

*International Conference on*

# TRADITIONAL MEDICINE AND ETHNOMEDICAL RESEARCH

OCTOBER 24-25, 2019

TOKYO, JAPAN

Theme:  
Healthy Life in Natures Lap

Radisson Hotel Narita  
286-0221 Chiba Tomisato-shi Nakaei 650-35  
Tokyo, Japan

 @ICTM2019

 TraditionalMedicine\_EthnoMedicine\_2019

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EXHIBITOR

**Wellson Energetics**  
TOOLS FOR VIBRATIONAL ALCHEMY

# ICTM 2019



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Saint Cloud State University,  
USA



**Martine Negro**

Nature Care Wholistic Medical  
Centre, Australia



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Nemutandani**  
University of the Witwatersrand, South Africa



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**Naphatsorn Dithawutthikul**  
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Sun Park Nakanoshima clinic Japan



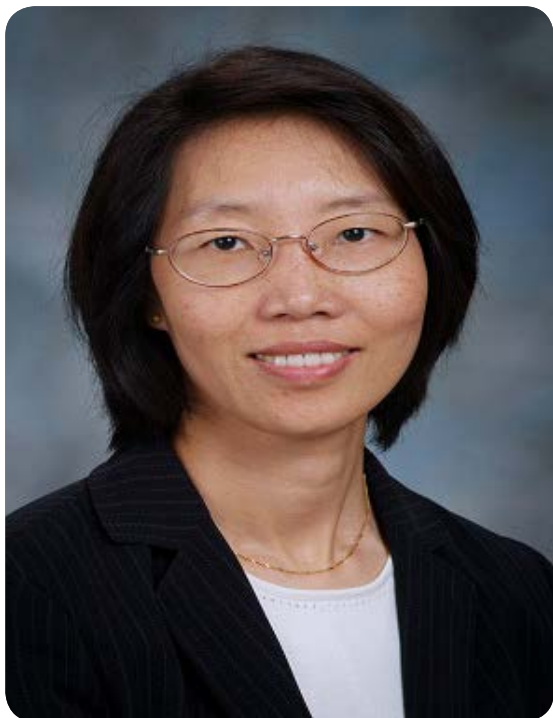
**Tjokorda Gde Dalem Pemayun**  
Dr. Kariadi General Hospital, Semarang, Indonesia



**Festus M. Tolo**  
Kenya Medical Research Institute Kenya

Thank You  
All...

# Welcome Message



On behalf of the conference planning committee, we welcome you to attend the exciting

International Conference on Traditional Medicine and Ethnomedical Research held on Oct 24-25, 2019 at Tokyo, Japan.

Traditional Medicine has been used over thousands of years and plays an essential role in treating human diseases and maintaining human health, especially in developing countries. Intriguingly, traditional medicine has also been gaining more attention in developed countries in recent years, but it is still so far away from the basic health care system. Furthermore, the World Health Organization (WHO) noted that “inappropriate use of traditional medicines or practices can have negative or dangerous effects.” Thus, further research is needed



to ascertain the efficacy and safety of the modalities used in various traditional medicine systems to strengthen the role of traditional medicine in maintaining global population health.

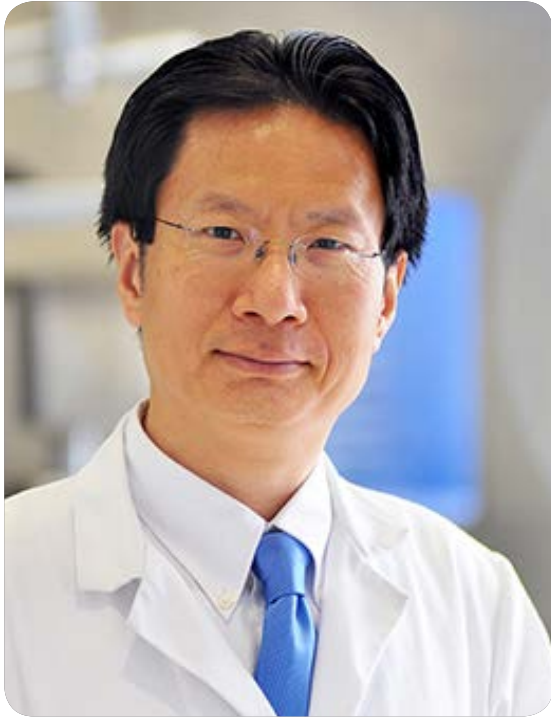
This conference, a world-class gathering, aims to unify physicians, researchers, and practitioners from different corners of the globe to discuss the most recent research efforts and innovative progressions in the fields of traditional medicine and ethnomedical research and to provide professional and valuable information to further advance the impact of traditional medicine in patient care globally.

