

# The May 2020 Newsletter of The GP-TCM Research Association



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## The May 2020 Newsletter of The GP-TCM Research Association



### Message from the President and the Secretary-General of GP-TCM RA

Dear members and friends,



During the previous GP-TCM RA Board Meeting, based on current **COVID-19 pandemic** situation, our board members have discussed whether the upcoming GP-TCM RA Annual Meeting should be held in October, postponed or cancelled. By interchanging opinions with our Lithuanian colleagues and basing on the latest guidance from public health officials on social distancing, current international travel restrictions, travel bans implemented by different institutions, and

mandatory quarantine policy in different countries, our Board members have great concern on the attendance rate of the Meeting in this coming October. Therefore, we are very sorry to inform that the Board has decided to **further postpone the 8th Annual Meeting** from 2020 **to 2021 (date to be confirmed) in Lithuania.**

Best regards,

**Aiping Lu** (President of GP-TCM RA)

**Clara Lau** (Secretary-General of GP-TCM RA)

### More information on COVID-19

1. **Proteomics of SARS-CoV-2-infected host cells reveals therapy targets.** A novel coronavirus was recently discovered and termed SARS-CoV-2. Human infection can cause coronavirus disease 2019 (COVID-19), which has been rapidly spreading around the globe. SARS-CoV-2 shows some similarities to other coronaviruses. However, treatment options and a cellular understanding of SARS-CoV-2 infection are lacking. Here we identify the host cell pathways modulated by SARS-CoV-2 infection and show that inhibition of these pathways prevent viral replication in human cells. We established a human cell culture model for infection with SARS-CoV-2 clinical isolate. Employing this system, we determined the SARS-CoV-2 infection profile by transcriptome and proteome proteomics at different times after infection. These analyses revealed that SARS-CoV-2 reshapes central cellular pathways, such as translation, splicing, carbon metabolism and nucleic acid metabolism. Small



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molecule inhibitors targeting these pathways prevented viral replication in cells. Our results reveal the cellular infection profile of SARS-CoV-2 and led to the identification of drugs inhibiting viral replication. We anticipate our results to guide efforts to understand the molecular mechanisms underlying host cell modulation upon SARS-CoV-2 infection. Furthermore, our findings provide insight for the development of therapy options for COVID-19. Details: <https://www.nature.com/articles/s41586-020-2332-7>

- 2. Impact assessment of non-pharmaceutical interventions against coronavirus disease 2019 and influenza in Hong Kong: an observational study.** A range of public health measures have been implemented to suppress local transmission of coronavirus disease 2019 (COVID-19) in Hong Kong. We examined the effect of these interventions and behavioural changes of the public on the incidence of COVID-19, as well as on influenza virus infections, which might share some aspects of transmission dynamics with COVID-19. We analysed data on laboratory-confirmed COVID-19 cases, influenza surveillance data in outpatients of all ages, and influenza hospitalisations in children. We estimated the daily effective reproduction number ( $R_t$ ) for COVID-19 and influenza A H1N1 to estimate changes in transmissibility over time. Attitudes towards COVID-19 and changes in population behaviours were reviewed through three telephone surveys done on Jan 20–23, Feb 11–14, and March 10–13, 2020. COVID-19 transmissibility measured by  $R_t$  has remained at approximately 1 for 8 weeks in Hong Kong. Influenza transmission declined substantially after the implementation of social distancing measures and changes in population behaviours in late January, with a 44% (95% CI 34–53%) reduction in transmissibility in the community, from an estimated  $R_t$  of 1.28 (95% CI 1.26–1.30) before the start of the school closures to 0.72 (0.70–0.74) during the closure weeks. Similarly, a 33% (24–43%) reduction in transmissibility was seen based on paediatric hospitalisation rates, from an  $R_t$  of 1.10 (1.06–1.12) before the start of the school closures to 0.73 (0.68–0.77) after school closures. Among respondents to the surveys, 74.5%, 97.5%, and 98.8% reported wearing masks when going out, and 61.3%, 90.2%, and 85.1% reported avoiding crowded places in surveys 1 ( $n=1008$ ), 2 ( $n=1000$ ), and 3 ( $n=1005$ ), respectively. Our study shows that non-pharmaceutical interventions (including

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border restrictions, quarantine and isolation, distancing, and changes in population behaviour) were associated with reduced transmission of COVID-19 in Hong Kong, and are also likely to have substantially reduced influenza transmission in early February, 2020. Details:

