Ours)	TCM-FTP (llama+, K=20)	0.7528	0.7779	0.7652
	TCM-FTP (llama+, K=50)	0.7916	**0.8118**	0.8016
	TCM-FTP (ShenNong, K=20)	0.7919	0.8100	0.8008
	TCM-FTP (ShenNong, K=50)	**0.7951**	0.8113	**0.8031**

Conclusion: It is now technologically possible to build systems that accurately mimics experts in writing TCM prescriptions.

HKU Med LKS Faculty of Medicine School of Chinese Medicine 香港大學中醫藥學院

25 週年 Anniversary

香港大學中醫藥學院醫教研發展及港大中西醫結合和中醫藥國際化高地建設

馮奕斌教授

香港大學中醫藥學院院長、教授

科研產出 Research Outputs (2006 – 2024.2)

Research outputs		No.
	Total papers -English papers -Chinese papers	**1415** - 1109 - 306
	Total no. of Citation (by Google)	**41383**
	Average citation	46.92
	The highest single paper citation	**1443**
	The highest impact factor	**41.444**
Books & Book Chapters		**151**
Patents		**113**

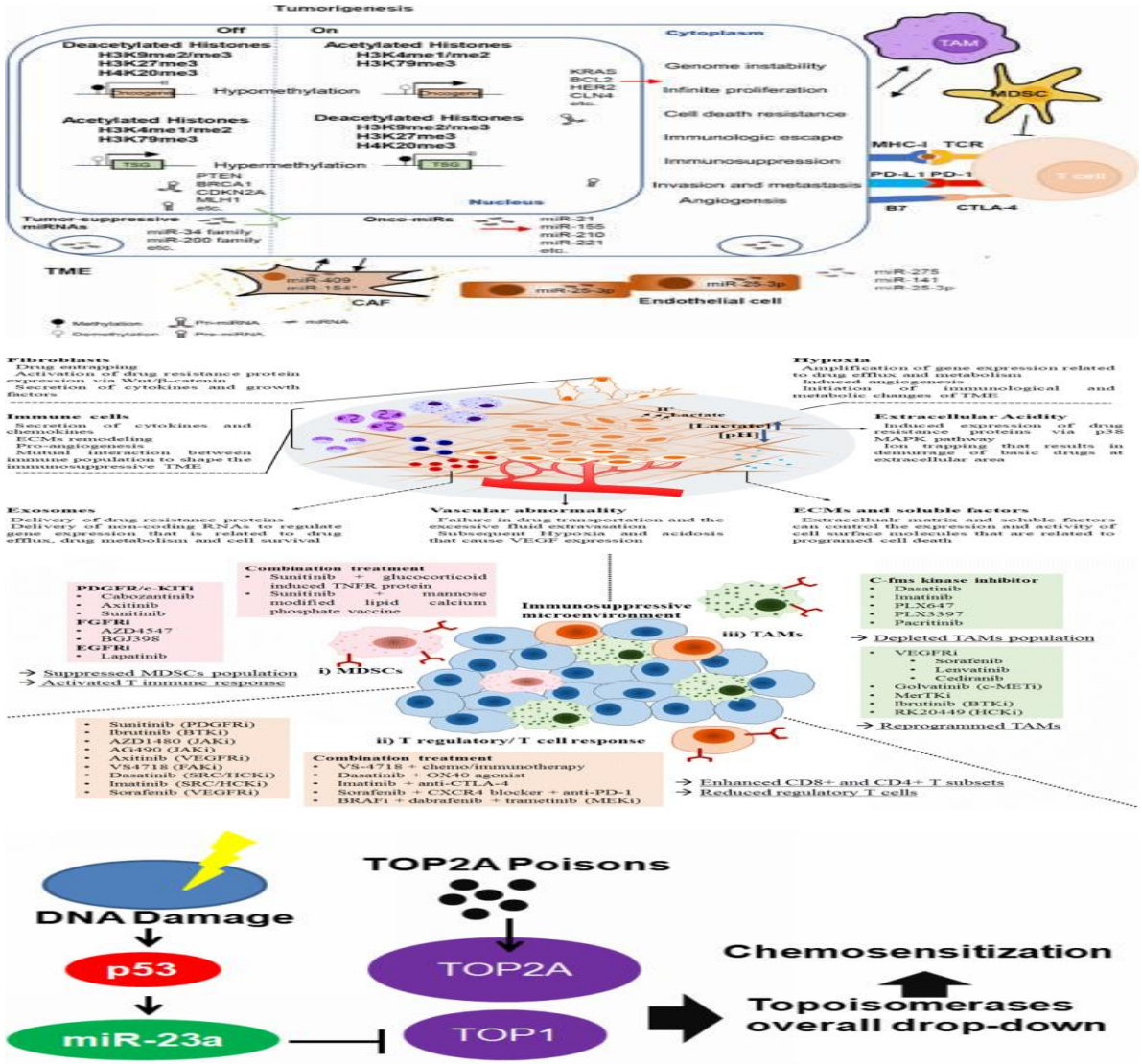
High impact journal publications (journals in Jan 2023- Feb 2024)

Impact Factor	No. of Publication
over 17	6
14-16.99	7
11-13.99	7
8-10.99	11
7-7.99	24
6-6.99	10
Under 6	76
Total:	145