A handwritten signature in black ink, appearing to read 'Peiyang Yang'.

**Peiyang Yang**  
The University of Texas, USA



# Welcome Message



It is my great pleasure to welcome all the participants to the International Conference on Traditional Medicine and Ethnomedical Research 2019. This field of knowledge and practice has contributed to the health care around the world for centuries and led to major breakthroughs in modern medicine such as the development of aspirin from willow bark extract in the 19<sup>th</sup> century and the 2015 Nobel prize winning development of the artemisinin from Chinese herb *Artemisia annua* to treat malaria. Current research on acupuncture has successfully predicted multiple research results not only in acupuncture but also in modern biomedical sciences – meeting the gold standard of science, revealing an



embedded postembryonic growth control network system as well as unifying the meridian system and the chakra system. I hope that all the participants will benefit from the intellectual stimuli of a productive, successful conference and spread the benefit to the rest of the society.

**Charles Shang**  
University Of Texas MD Anderson Cancer Center, USA

# Keynote Speakers



***Charles Shang***

University Of Texas MD Anderson  
Cancer Center, USA



***Marina Cetkovic-Cvrlje***

Saint Cloud State University  
USA



***Peiyang Yang***

The University of Texas  
USA



***Takashi Seki***

Tohoku University  
Japan



***Martine Negro***

Nature Care Wholistic Medical  
Centre, Australia



***Wendelin Niederberger***

Visionary Success Academy  
Switzerland



***Xi-Jun Wang***

Heilongjiang University of  
Chinese Medicine, China



***Stephan Breu***

Neurolog Academy  
Germany

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# About

## MAGNUS GROUP

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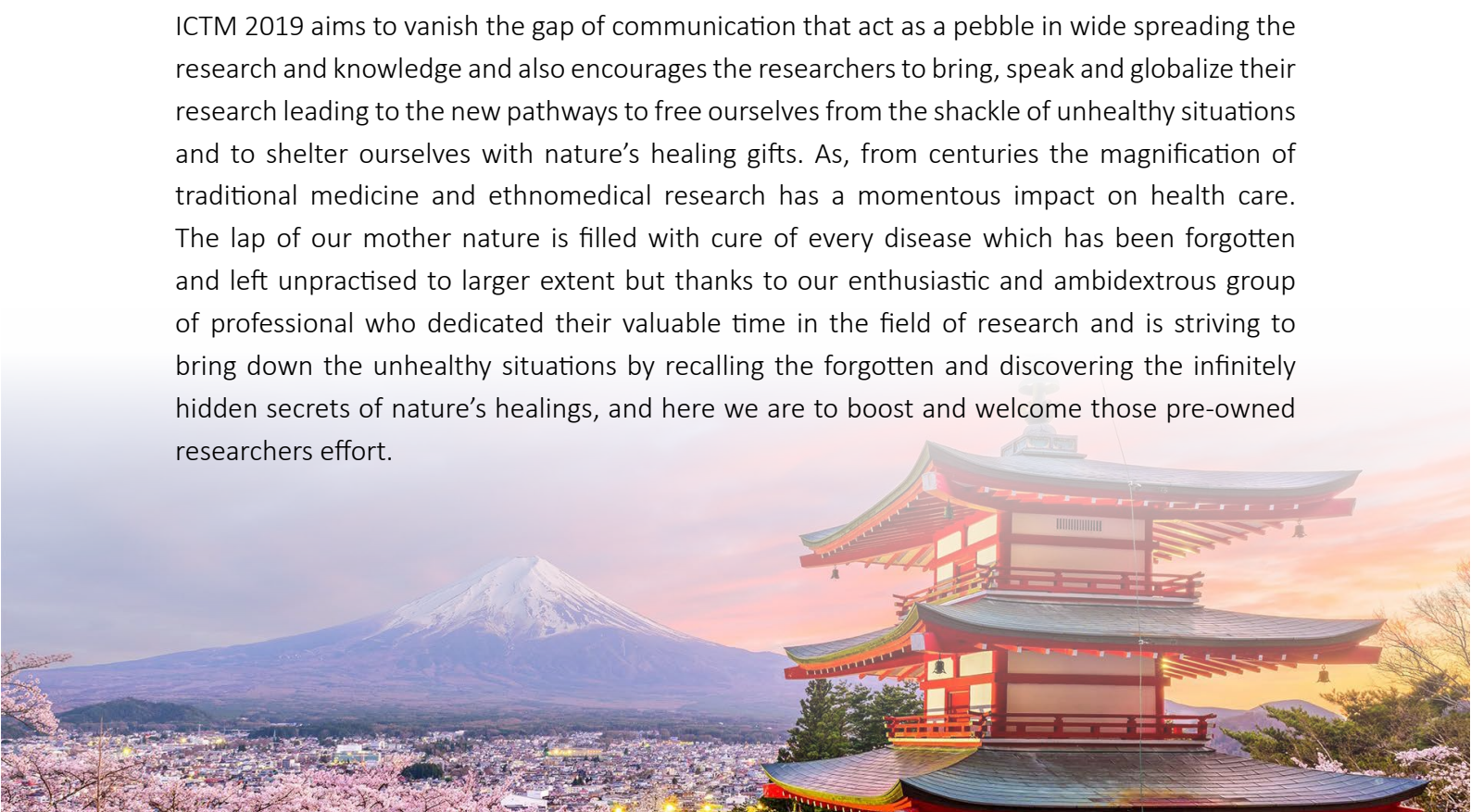
Magnus Group (MG) is initiated to meet a need and to pursue collective goals of the scientific community specifically focusing in the field of Sciences, Engineering and technology to endorse exchanging of the ideas & knowledge which facilitate the collaboration between the scientists, academicians and researchers of same field or interdisciplinary research. Magnus group is proficient in organizing conferences, meetings, seminars and workshops with the ingenious and peerless speakers throughout the world providing you and your organization with broad range of networking opportunities to globalize your research and create your own identity. Our conference and workshops can be well titled as 'ocean of knowledge' where you can sail your boat and pick the pearls, leading the way for innovative research and strategies empowering the strength by overwhelming the complications associated with in the respective fields.