[https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(20\)30090-6/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(20)30090-6/fulltext)

### 3. **Profile of a killer: the complex biology powering the coronavirus pandemic.**

Scientists are piecing together how SARS-CoV-2 operates, where it came from and what it might do next — but pressing questions remain about the source of COVID-19. Details: <https://www.nature.com/articles/d41586-020-01315-7>

### 4. **China is promoting coronavirus treatments based on unproven traditional medicines.**

Scientists say rigorous trial data are needed to show that remedies are safe and effective. Details: <https://www.nature.com/articles/d41586-020-01284-x>

### 5. **TCM guideline on COVID-19 ready.**

The Chinese Medicine Task Force of Malaysia (COVID-19) and Beijing Tong Ren Tang Global Expert Group for Covid-19 Prevention and Treatment have come up with a guideline to fight the pandemic. Details: <https://www.thestar.com.my/news/education/2020/05/17/tcm-guideline-on-covid-19-ready>



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### Recommended Reading

- 1. A phase II randomized controlled trial of Renshen Yangrong Tang herbal extract granules for fatigue reduction in cancer survivors.** Based on the traditional Chinese medicine theory, Renshen Yangrong Tang (RSYRT), which is a mixture of 12 herbs, was commonly used as a pharmacological option in China for fatigue management by correcting Qi deficiency. This randomized controlled Phase II trial investigated the efficacy of RSYRT for reducing cancer-related fatigue. Cancer survivors with moderate or severe fatigue (rated  $\geq 4$  on a 0–10 scale) for more than two months were randomized to take herbal extract granules of RSYRT or a low dose of a single herb (huangqi) twice a day for six weeks. Patient-reported fatigue was measured using the MD Anderson Symptom Inventory. Efficacy of RSYRT was evaluated using mixed model to test the differences over time among groups. We also conducted responder analyses and examined time to effect of symptom reduction. None of the 83 evaluable patients (control group 42; intervention group 41) had discomfort or Grade 3 or 4 toxicity. We observed a significantly greater MD Anderson Symptom Inventory—fatigue score reduction in the intervention group than that in the control group (time-by-group interaction: estimate =  $-0.61$  [0.10];  $P < 0.0001$ ). More patients in the intervention group had a two-point reduction on fatigue than that of the control group (90.2% vs. 52.4%). By Week 4, between-group differences of fatigue reduction on mean severity reached large effect size (intervention group vs. control group:  $-2.66$  vs.  $-1.36$ ; Cohen's  $d = 1.0$ ;  $P < 0.0001$ ). Compared with control therapy, RSYRT therapy elicits a statistical and clinical improvement of fatigue severity and functioning. The effectiveness of RSYRT in managing cancer-related fatigue warrants further study in the real world. Details: <https://www.sciencedirect.com/science/article/abs/pii/S0885392419306098>
- 2. Direct infusion-three-dimensional-mass spectrometry enables rapid chemome comparison among herbal medicines.** Direct infusion-mass spectrometry (DI-MS) currently serves as an alternative analytical tool for metabolomics owing to the unique high-throughput advantage. Except the inherent shortcoming at a significant matrix effect, there are two other primary technical obstacles dampening its wide applications, such as data alignment and structural annotation. To address these two obstacles, a novel strategy termed as DI-three-dimensional-MS (DI-3D-MS) was proposed here, and chemome comparison among several confusing herbal medicines (HMs) belonging to the Umbelliferae family was conducted as a proof-of-concept. Each test sample was directly infused into Qtrap-MS. In the first dimension, stepwise multiple ion monitoring (MIM) program was implemented to universally acquire the quantitative information on all HMs and to generate aligned data files. In the second dimension, MS2 spectra were universally recorded by enhanced product ion (EPI) experiments that were triggered by MIM via an information-dependent acquisition algorithm. In the third dimension, online energy-resolved MS (ER-MS) was programmed to yield breakdown graphs for all MIM items. Moreover, a data

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library was built to aid structural identification by involving MS2 and CE50 features that were obtained by well-developed LC–MS methods. Qualitative and quantitative potentials of DI-3D-MS were validated toward metabolomics study. Significant species differences were observed, and all materials were grouped into three clusters. After matching MS2 spectra and breakdown graphs between DI-3D-MS and those in the data library, coumarins ubiquitously existed in each HM, and angular-type pyranocoumarins, linear-type pyranocoumarins, angular-type furanocoumarins, along with ligustilide derivatives offered primary contributions for the classification pattern. Above all, DI-3D-MS is an eligible choice for rapid metabolomics of HMs and other matrices as well. Details:

