

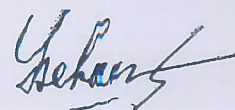
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*Prof/Dr. **Fatma Sri Wahyuni***

*Andalas University, Indonesia*

*for her phenomenal and worthy oral presentation  
at the "2<sup>nd</sup> International Conference and Exhibition on  
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## Pharmacognosy, Phytochemistry & Natural Products

August 25-27, 2014 DoubleTree by Hilton Beijing, China



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199<sup>th</sup> OMICS Group Conference

# 2<sup>nd</sup> International Conference and Exhibition on Pharmacognosy, Phytochemistry & Natural Products

August 25-27, 2014 DoubleTree by Hilton Beijing, China

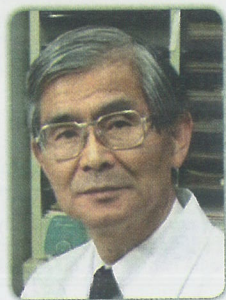
## Keynote Forum Day 1



# Pharmacognosy-2014

## 2<sup>nd</sup> International Conference and Exhibition on **Pharmacognosy, Phytochemistry & Natural Products**

August 25-27, 2014 DoubleTree by Hilton Beijing, China



### *Yoshinori Asakawa*

Tokushima Bunri University, Japan

#### **Potential source of medicinal compounds from liverworts and inedible fungi: Terpenoids and bis-bibenzyls**

Over several hundred new compounds have been isolated from the liverworts and more than 40 new carbon skeletal terpenoids and aromatic compounds are found in this class. The biological activity ascribed to the liverworts is due to mainly lipophilic sesqui- and diterpenoids, phenolic compounds and acetogenins which are constituents of oil bodies. A characteristic structural phenomenon of liverwort constituents is that most of sesqui- a diterpenoids is enantiomers of those found in higher plants. It is noteworthy that different species of the same genera, like *Frullania tamarisci* and *Frullania dilatata* may each produce different sesquiterpene enantiomers. Most of liverworts elaborate characteristic odiferous, hot tasting and bitter sesqui- and diterpenoids many of which show allergenic contact dermatitis, cytotoxicity, insecticide, anti-HIV, antimicrobial, antifungal, anion radical release inhibitory, plant growth regulatory, neurotrophic and NO production inhibitory. There are about 1500 identified fungi in Japan among which 300 species are edible, 1150 inedible and 50 toxic. The chemical constituents of toxic and edible fungi have been fully studied. Recently, many biologically interesting compounds were isolated from inedible mushrooms by our group and their structures and biological activity reported.

#### **Biography**

Yoshinori Asakawa obtained his first degree in Biology at Tokushima University, Japan, and then went to graduate school at Hiroshima Univ. in 1964 to study organic chemistry. He has authored and co-authored more than 600 original papers, 30 reviews and 37 books and monographs. For his outstanding research, he was awarded the first Hedwig Medal from the International Association of Bryologists, the Phytochemistry Prize and Certification from Elsevier, the International Symposium on Essential Oils Award, the Jack Cannon International Gold Medal, Medical University of Lublin Gold Medal, the Japanese Society of Pharmacognosy Award, and the Tokushima News Paper Award. He served twice as Dean of Faculty of Pharmaceutical Sciences at Tokushima Bunri University (TBU), and is currently Director of the Institute of Pharmacognosy (1986-present). He is the President of the Phytochemical Society of Asia (PSA) since 2007. In 2012, Medical University of Lublin Poland gave him the title 'Doctor Honoris Causa' and in the same year, he obtained the Honorary Professorship from Amity University in India and Fellow from The National Society of Ethnopharmacology, India.