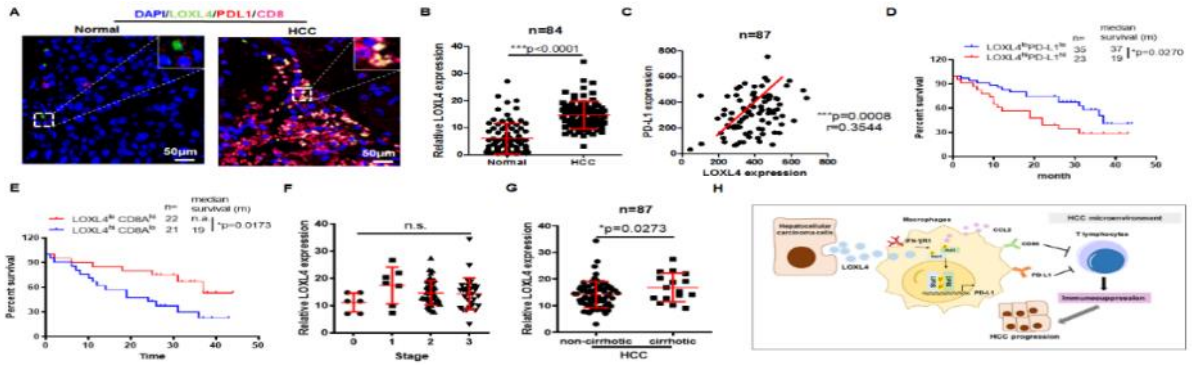
HKU 2020 RAE total score in HK CM cost centres were ranked No.1
(每六年一次的港大在香港中醫藥領域科研評估中獲總分第一)

在同一個平臺上對話，同步發展，各有特點

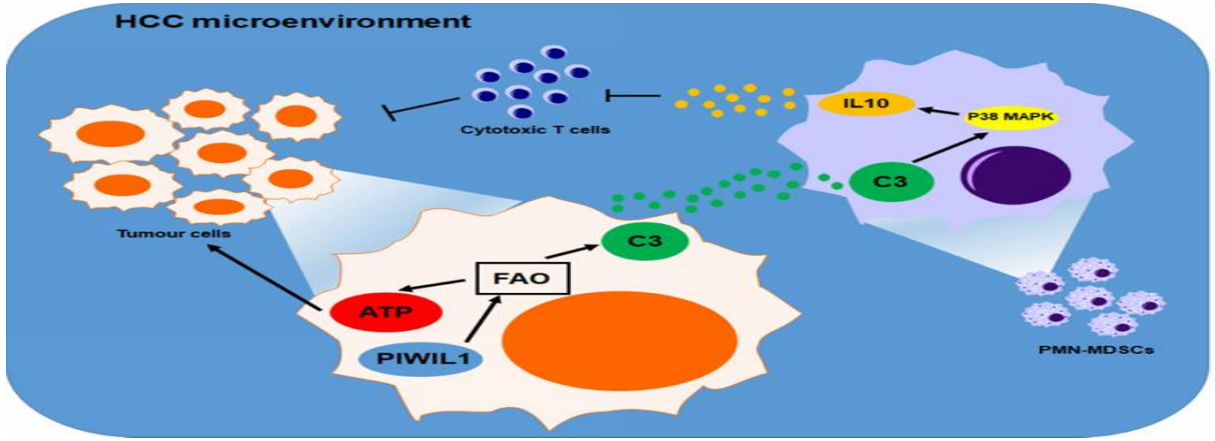
腫瘤小核酸和微環境 Molecular Cancer IF 41.444



新的疾病機制和可能的藥物作用靶點



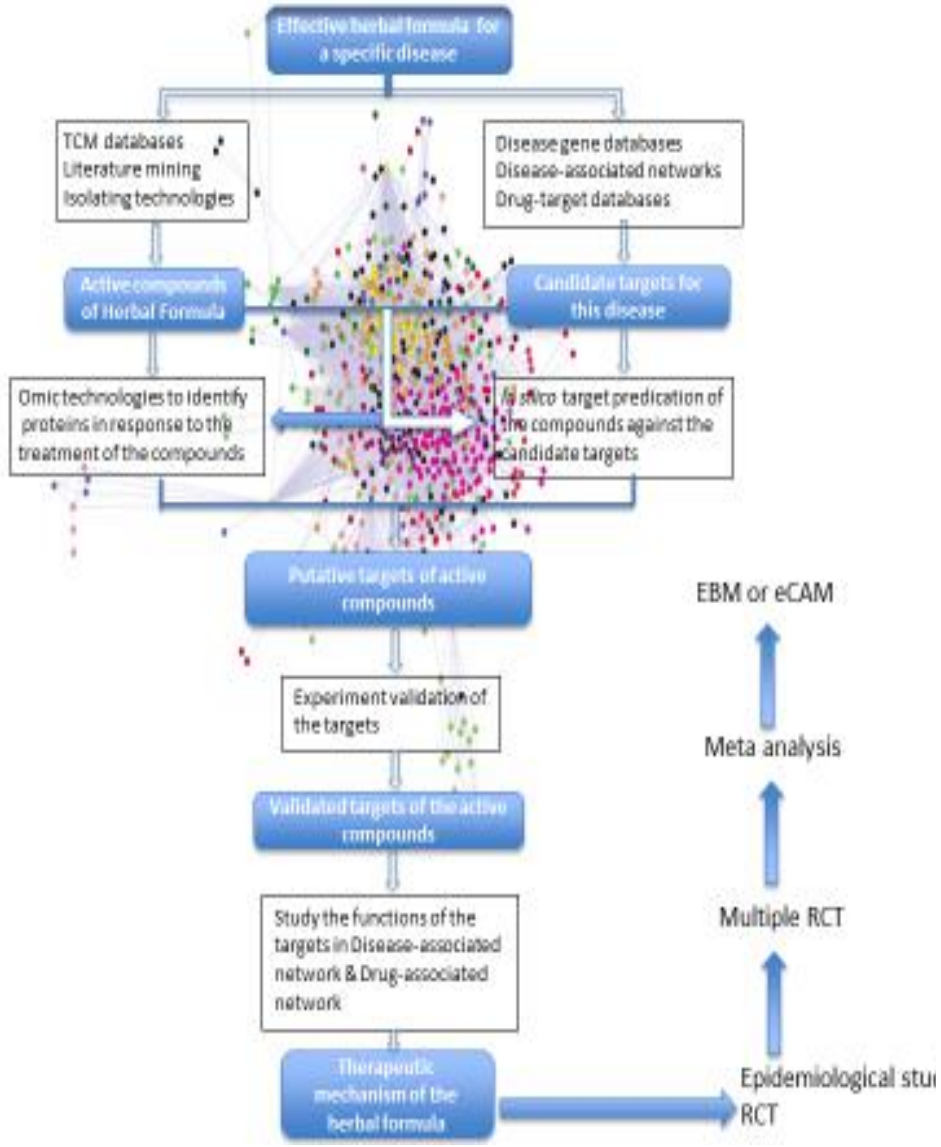
LOXL4 Fosters an Immunosuppressive Microenvironment During Hepatocarcinogenesis. Tan HY, Wang N, Zhang C, Chan YT, Yuen MF, Feng Y. Hepatology 2020 Oct 17. doi: 10.1002/hep.31600**. IF17.425**.