<https://pubs.acs.org/doi/abs/10.1021/acs.analchem.0c00483>

- 3. Effect of acupuncture for postprandial distress syndrome. A randomized clinical trial.** Postprandial distress syndrome (PDS) is the most common subtype of functional dyspepsia. Acupuncture is commonly used to treat PDS, but its effect is uncertain because of the poor quality of prior studies. Among the 278 randomly assigned participants, 228 (82%) completed outcome measurements at week 16. The estimated response rate from generalized linear mixed models at week 4 was 83.0% in the acupuncture group versus 51.6% in the sham acupuncture group (difference, 31.4 percentage points [95% CI, 20.3 to 42.5 percentage points];  $P < 0.001$ ). The estimated elimination rate of all 3 cardinal symptoms was 27.8% in the acupuncture group versus 17.3% in the sham acupuncture group (difference, 10.5 percentage points [CI, 0.08 to 20.9 percentage points];  $P = 0.034$ ). The efficacy of acupuncture was maintained during the 12-week posttreatment follow-up. There were no serious adverse events. Among patients with PDS, acupuncture resulted in increased response rate and elimination rate of all 3 cardinal symptoms compared with sham acupuncture, with sustained efficacy over 12 weeks in patients who received thrice-weekly acupuncture for 4 weeks. Details:

<https://www.acpjournals.org/doi/10.7326/M19-2880>



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## Invitation from the Official Journal of GP-TCM RA

For more information, please visit: <http://www.wjtcn.net/submitarticle.asp>

### 1. WJTCM Call for papers: Herbal Medicine Analysis and Quality Standards.


## World Journal of Traditional Chinese Medicine (WJTCM)

The official journal of WFCMS and GP-TCM




Special Issue on  
**Herbal Medicine Analysis and Quality Standards**


CALL FOR PAPERS



Guest Editor



Guest Editor



Guest Editor

Qualitative and quantitative determination of the effective components together with other workable approaches in traditional Chinese medicines and other herbal medicines is the reasonable and effective comprehensive quality control method, which is the fundamental basis for their quality standard setting and thereby to guarantee the clinical efficacy and safety of herbal medicines at large.

We invite researchers home and abroad to contribute original research articles as well as reviews on the topic of herbal quality.

Potential topics include but are not limited to:

- a. Phytochemical analysis of complex herbal mixtures.
- b. Development of state of the art analytical methods.
- c. Tactics for herbal quality standard elaboration
- d. Metabolic analysis of herbal drugs and herbal finished products.
- e. Application of new quality control technology and methods in herbal industry.

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Authors can submit their manuscripts via the Manuscript System at <https://mc03.manuscriptcentral.com/wjtcn>.

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**Manuscript Due**  
June. 30, 2020

**Intended publication date**  
November 30, 2020

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### 2. WJTCM Call for papers: Pharmacology and Toxicology of Herbal Medicine.

Special Issue on  
**Pharmacology and Toxicology of Herbal Medicine**

**CALL FOR PAPERS**

  
Guest Editor  
Prof. Hongxi Xu

  
Guest Editor  
Prof. Xuanbin Wang

  
Guest Editor  
Prof. Pulok Kumar Mukhrjee

The special issue on *Pharmacology and Toxicology of Herbal Medicine* focuses on the biological effects and mechanisms of herbal medicine. It has a broad scope, covering basic research to clinical studies regarding pharmacology and toxicology.

We cordially invite researchers and experts to contribute original research articles as well as reviews on pharmacology and toxicology of herbal medicine.

Potential topics include but are not limited to:

- Bioactive principles from herbal medicine,
- Biological, pharmacological activities and mechanisms of herbal medicine,
- Genomics, proteomics, metabolomics, pharmacoinformatics studies on herbal medicine,
- Toxicology of herbal medicine.