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## Zhao Zhongzhen

Hong Kong Baptist University, Hong Kong



### Authentication is fundamental for standardization and globalization of Chinese medicinal

Traditional Chinese medicine (TCM), a quintessence of Chinese culture, has earned worldwide recognition for its efficacy. As TCM undergoes rapid globalization, the safety of Chinese medicinal is drawing international concern. Chinese medicinal authentication is the first and the key step for standardizing Chinese medicinal for global markets and research. Authentication methods include origin identification, macroscopic identification, microscopic identification, physical/chemical identification, and molecular biological identification. Many issues related to authentication have remained unresolved since ancient times. Determining the authenticity and quality of Chinese medicinal remains as much a frontier as it is an essential science in guaranteeing the safety and efficacy of Chinese medicinal in clinical use. Authentication is directly connected to the clinical effectiveness of TCM. This can be a matter of life and death in clinical practice and will almost certainly influence the fate of Chinese medicinal. The School of Chinese Medicine (SCM) of Hong Kong Baptist University (HKBU) is one of the HKSAR University Grants Committee-funded tertiary institutions that provide a full-time tertiary education degree program in TCM. SCM has been striving to promote the modernization and internationalization of Chinese medicine in its teaching, research, clinical service, consultancy service and technology transfer. In the past 15 years, SCM has laid a solid foundation in the field of Chinese medicinal authentication and has made major impacts at home and abroad in this capacity. As an international trade center, Hong Kong is the source of most Chinese medicinal materials reaching international markets. The quality of Chinese medicinals in Hong Kong directly reflects the status of oversea herbal markets. SCM at HKBU will continuously make great efforts to the promoting the Chinese medicinal authentication and the development of medicinal resources, which will in turn further strengthen the competitiveness and influence of Chinese medicinal in the international community.

#### Biography

Zhao Zhongzhen, Associate Dean and Chair Professor of SCM, HKBU, is currently the Advisor on traditional medicines for the West Pacific Region of the World Health Organization and US Pharmacopeia. He is a member of the International Advisory Board of Hong Kong Standard of Chinese Materia Medica. He is also a member of the Chinese Pharmacopeia Commission.

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August 25-27, 2014 DoubleTree by Hilton Beijing, China



### *Kelvin Chan*

The University of Sydney & Western Sydney, Australia

#### **Approaches in the translational R&D of traditional Chinese medicine (TCM)**

Experience-based TCM has played a key role in maintaining the health of people in China and several Asian regions, now becoming popular world-wide; its value remains largely not accepted in conventional medical circles. Questions for underdevelopment may include: Is there any initiative to link TCM and conventional medicine in the communities outside China? Is TCM difficult to be integrated into conventional healthcare? Is there research finding to support TCM integration in conventional healthcare? Is there lack of curriculum in the basic training catered for integrative healthcare? Advances in research of biomedical, chemical and computational technology will provide multidisciplinary approaches to investigate Evidence-Based aspects of TCM practice. Future translational R&D of TCM can focus on the following key areas: DNA/chemical fingerprinting techniques for GACP of Chinese materia medica (CMM) and proprietary Chinese medicines (PCM) for assurance of quality; Chemometrics and bioactivities integration to provide niche R&D for CMM/PCM; TCM pattern differentiation to stratify patients before RCT of PCM; TCM-QOL instrument for patient reported outcomes (PRO) linking with biomarkers/biomedical indices for Evidence-Based assessment in TCM practice and PCM development. A global shortage of qualified human resources who understand both TCM and orthodox medicine (OM) modern technologies are also key factors in delay of modern progress. A quantitative method is urgently needed to record PRO, health and disease status based on TCM principles. We need TCM-OM integrative approach to support research and training of future human resources for integrative medicine. The lecture will focus on some of these issues.

#### **Biography**

Kelvin Chan (DSc PhD FCP FSB FRPS FRSM) is the Joint Chair of Traditional Chinese Medicine (TCM) at the University of Sydney and University of Western Sydney appointed to establish strategic research & development of the TCM in NSW and to understand the cultural role of the discipline in community healthcare. Trained in Industrial Pharmacy, then specialised in Clinical Pharmacology in the UK, he has taught pharmacology in orthodox medicine, pharmacy and biomedical science in TCM at universities in Hong Kong, UK and UAE. Research interests, working closely with counter parts in key labs in Hong Kong, Heilongjiang, and Macau in China and with colleagues in the EU/UK, include R & D of Chinese medicines: Methodology on quality control of Chinese materia medica (CMM); 'Omics' approaches in bioactivity screening; Integrative research in TCM with biomedical medicine applying patients' reported outcomes and quality of life measure in clinical studies; Promoting education & training curriculum towards integrative medicine.