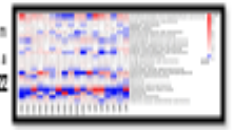
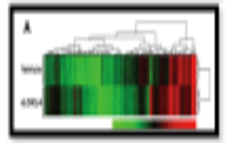
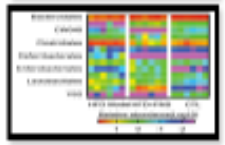
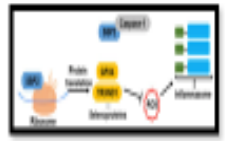
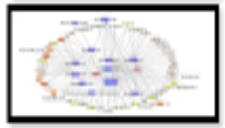
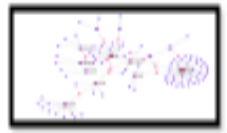
PIWIL1 governs the crosstalk of cancer cell metabolism and immunosuppressive microenvironment in hepatocellular carcinoma. Wang N, Tan HY, Lu Y, Chan YT, Guo W, Xu Y, Zhang C, Chen F, Tang G, Feng Y. Signal Transduction and Targeted Therapy, 2020, **IF 38.104**.

大數據、AI、組學、網絡藥理學、臨床前和臨床研究
Big data, OMICs, Network-pharmacology, mechanism and clinical studies

Data mining: from bench to clinical studies



Research Studies with Network, OMICs, Machine Learning, Single cell-associated approaches

Representative Publications (2019-2023)	Figure	Identified targets
Chen Y.Q., ..., Wang R., Feng Y. Pancreatic melatonin enhances anti-tumor immunity in pancreatic adenocarcinoma through regulating tumor-associated neutrophils infiltration and NETosis. **Acta Pharmaceutica Sinica B. 2023.**		Anti-tumor effect of pancreatic melatonin by by promoting the infiltration and NETosis
Zhang S., ..., Feng Y., et al. **Single-cell** co-expression analysis using computational machine learning reveals oxidative, immunopathologic, and myocardial responses for multi-organ failure in COVID-19. **Clinical and Translational Medicine 2022;** 12:e848.		Functional gene modules for multi-organ failure of COVID-19 using machine learning
Li Y., ..., Wang R., Feng Y., et al. . Thioredoxin-interacting protein-activated intracellular potassium deprivation mediates the anti-tumour effect of a novel histone acetylation inhibitor HL23, a fangchinoline derivative, in human hepatocellular carcinoma. **Journal of Advanced Research. 2022** Nov 9:S2090-1232(22)00245-6		HL23 as a novel target to trigger TXNIP-dependent potassium deprivation and enhance sorafenib efficacy in HCC treatment.
Tan, H. Y., ..., Feng Y., et al. Lysyl Oxidase-Like 4 Fosters an Immunosuppressive Microenvironment During Hepatocarcinogenesis. **Hepatology. 2021;** 73(6). 2326-2341.		LOXL4 facilitates immune evasion by tumor cells and leads to hepatocarcinogenesis
Xu, Y., ..., Feng Y. Panax notoginseng Saponins Modulate the Gut Microbiota to Promote Thermogenesis and Beige Adipocyte Reconstruction via Leptin-Mediated AMPKα/STAT3 Signaling in Diet-Induced Obesity. **Theranostics 2020;** Sep 10 (24): 11002-11022.		leptin signaling is critical for alterations in microbiota-fat crosstalk in the treatment of obesity.
Wang N., ..., Feng Y, et al. SBP2 deficiency in adipose tissue macrophages drives insulin resistance in obesity. **Science Advances. 2019;**5(8):eaav0198.		SBP2 in ATMs as a potential target in rescuing insulin resistance in obesity
Tan, H. Y., ..., Feng, Y, et al. Combination of Gentiana rhodantha and Gerbera anandria in the BL02 formula as therapeutics to non-small cell lung carcinoma acting via Rap1/cdc42 signaling: a **Transcriptomics/Bio-informatics biological validation approach. Pharmacological Research. 2019;** 104415		Rap1/cdc42 signaling as the therapeutic target for non-small cell lung carcinoma
Wang, N., ..., Feng, Y, et al. **OMICs approaches-assisted** identification of macrophages-derived MIP-1gamma as the therapeutic target of botanical products TNTL in diabetic retinopathy. **Cell Commun Signal, 2019;** 17(1), 81.		Inhibition of MIP1γ/CCR1 axis contributes to DR treatment