Authors can follow the author instructions and submit their manuscripts via the Manuscript System at:

<https://mc03.manuscriptcentral.com/wjtcml>

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#### Deadline for submission

January 30, 2021

#### Intended publication date

April 30, 2021



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### 3. WJTCM Call for papers: Systems Biology and Metabolomics of Traditional Chinese Medicine

Special Issue on  
Systems Biology and Metabolomics of Traditional Chinese Medicine

CALL FOR PAPERS

  
Guest Editor  
Prof. Xi-jun Wang

  
Guest Editor  
Prof. Hai-tao Lu

  
Guest Editor  
Prof. Toshiaki Makino

Traditional Chinese Medicines (TCMs) are evidenced to confer therapeutic actions by largely interacting with dysregulated multi-layers molecules that underlie diseases, which can be defined as the holistic characteristics of TCMs to treat different diseases.

The fact is that systems biology, and metabolomics have the robust-capacity to better understand the holistic characteristics by globally deciphering the complex interactions between TCMs and diseases associated with dysregulated molecules. Currently, they are widely used to address many key questions in TCMs involving chemical characterization, therapeutic efficacy, toxicology and metabolic features, etc.

We invite the scholars in the niches to contribute research articles, reviews, and perspectives to this special issue.

Potential topics include but are not limited to:

- metabolomics of TCMs
- multiple omics of TCMs
- network pharmacology of TCMs
- systems biology of TCMs

Authors can submit their manuscripts via the Manuscript System at <https://mc03.manuscriptcentral.com/wjtcml>

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#### Deadline for submission

May. 30, 2021

#### Intended publication date

October 30, 2021

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### 4. WJTCM Call for papers: Processing of Chinese Medicinal Materials (Zhongyao Paozhi)

Special Issue on  
Processing of Chinese Medicinal Materials (Zhongyao Paozhi)

CALL FOR PAPERS

**Guest Editor**  
Prof. Tu-lin Lu

**Guest Editor**  
Prof. Zhi-ling Yu

**Guest Editor**  
Prof. Yuan-shiun Chang

In traditional Chinese medicine (TCM) practice, one of the distinctive features is the use of processed Chinese medicinal materials (Yin pian). It is Zhongyao Paozhi, a unique pharmaceutical technique, that transforms raw Chinese medicinal materials into Yin pian. Zhongyao Paozhi plays a pivotal role in guaranteeing the clinical efficacy and safety of TCM therapies.

We invite researchers home and abroad to contribute original research articles as well as reviews on the topic of Zhongyao Paozhi.

Potential topics include but are not limited to:

- Scientific basis of Zhongyao Paozhi.
- Intelligentization of Zhongyao Paozhi.
- Techniques of Zhongyao Paozhi.
- Quality standards of adjuvant materials for Zhongyao Paozhi.
- Quality markers of Yin pian.
- Quality standards of Yin pian.

Authors can follow the author instructions and submit their manuscripts via the Manuscript System at:

<https://mc03.manuscriptcentral.com/wjtcn>.

#### Guest Editors

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#### Deadline for submission

October 30, 2020

#### Intended publication date

December 25, 2020



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### Invitation from Frontiers: Ethnopharmacological Responses to the Coronavirus Disease 2019 (COVID-19) Pandemic

For more information, please visit: <https://www.frontiersin.org/research-topics/14125/ethnopharmacological-responses-to-the-coronavirus-disease-2019-covid-19-pandemic?from=timeline&isappinstalled=0#overview>

### About this Research Topic

Coronavirus disease 2019 (COVID-19) as a pandemic has highlighted some unforeseen and tremendous challenges for our lives and individuals' survival on a global scale. It may have been foreseen from an epidemiological perspective as a risk, but the enormous medical, societal, scientific, and technical challenges have so far been beyond our imagination. Ethnopharmacology is uniquely placed to contribute to the longer-term solutions to this pandemic and help in managing the immediate effects. The medical challenges are both linked to the immediate treatment and prevention of COVID-19, but also to managing symptoms and discomforts of those affected with COVID-19. With vaccination not yet a reality, there are tasks in terms of novel antiviral treatment strategies. The numerous symptoms affecting importantly the respiratory, immune, and other systems can be treated using adjuvant therapies, and these are often based on traditional and local medical practices for similar diseases. There can be no 'traditional' medical treatment of this disease, but ethnopharmacology can contribute to novel ways to treat and support patients affected by COVID-19. Clinical research on COVID-19 is at its infancy.

