

PRECISION ANALYTICAL PHARMACOLOGY IN CHINA: STARTING WITH ITS NEW JOURNEY AHEAD

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MEETING REPORT

HIGHLIGHTS

- A brief report on the 2nd National Academic Meeting of the Precision Analytical Pharmacology (PAP-2017).
- Held on August 11-13, 2017, in Guangzhou, China.
- An estimated 220 attendees from mainland China, Hong Kong, Macau, and USA.
- A total of 39 well-known experts invited as keynote speakers in the 2-day meeting.
- The term precision analytical pharmacology coined in China.
- Various aspects of precision medicine discussed.

ABSTRACT

The 2nd National Academic Meeting of the Precision Analytical Pharmacology (PAP-2017) was held on August 11-13, 2017, in Guangzhou, China. There were an estimated 220 attendees appearing in this meeting, and 39 well-known experts or scholars invited as keynote speakers to give their lectures. From such a special moment, the Chinese Society for Precision Analytical Pharmacology (CSPAP, currently under preparation) will start with its new journey and move forward with great expectations.

KEY WORDS

annual meeting; China; precision medicine; precision pharmacology; precision pharmacy

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INTRODUCTION

The 2nd National Academic Meeting of the Precision Analytical Pharmacology (PAP-2017) was held on August 11–13, 2017, in Guangzhou, China, which was sponsored by the Chinese Pharmacological Society, and Guangdong Pharmacological Society, and organized jointly by the Chinese Society for Precision Analytical Pharmacology (CSPAP, prepared), Guangzhou University of Chinese Medicine, and Sun Yat-Sen University School of Pharmaceutical Sciences, China. There were an estimated 220 attendees from mainland China, Hong Kong, and Macau as well as USA. Of them, 39 well-known experts or scholars were invited as keynote speakers to give their lectures [1]. Prof. Zhong-Qiu Liu and Prof. Hong-Guang Xie (Author) sharing the meeting podium [Figure 1].



Figure 1. The author (right, wearing the invited speaker badge) and a Chairman of the Organizing Committee of the PAP-2017 Meeting, Prof. Zhong-Qiu Liu (left), Dean, School of Chinese Meteria Medica, Guangzhou University of Chinese Medicine.

The term “precision analytical pharmacology” was coined and proposed by the founders of the CSPAP shortly after US President Barack Obama announced the Precision Medicine Initiative in January 2015. This new branch of pharmacology science aims at deciphering the precise mechanisms underlying the interactions of candidate or marketed drugs with their targets in the body through efficient integration and widespread use of emerging advanced analytical technologies for life sciences (such as omics) into pharmacology, providing a unique exchange forum and collaborative platform for scientific researchers who are interested or involved in this discipline in China and abroad, and facilitating the rapid development of precision pharmacology and precision pharmacy as well as precision medicine as a result.

The following were the topics of speakers (translated mostly according to the speaker’s topic in Chinese [2], which were ranked by the appearance of their talking in the 2-day meeting):

1. Hong-Hao Zhou, Central South University Xiangya School of Medicine, Changsha, China. A new model for genomics-based personalized precision medicine.
2. Guang-Ji Wang, China Pharmaceutical University, Nanjing, China. Analysis of the disposition of multiple components of traditional Chinese medicine in the body: New theory and new technique.
3. Zhong-Wu Guo, University of Florida, Gainesville, FL, USA. New carbohydrate antigen-based cancer immunotherapies.
4. Ah-Ng Tony Kong, Ernest Mario School of Pharmacy, The State University of New Jersey, Rutgers, NJ, USA. Precision medicine of dietary and traditional Chinese medicine phytochemicals: Targeting Nrf2, epigenetics and cancer prevention.
5. Ge Lin, School of Biomedical Sciences, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong Special Administrative Region, China. Beneficial herb-drug interaction for circumventing multidrug resistance in the combinational use of paclitaxel with *Marsdenia Tenacissima*.
6. Wei-Dong Zhang, The Second Military Medical University, Shanghai, China.