I. Original discovery from Chinese Medicines
部分原創性的發現

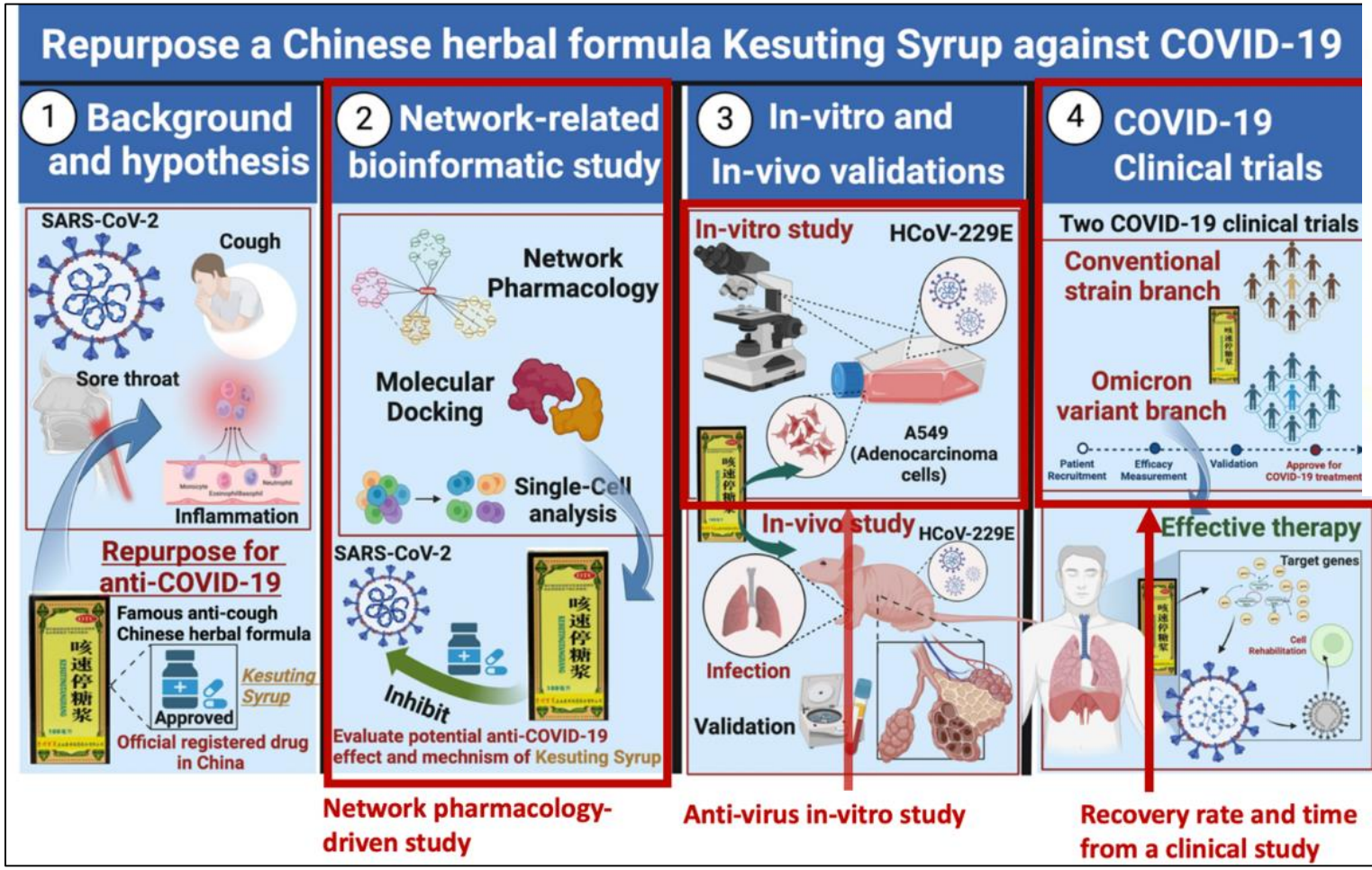
Patent based single and multi-component products