The pandemic has ruptured value chains, not only for industrial goods, both also for local and traditional medicines, as well as for those which have become global commodities. At the same time, the outbreak has been linked to local practices and we will need a one-health agenda to understand the causes and to contribute to the prevention of further pandemics. Ethnopharmacology is a bridge between social and the biomedical research. We need to understand what the 'general public' and professionals are currently doing to treat the disease and what consequences this has. Is there a more evidence-based use of any adjuvant therapy? How will such a therapy contribute to the management of secondary symptoms?

With Frontiers' vision to continuously empower the academic community with innovative solutions, which will contribute to better lives globally, we have a particular responsibility to support evidence-based scientific approaches in all fields of research, to provide inter- and transdisciplinary solutions and to enable the translation of scientific findings into solutions for all.

With this collaborative Research Topic, we invite colleagues to contribute with high quality

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research with a focus on COVID-19, and how Ethnopharmacology can contribute to this research agenda. The specific themes plan to focus on include:

- Novel (and repurposed) natural antiviral agents
- Novel (and repurposed) natural immunomodulatory agents as an adjuvant treatment
- Respiratory pharmacology and the role of natural products as an adjuvant treatment
- Cellular and molecular mechanism of natural products in the prevention and treatment of COVID-19-associated diseases
- Natural products approach in multi-organ effects of COVID-19
- Pre-clinical and clinical updates on adjuvant treatments with herbal medicines
- Community responses and approaches from integrative and community medicine / primary healthcare
- Increasing drive for exotic medicines and supplements and the use of adjuvant therapies
- The impact of the pandemic on medicinal plant production and sourcing.

The present Research Topic welcome manuscripts addressing the above challenges, including what can be learned from previous epidemics like the Severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS) outbreaks. It is open to clinical, preclinical, and social science research, also with the vision to integrate strategies for an optimal way of managing this disease. All Article Types currently published in the section are welcome (see list [here](#)). The manuscripts will be peer-reviewed and will need to fully comply with the **Four Pillars of Best Practice in Ethnopharmacology** (check [here](#)). In all research dealing with plant extracts or other natural substances/compounds, the composition and the stability of the study material must be described in sufficient detail. Please also, note specifically the guidelines concerning *Pharmacological Requirements* (Section 1), as well as the need for testable scientific approaches to evaluate the effects of traditional medicinal preparations (Section 3d).

For your information, the Article Processing Fees will be waived for COVID-19 and health-related articles submitted to this Research Topic **within the deadline of July 15th**. We look forward to your contribution to this huge challenge and task.

**Keywords:** Coronavirus, COVID-19, natural products, antiviral agents, herbal medicine

**Important Note:** All contributions to this Research Topic must be within the scope of the section and journal to which they are submitted, as defined in their mission statements. Frontiers reserves the right to guide an out-of-scope manuscript to a more suitable section or journal at any stage of peer review.





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### Monthly Chinese Materia Medica Highlights

Sweet flag (*Acorus calamus*, Acoraceae, 水菖蒲, left) and  
grass-leaf sweet flag (*Acorus gramineus*, Acoraceae, 石菖蒲, right)



Although fresh leaves and rhizomes of both plants are sweetly aromatic when broken, sweet flag (leaves longer and wider, with a distinct midrib, and rhizome stouter) and grass-leaf sweet flag (leaves shorter and thinner, without distinct midrib, and rhizome slender) can be easily differentiated by their appearances.

The dried rhizome of sweet flag is a **Tibetan medicinal** that warms the stomach, reduces inflammation, and alleviates pain. The dried rhizome of grass-leaf sweet flag is a **Chinese medicinal** that opens the orifices, dispels phlegm, arouses the spirit, benefits the mind, transforms dampness, and improves the appetite. According to Chinese *materia medica* literature investigation, grass-leaf sweet flag has been the main botanical origin from ancient times up to now, but rhizomes of both plants were probably used interchangeably before the Tang Dynasty (618~907 AD).

#### 水菖蒲

瘟神肆虐久时长  
本草书中觅圣方  
采药归来宣内外  
青青两把煮闻香

#### 石菖蒲

山中有水洗清石  
此物花白三支  
野外林深千万树  
谁能稍解世人痴

The above colour photographs, English texts and Chinese poems are contributed by Prof **Hubiao Chen** (Hong Kong), Dr **Ping Guo** (Hong Kong) and Prof **Jiqing Liu** (Shenzhen), respectively. This column is advised by Prof **Zhongzhen Zhao** (Hong Kong).