- Discovery of the novel drugs from traditional Chinese medicine.
7. Guo-Hua Zhou, Jinling Hospital, Nanjing University School of Medicine, China. Measurement of genetic biomarkers for precision drug administration: New methodologies and clinical practice.
 8. Huang-Xian Ju, Nanjing University, Nanjing, China. Cellular functional molecule-based precision tumor photodynamic therapy (PDT).
 9. Hai-Ping Hao, China Pharmaceutical University, Nanjing, China. Molecular kinetics and metabolic regulation of p53.
 10. Yi-Zhun Zhu, Macau University of Science and Technology School of Pharmacy, Macau Special Administrative Region, China. Research and development of novel cardiac and cerebral vascular drugs based on precision molecular pharmacology.
 11. Zhao-Qian Liu, Central South University Xiangya School of Medicine, Changsha, China. Pharmacogenomics-based new drug research.
 12. Jing-Kai Gu, Research Institute of Translational Medicine, Jilin University College of Life Sciences, Changchun, China. Precision medicine-based biological mass spectrometric analysis: from drug-metabolizing enzymes, transporters to big molecular polymeric drugs.
 13. Hong-Guang Xie, Nanjing First Hospital, Nanjing Medical University, Nanjing, China. Precision medicine: Past, present, and future.
 14. Zu-Hong Lu, Southeast University, Nanjing, China. Engineering of clinical omics and precision pharmacy.
 15. Cheng Luo, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai, China. Novel drug research guided by targeted protein-protein interactions: from direct competition to precision modification and regulation.
 16. Min Ye, School of Pharmacy, Peking University Health Science Center, Beijing, China. Pharmacokinetics of Gegen Qinlian soup, a traditional Chinese medicine.
 17. Yong Zhang, Harbin Medical University, Harbin, China. Arsenic trioxide as a two-edged sword: Treatment of leukemia and its toxicity of cardiovascular system.
 18. Zheng-Jiang Zhu, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai, China. MetDNA: Recursive metabolite annotation and dysregulation network analysis for untargeted metabolomics.
 19. Guo-Rong Fan, Shanghai General Hospital, Shanghai Jiao Tong University, Shanghai, China. Applications of precision analytical pharmacology in clinical personalized medicine.
 20. Can-Hua Huang, Sichuan University, Chengdou, China. New strategies for oxidative stress and antioxidative modulation.
 21. Li-Xin Sun, Shenyang Pharmaceutical University, Shenyang, China. Cellular metabolomics-based prediction model of antitumor activity.
 22. Yan Wang, Chinese Academy of Medical Sciences, Beijing, China. Effects of berberine on personalized therapy of hyperlipidemia: Influence of gut microbiome.
 23. Jian-Xiong Zhu, Guangdong Lianjie Biological Sci-Tech Co., Ltd, China. The three problems and possible troubleshooting for quantitative analysis of plasma drug concentrations.
 24. Jian-Zhong Shen-Tu, Zhejiang University, Hangzhou, China. Clinical advances in precision medicine of non-small cell lung cancer.
 25. Fei Li, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, China. Metabolomics reveals that PPAR-alpha activation protects against cholestatic liver injury.
 26. Qin-Xin Song, China Pharmaceutical University, Nanjing, China. Pyrosequencing for a single cell and its applications in clinical precision medicine.
 27. Feng Zhu, Zhejiang University, Hangzhou, China. NOREVA: Normalization and evaluation of MS-based metabolomics data.
 28. Guang-Bo Ge, Shanghai University of Traditional Chinese Medicine, Shanghai, China. Highly efficient discovery of the inhibitors of drug-metabolizing enzymes: New methodologies and new strategies.
 29. Bao-Jian Wu, Jinan University, Guangzhou, China. Nuclear receptor REV-ERB and its roles in the regulation of the metabolism of cholesterol.
 30. Jia-Hong Sun, Sun Yat-Sen University School of Pharmaceutical Sciences, Guangzhou, China. p53 attenuates acetaminophen-induced hepatotoxicity by directly regulating expression of drug-metabolizing enzymes and transporters.
 31. Feng-Guo Xu, China Pharmaceutical University, Nanjing, China. Metabolomics-based assessment and prediction of the individualization of drug toxicity.
 32. Yan Yang, Jilin University, Changchun, China. Precision design of nanomedicine drug delivery system.
 33. Yu-Jin Guo, Jining Medical College, Shandong, China. Applications of new-type optical probes in precision diagnostics and therapeutics of cancers.
 34. Bing-Jie Zou, Jinling Hospital, Nanjing University School of Medicine, Nanjing, China. New methods of nucleic acid invasive reaction-based detection of genetic mutations for personalized medicine.
 35. Nan Zhang, Zhengzhou University School of Pharmacy, Zhengzhou, China. Bubble-generating nano-lipid carriers for ultrasound/CT imaging-guided efficient tumor therapy.



36. Yu-Qi He, Zunyi Medical University, Guizhou, China. A transcriptomic and metabolomic study reveals that accumulation of deoxycholic acid may be one of the most important mechanisms causing drug-induced liver injury (DILI).
37. Jia-Li Li, Sun Yat-Sen University School of Pharmaceutical Sciences, Guangzhou, China. Pharmacogenomics- and epigenomics-based personalized medicine of tacrolimus.
38. Ling Huang, Hainan Medical University, Haikou, China. The detoxification efficiency and synergism mechanism of praeuropterin A co-treatment with theophylline in asthma through the cytokines-nuclear receptor signaling pathway.
39. Dan Tang, Jinan University, Guangzhou, China. Novel rapid screening strategies based on targets for discovering drug candidates from TCMs: AGEs-RAGE targets for diabetic complications.

The 3rd CSPAP Annual Meeting (PAP-2018) will be held in Macau, China, with more details to be announced soon by its organizing committee.

CONFLICT OF INTEREST

The author declares no competing interests.

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FINANCIAL DISCLOSURE

None.

REFERENCES

- [1] URL: http://www.cnphars.org/view.asp?ar_id=1254&anclassid=14&nclassid
- [2] Anonymous. Agenda (in print): The Organizing Committee of the 2nd National Academic Meeting of the Precision Analytical Pharmacology (PAP-2017). August 11-13, 2017, Guangzhou, China.