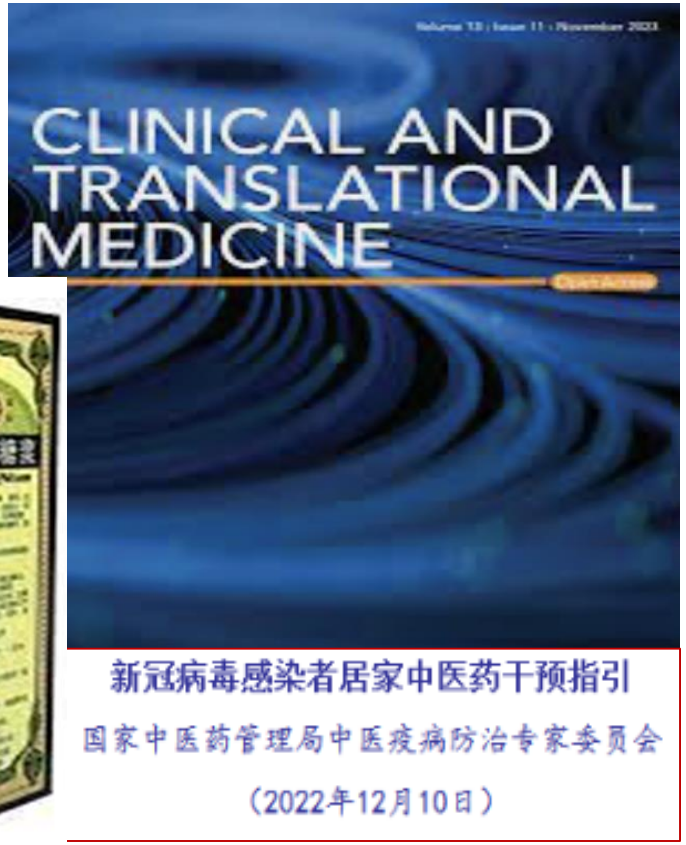
- **Chinese Patent: Feng Y**, Wang N. Chinese Patent. CN201010246367.3 (2010.07.27), CN102342984A (2012.02.08), CN102342984B (2014.03.05). Title: The New Use of Coptidis Rhizoma Total Alkaloids. Certification No. 1353882 and patent No. ZL 2010 1 0246367.3 (馮奕斌，王寧. 黃連總生物鹼提取物的新用途.).
- **Chinese patent:** Pan WD, **Feng Y**, Liu YZ, Wang N, Huang L, Liang GY, Zhang MS, Li TL, Lou HY, Hu ZX, Liu C, Cao PX, Ruan QH. Chinese Patent, CN201410403363X (2014.08.15), CN201580033920.6 (2015.06.29), CN107207524A (2017.09.26). Title: Design and synthesis of derivatives from benylisoquinoline alkaloids and the application in prevention and treatment of liver diseases (**潘衛東，馮奕斌，劉亞洲，王寧，黃蘭，梁光義，張茂生，李天磊，婁華勇，胡占興，劉晟，曹佩雪，阮婧華。**雙苄基异喹啉衍生物、其製備方法及其在肝病的治療與預防中的用途，中華人民共和國國家知識產權局，公開日：2017年9月26日，公開號：CN107207524A).
- **PCT patent:** Pan WD, **Feng Y**, Liu YZ, Wang N, Huang L, Liang GY, Zhang MS, Li TL, Lou HY, Hu ZX, Liu C, Cao PX, Ruan QH. Chinese Patent, CN201410403363X (2014.08.15), CN201580033920.6 (2015.06.29), CN107207524B (2020.02.07). Title: Bi-benzyl isoquinoline derivative, preparation method and use thereof in hepatopathy treatment and prevention (**潘衛東，馮奕斌，劉亞洲，王寧，黃蘭，梁光義，張茂生，李天磊，婁華勇，胡占興，劉晟，曹佩雪，阮婧華。**雙苄基异喹啉衍生物、其製備方法及其在肝病的治療與預防中的用途，中華人民共和國國家知識產權局，公開日：2020年2月7日，公開號：CN107207524B).
- **Chinese patent: Feng Y**, Wang N. Chinese Patent Application No. 20150828 filed 28 August 2015. Title: New use of Coptidis Rhizoma Total Alkaloids for Diabetic Retinopathy.
- **Chinese Patent: Feng Y,** Wang N, Xu Yu. Chinese Patent Application No. IP00779 filed 2018. Title: Preparation and medical application of an herbal extract from Noto Ginseng (Sanqi in Chinese) in controlling body weight, fat burn and metabolism.
- **Chinese Patent:** Cheng CS, Chen Z, **Feng Y**, Wang N, Chen YT. CN201910117326.5 (2019.02.15), CN109730995A (2019.05.10). Application of berberine hydrochloride in inhibiting pancreatic cancer (**程健珊; 陳震; 馮奕斌; 王寧; 陳聯譽. 鹽酸小檗碱在抑制胰腺癌中的應用. 中華人民共和國國家知識產權局，已經受理，公開日：**2019年5月10日**，公開號：**CN109730995A).
- **Chinese Patent: Feng Y,** Wang N, Zhang C. Preparation of extracts and bioactive compounds from Ginger and its application in Diabetic retinopathy (**生薑總提取物及其活性成分防治糖尿病眼病及其製備方法**). Chinese Patent Application under review.
- **Chinese patent: Feng Y**, Wang N. CN201610537193.3 (2016.07.08), CN107583003A (2018.01.16). Preparation and application of a Chinese herbal formula for preventing or treating diabetic retinopathy (馮奕斌，王寧. 預防或治療糖尿病眼病的複方組合物、其製備方法和用途. 中華人民共和國國家知識產權局，公開日：2016年7月8日，公開號：CN107583003A).
- **Chinese Patent: Feng Y,** Wang N, Xia Wen. CN201710123076.7 (2017.03.03), CN108524627A (2018.09.14). New use of Chinese Medcine preparation (馮奕斌; 王寧; 夏文. 一種中藥製劑的新用途. 中華人民共和國國家知識產權局，公開日：2018年9月14日，公開號：CN107583003A).
- **Chinese Patent: Feng Y,** Wang N, Xia W. Preparation and application of a Chinese herbal formula of lipid-lowering and weight-loss (一種複方藥在製備降脂減肥藥中的應用). Chinese Patent under review.
- **Chinese Patent: Feng Y,** Tan HY, Xia W, Wu GH, Chen HY, Ran N, Wu YC, Sun TT. An antitumor Chinese Medcine receipt and its preparation and application thereof (馮奕斌，陳可瑜，夏文，吳貴輝，陳紅羽，冉娜，吳玉春，孫田甜. 一種抗腫瘤的中藥複合物及其製備方法和應用. 中華人民共和國國家知識產權局，已經受理，公開日：2020年3月17日，公開號：CN110882298A). Chinese Patent, CN110882298A.
- **Chinese Patent: Feng Y,** Wang N. A Novel Chinese Medcine product for preventing binge drinking and alcohol-induced liver damage (一種具有保肝及解酒作用的中藥組合物及其製備方法與應用). Chinese Patent Application under review.
- **Chinese Patent: Feng Y,** Wang N, Tang GY, Zhang C. Preparation of a Chinese Medcine compound extract and its application in the treatment of hyperuric acid nephropathy (一種中藥複方提取物的製備及其治療高尿酸腎病的應用). Chinese Patent Application under review.