Participation from 90 different countries and 1090 different Universities have contributed to the success of our conferences. Our first International Conference was organized on Oncology and Radiology (ICOR) in Dubai, UAE. Our conferences usually run for 2-3 days completely covering Keynote & Oral sessions along with workshops and poster presentations. Our organization runs promptly with dedicated and proficient employees' managing different conferences throughout the world, without compromising service and quality.

## About ICTM 2019

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ICTM 2019 aims to vanish the gap of communication that act as a pebble in wide spreading the research and knowledge and also encourages the researchers to bring, speak and globalize their research leading to the new pathways to free ourselves from the shackle of unhealthy situations and to shelter ourselves with nature's healing gifts. As, from centuries the magnification of traditional medicine and ethnomedical research has a momentous impact on health care. The lap of our mother nature is filled with cure of every disease which has been forgotten and left unpractised to larger extent but thanks to our enthusiastic and ambidextrous group of professional who dedicated their valuable time in the field of research and is striving to bring down the unhealthy situations by recalling the forgotten and discovering the infinitely hidden secrets of nature's healings, and here we are to boost and welcome those pre-owned researchers effort.



# ABOUT EXHIBITOR



As proponents of holistic living, we see all around us and everywhere serious gaps and areas of need for individuals and groups. We created Wellsong Energetics so we could reach out to help people fill these gaps, meet their needs and ultimately achieve their ascension. Our mission is to make the world a better place through science, love and compassion, and to help the Earth and all of its people move to a higher dimension.

We do this through:

- The Clearest Benefits Program where members receive an amazing set of benefits and protections.
- The True Quantum Healing services for personal healing and psychic connections
- The LOVE Machine for balancing personal energy and conducting research on vibrational science in healing with the amazing Rife principals Vibrational Medicine and The Art of Dowsing
- Wellsong Energetics is more than a full time job for those who are involved. It's our passion, our lifestyle and our life's mission. If all you do is look around our website, we hope we touch your life in a positive and beneficial way. And we hope you become a follower and enjoy the observable and wonderful benefits of all we offer. We guarantee your satisfaction. Join us. You'll be amazed.

DAY 1

# KEYNOTE FORUM

INTERNATIONAL CONFERENCE ON

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### Biography

Marina Cetkovic-Cvrlje, M.D., Ph.D., holds a full professor of immunology position in the Department of Biology at Saint Cloud State University (SCSU), U.S.A. Dr. Cetkovic-Cvrlje has devoted the entire career to autoimmune type 1 diabetes (T1D) research. Since joining SCSU in 2006, she has established a Laboratory for Immunology, providing research opportunities for numerous undergraduate and graduate students to study effects of various environmental compounds on the development of autoimmune diabetes in murine models of T1D. She has been teaching Immunology, Pathophysiology and Public Health Controversies. Dr. Cetkovic-Cvrlje has been a strong advocate for raising awareness about effects of environmental compounds on T1D development.