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### *Jan Frederik Stevens*

Oregon State University, USA

#### **Shotgun metabolomics for mechanistic elucidation of the anti-obesity effects of xanthohumol from Hops (*Humulus lupulus*)**

Xanthohumol is a prenylated flavonoid found in hops, beer and in dietary supplements. Zucker fa/fa rats, a model of obesity and metabolic syndrome were treated for six weeks with xanthohumol at four dose levels and measured metabolome profiles in addition to single endpoints of glucose and lipid homeostasis. Metabolomics analyses were conducted to identify biochemical pathways affected by xanthohumol treatment. The overall objective of the study was to gain a mechanistic understanding of the beneficial effects of xanthohumol in the treatment of metabolic syndrome. The highest dose group (16.9 mg/kg body weight, n=6) had significantly lower plasma glucose levels and smaller body weight gain compared to the control group (n=6) in male but not female rats. Food intake was not affected by treatment. It was detected >5000 metabolites by LC-QToF mass spectrometry, of which 133 metabolites were identified by mass, isotope distribution, MS/MS fragmentation pattern, and when standards were available, retention time. The shotgun metabolomics analyses showed a dose-dependent decrease of metabolic products of dysfunctional lipid metabolism (medium-chain acylcarnitines, dicarboxy fatty acids, hydroperoxy and hydroxy fatty acids). Taken together, the results indicate that xanthohumol improves  $\beta$ -oxidation of fatty acids by mild mitochondrial uncoupling, which we verified by time-course metabolomics and measurements of oxygen consumption rates in cultured mouse skeletal muscle ( $C_2Cl_2$ ) cells treated with xanthohumol. Xanthohumol improves  $\beta$ -oxidation of fatty acids and increases energy expenditure by mild mitochondrial uncoupling, resulting in an overall beneficial effect on markers of metabolic syndrome.

#### **Biography**

Jan Frederik Stevens received his MSc in Pharmacy (1988), pharmacy license (1990), and PhD in Medicinal Chemistry (1995) from Groningen University, The Netherlands. He received Postdoctoral training at Oregon State University (1995-1999), the Free University of Amsterdam (1999-2000), and the Leibniz Institute for Plant Biochemistry, Halle/Saale, Germany (2000-2002). He is now an Associate Professor of Medicinal Chemistry in the College of Pharmacy and a Principal Investigator in the Linus Pauling Institute at Oregon State University. Mass spectrometry-based metabolomics is a new direction in his laboratory for discovery of biological effects of vitamins and phytochemicals.

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### The effect of black cummin oil (*Nigella sativa* L.) for controlling asthma and blood eosinophils level in asthma patients at the pulmonary clinic, Dr. M. Djamil Hospital, Padang

Fatma Sri Wahyuni<sup>1</sup>, Raveinal<sup>1</sup>, Oea Khairsyaf<sup>1</sup> and Putri Ramadheni<sup>2</sup>

<sup>1</sup>Andalas University, Indonesia

<sup>2</sup>Sekolah Tinggi Farmasi Indonesia, Indonesia

Clinical study was conducted on the use of black cummin oil (*Nigella sativa* L.) against persistent asthma patients at the pulmonary clinic of Dr. M. Djamil Hospital, Padang. Asthmatic patients were divided into two groups: the control and treatment groups. The control group was given hospital standard therapy only, bronchodilator and controller, while the treatment group received standard therapy and black cummin oil with dose 60mg/BW/day orally. The assessment was conducted on the level of asthma control and the value of eosinophils blood during the first month of use. This study showed that black cummin oil increased the level of asthma control in patients as indicated by level up of ACT score ( $p < 0.05$ ). The values of blood eosinophils decreased in the treatment group but not statistically significant when compared with the control group ( $p > 0.05$ ).

#### Biography

Fatma Sri Wahyuni got bachelor degree in 1998 from Department of Pharmacy, Faculty of Mathematic and Natural Sciences, Andalas University and PhD degree from Institute of Biosciences, University Putera Malaysia in 2009. She works as a lecturer at Faculty of Pharmacy, Andalas University. Her research interest is in biological study especially cytotoxic and anti-inflammatory activity of some Sumatran plant including genus *Garcinia* and *Nigella sativa*. She has 8 publication on her name.

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