II. Secondary development of herbal products (中藥二次開發)

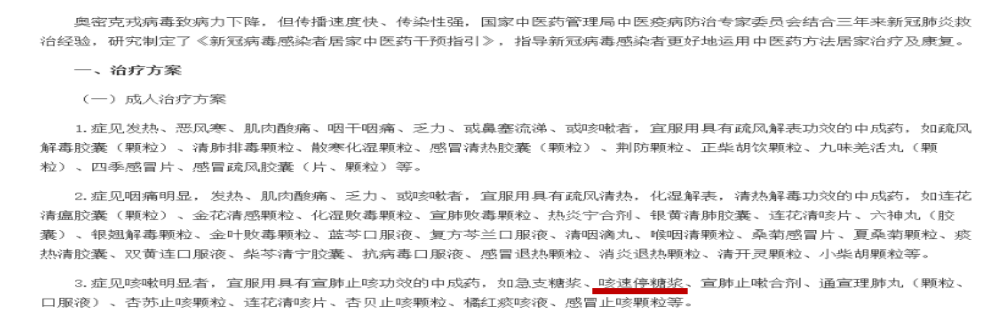
Chinese medicine Re-purposing for COVID-19 (Ke-Su-Ting Syrup: 咳速停糖漿)

IF:10.6





吉祥草，黄精，百尾参，桔梗，虎耳草，枇杷葉，麻黄，桑白皮，罌粟殼



奥密克戎病毒致病力下降，但传播速度快、传染性强，国家中医药管理局中医疫病防治专家委员会结合三年来新冠肺炎救治经验，研究制定了《新冠病毒感染者居家中医药干预指引》，指导新冠病毒感染者更好地运用中医药方法居家治疗及康复。

一、治疗方案

（一）成人治疗方案

1. 症见发热、恶风寒、肌肉酸痛、咽干咽痛、乏力、或鼻塞流涕、或咳嗽者，宜服用具有疏风解表功效的中成药，如疏风解毒胶囊（颗粒）、清肺排毒颗粒、散寒化湿颗粒、感冒清热胶囊（颗粒）、荆防颗粒、正柴胡饮颗粒、九味羌活丸（颗粒）、四季感冒片、感冒疏风胶囊（片、颗粒）等。

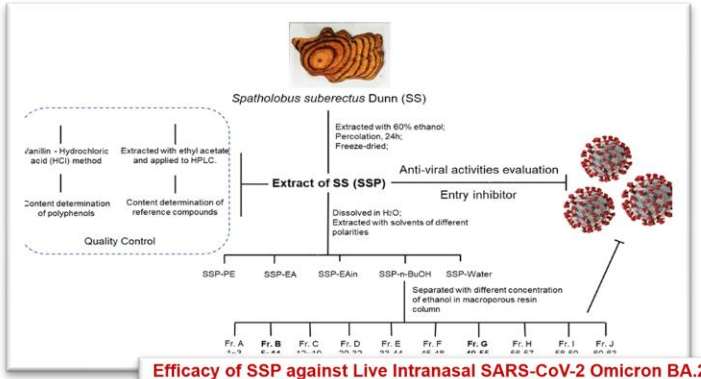
2. 症见咽痛明显，发热、肌肉酸痛、乏力、或咳嗽者，宜服用具有疏风清热，化湿解表，清热解毒功效的中成药，如连花清瘟胶囊（颗粒）、金花清感颗粒、化湿败毒颗粒、宣肺败毒颗粒、热炎宁合剂、银黄清肺胶囊、连花清咳片、六神丸（胶囊）、银翘解毒颗粒、金叶败毒颗粒、蓝芩口服液、复方芩兰口服液、清咽滴丸、喉咽清颗粒、桑菊感冒片、夏桑菊颗粒、疹热清胶囊、双黄连口服液、柴芩清宁胶囊、抗病毒口服液、感冒退热颗粒、清炎退热颗粒、清开灵颗粒、小柴胡颗粒等。

3. 症见咳嗽明显者，宜服用具有宣肺止咳功效的中成药，如急支糖浆、咳速停糖浆、宣肺止嗽合剂、通宣理肺丸（颗粒、口服液）、杏苏止咳颗粒、连花清咳片、杏贝止咳颗粒、橘红痰咳液、感冒止咳颗粒等。

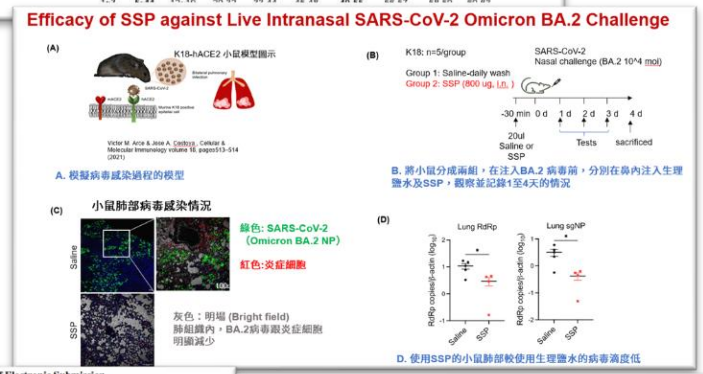
Paper: Zhang, C., Sun, TT., Lv, Y., Li, X., Ling, Y., Wang, N., Wen, X., Fan, XH*., Feng Y*.(2024). A Chinese herbal formula Kesuting Syrup against COVID-19: a network pharmacology-driven experimental and clinical trials. *Clin Transl Med. (Accepted for publication)*

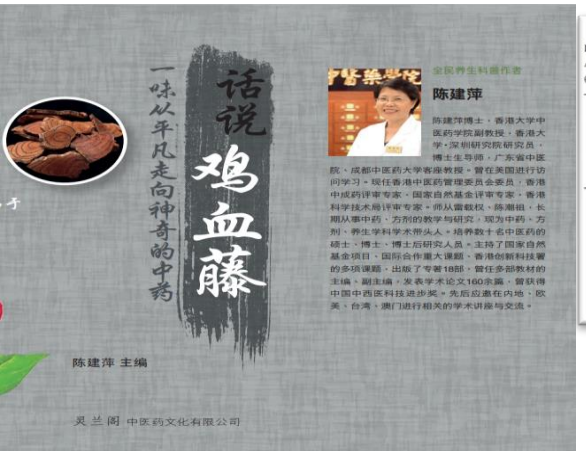
Dr. Chen JP and Prof. Chen Zhiwei collaborate to discover anti-SARS-CoV-2 products from Chinese Medicines

- **Bioactive compound screen**



- ***In vivo* activity test**





- **Patent application**
- **Paper publication**

International patent

- **V百樂喉糖**

in the market

- **V百樂牙膏**

待面市噴劑、凝露等

Industrialization

From clinical study to scientific research of obesity and diabetes
從肥胖和糖尿病的臨床醫學的研究到深入的基礎科學研究

LKS Faculty of Medicine

中藥二次開發

IF:14.136

SCIENCE ADVANCES | RESEARCH ARTICLE

DISEASES AND DISORDERS

SBP2 deficiency in adipose tissue macrophages drives insulin resistance in obesity

Ning Wang[1], Hor-Yue Tan[1], Sha Li[1], Di Wang[2], Yu Xu[1], Cheng Zhang[1], Wen Xia[3], Chi-Ming Che[4], Yibin Feng[1]*

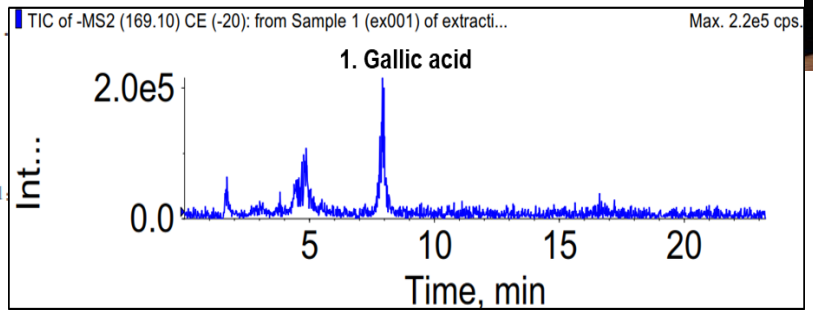
中华糖尿病杂志 2021 年 4 月第 13 卷第 4 期 Chin J Diabetes Mellitus, April 2021, Vol. 13, No. 4 · 317 ·

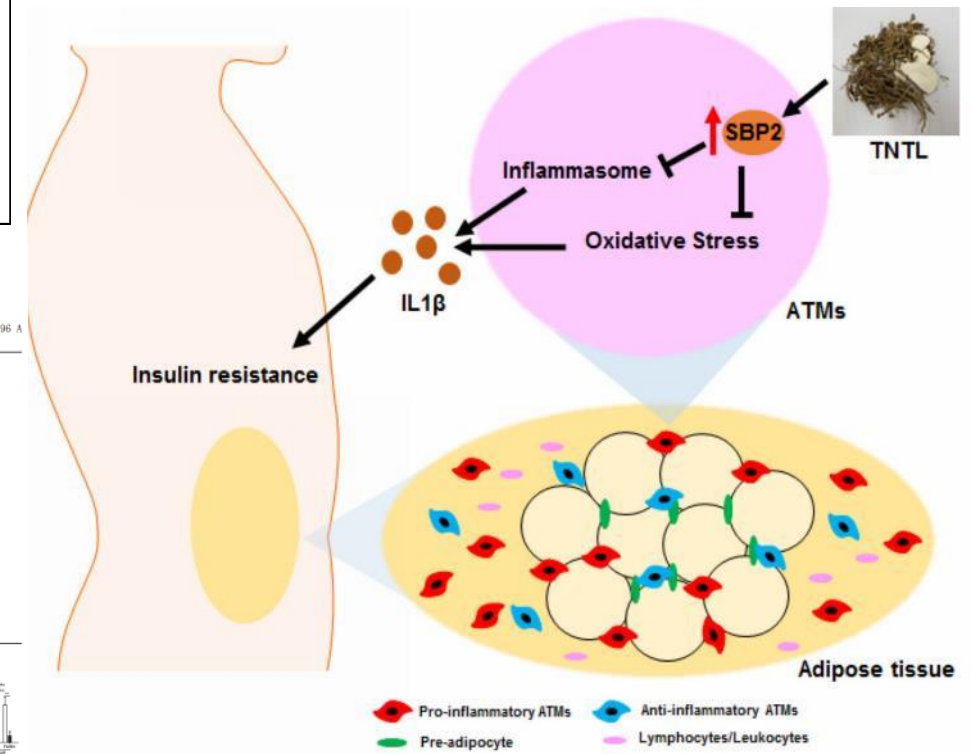
中国 2 型糖尿病防治指南（2020 年版）

中华医学会糖尿病学分会
通信作者：朱大龙，南京大学医学院附属鼓楼医院内分泌科 210008，Email：zhudalong@nju.edu.cn

本指南由《中华糖尿病杂志》和《中华内分泌代谢杂志》于 2021 年 4 月同步发表

TIC chromatogram of TNTL



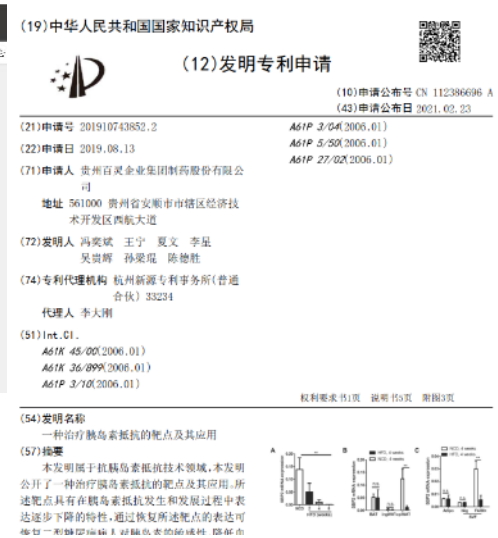


第十九章　糖尿病的中医药治疗

要点提示：
糖尿病的中医药治疗，遵循辨证论治原则，在协同降糖、改善症状和体征、防治并发症、提高生活质量及三级预防中发挥作用。(B)

一、糖尿病中医药治疗概述

中医学将糖尿病归为“消渴病”或“糖络病”等。经典名方如肾气丸[670]、六味地黄丸[671]、消渴方[672]、白虎加人参汤[670]等方药沿用至今。近年来单体如黄连素[673]、民族药如苗药糖宁通络[674-675]等研究得到国际关注。



張樟進教授團隊推動知識轉化研究
Professor ZHANG Zhangjin Term research for Knowledge Transfer Study

❑ 多項臨床試驗證明，針刺可有效改善乳腺癌病人在化療過程所出現的失眠和認知功能減退

- Acupuncture for chemotherapy-associated insomnia in breast cancer patients: an assessor-participant blinded, randomized,sham-controlled trial

❑ TECAS是一種非侵入性穴位刺激療法，首次證明用於輕中度抑鬱症治療的療法不差於抗抑鬱藥

- Transcutaneous electrical cranial-auricular acupoint stimulation versus escitalopram for mild-to-moderate depression: An assessor-blinded, randomized, non-inferiority trial

❑ 黃連素是常用的一種重要單體，研究表明黃連素可有效控制抗精神病藥所致的體重增加和代謝綜合征

- TAdjunctive berberine reduces antipsychotic-associated weight gain and metabolic syndrome in patients with schizophrenia: a randomized controlled trial

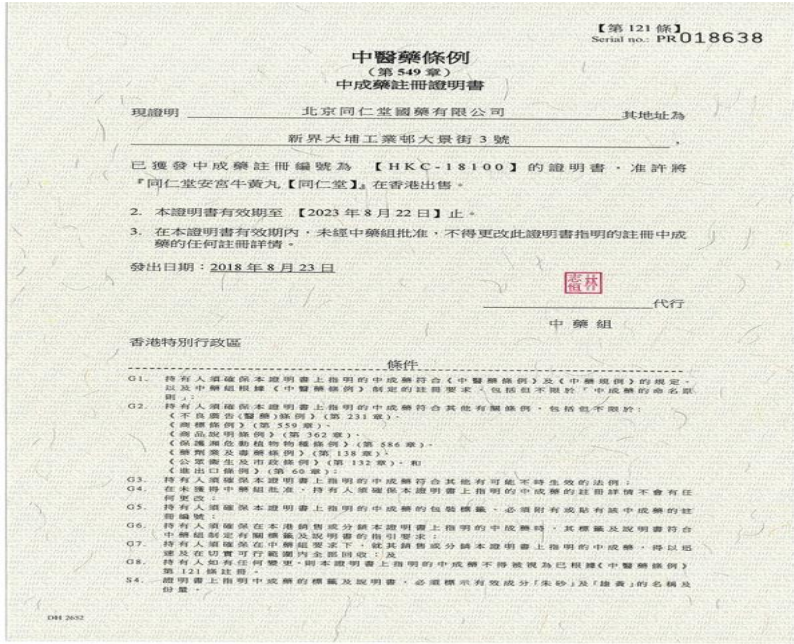
沈劍剛教授團隊與北京同仁堂國藥有限公司合作推動知識轉化研究
Professor Shen Jiangang Term collaborates with Beijing Tong Ren Tang Chinese Medicine Inc. LTD. for Knowledge Transfer Study

❑ 阐明安宫牛黄丸与溶栓剂rt-PA联合应用，减少溶栓出血，延长缺血性脑卒中溶栓时间窗，减少死亡率。

- Angong Niuhuang Pills as an adjunct therapy with thrombolytic agent rt-PA can reduce thrombolysis bleeding, extend the thrombolytic time window of ischemic stroke, and reduce mortality.

❑ 安宫牛黄丸（天然冰片）成功在香港中成药注册

- Angong Niuhuang Wan (natural borneol) was successfully registered as a proprietary Chinese medicine in Hong Kong



【第 121 條】
Serial no.: PR018638

中醫藥條例
（第 549 章）
中成藥註冊證明書

現證明 北京同仁堂國藥有限公司 其地址為
新界大埔工業邨大景街 3 號，
已獲發中成藥註冊編號為 【HKC-18100】的證明書，准許將『同仁堂安宮牛黃丸【同仁堂】』在香港出售。

2. 本證明書有效期至 【2023 年 8 月 22 日】止。
3. 在本證明書有效期內，未經中藥組批准，不得更改此證明書指明的註冊中成藥的任何註冊詳情。

發出日期：2018 年 8 月 23 日

代行
中藥組
香港特別行政區

條件

The University of Hong Kong

ASIA'S GLOBAL UNIVERSITY

1st most international university in the world

2nd in Asia

10th most employable graduates in the world

13th highly cited researchers worldwide
(2023 Clarivate Analytics)

26th in the world

HKU Med LKS Faculty of Medicine School of Chinese Medicine 香港大學中醫藥學院

中醫藥學院多位科學家入選世界級評級系統

HKU Med LKS Faculty of Medicine School of Chinese Medicine 香港大學中醫藥學院

躋身世界前1%學者行列


馮奕斌教授


沈劍剛教授

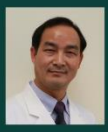
科睿唯安(Clarivate Analytics)
2023全球年度數據

HKU Med LKS Faculty of Medicine School of Chinese Medicine 香港大學中醫藥學院

全球首2%頂尖科學家


馮奕斌教授


沈劍剛教授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