## Caveat emptor: *Garcinia kola* and Type 1 diabetes?

### Marina Cetkovic-Cvrlje

Saint Cloud State University, USA

Type 1 diabetes is an autoimmune disease characterized by T cell-dependent and -mediated chronic inflammatory response that destroys pancreatic insulin-producing beta cells resulting with hyperglycemia and metabolic disturbances. Whereas current treatment strategies rely on insulin, prevention of disease development in susceptible individuals would be the ultimate goal in successful management of T1D. *Garcinia kola* Heckel (GK) is an African plant known for its wide use in traditional medicine. Its nut is chewed daily as a masticatory believed to exhibit a myriad of beneficial health effects. Some of the therapeutic effects of GK extracts (GKE) have been suggested to be due to their anti-inflammatory potential and influence on the immune system. Despite recent advances in preventative immunotherapy efforts in T1D management, such as manipulating T cells, undesirable side effects still remain a huge challenge. Thus, daily chewing of GK nut, as a T1D preventative measure, seems like an attractive, safe alternative. Previous publications postulated GKE's anti-inflammatory potential mainly based on antioxidative and radical scavenging properties of GKE, whereas just a few studies, performed *in vitro* on macrophage cell lines, explicitly explored anti-inflammatory activities. Considering that GKE has never been studied in the context of T1D, and its enormous relevance in folkloric medicine, we aimed to define whether GKE exhibits antidiabetic properties and affects T cells by its anticipated anti-inflammatory action. The effects of GKE treatment has been tested in the experimental murine model(s) of T1D. Our results revealed that long-term daily treatment by 100 mg GKE/kg in a drinking water, which started in a pre-diabetic phase, did not prevent T1D development, as treated mice did not show either delayed disease onset, less severe glycemia or lower disease frequency. However, while GKE treatment did not exhibit any toxic effects, it did affect T cells and their function. A prominent reduction in frequency of splenic T cells, both the helper (Th) and cytotoxic (Tc) subpopulations of T cells, accompanied by an elevated production of pro-inflammatory cytokines, such as TNF- $\alpha$ , IL-6, and IL-17, and suppressed levels of IL-2, have been found. Overall, our results, while not confirming antidiabetic property of GKE, suggest its potential in pathologies that benefit from potentiated pro-inflammatory Th1-type response. Moreover, this study brings awareness about "cultural myths" on beneficial usage of GKE in diabetes, and emphasizes needs for further *in vivo* assessment of GK immunomodulatory properties and a thorough scientific elucidation of existing herbal treatments.



### Biography

Martine Negro has been an acupuncturist and member of AACMA for over thirty years. She is the co-founder of the Energetic Diploma at Nature Care College Sydney (1998) and senior trainer in various topics related to energetic well-being. She is the author of "Hacking the Well-Being Code through energetic intelligence" designed to engage people in their own health and give them the core understandings behind true well-being (Yang Sheng in our modern times).

## Yang Sheng (nurturing life) through energetic management

### Martine Negro

Nature Care Wholistic Medical Centre, Australia

**Y**ang Sheng is the original Daoist practice of "Nurturing Life" in harmony with universal laws, primarily by cultivating one's mind.

It is a fundamental concept in Chinese Medicine and is becoming more and more relevant in our modern society where it can be called "Energetic Management" on all levels of our being.

The presentation will cover the distinctive components of Chinese Medicine as an Energy Medicine and the benefits of actively engaging the patient during the consultation and treatment.

How Chinese Medicine works naturally with the universal laws.

We will discuss the three essential components of a consultation that allow the patient to practice Yang Sheng.

All ancient texts of Chinese Medicine emphasize the Shen as being the primary cause of diseases and how it is to be cultivated throughout life.

I will share a simple process with the participants so they can experience a taste of it for themselves before they can use it in their own unique way with their patients during treatment. It is a simple yet very powerful way to get the patient involved in their own healing journey and access what is the message "behind" the symptom so the Shen can be more at peace.

We need to put more of our focus on the person and help them to gain more understanding about their own energy, trust their intuition and take more responsibility for their own well-being while enjoying professional support.



### Biography

Dr. Peiyang Yang is a Tenured Associate Professor at Department of Palliative, Rehabilitation and Integrative Medicine at the University of Texas MD Anderson Cancer Center. She received her undergraduate and master degree in Pharmacy from the Beijing, China and completed her Doctor degree in Nutritional Science in US. Dr Yang has been engaged in translational research on traditional medicine and natural products in cancer treatment and prevention. She published more than 110 peer reviewed papers in high impact journals and currently serves a board member of Society of Integrative Oncology (SIO), American Botanical Council, and Consortium of Chinese Medicine in Cancer, a Founder and Member of Board of Directors of Metabolomics Association of North America.

### Audience Take Away:

- The information provided in this presentation will help audience understand how to make the undruggable oncogene becomes druggable which is very critical to help eliminate cancer, a devastating disease
- The information will provide the most updated information on the development of targeted therapy to very important oncotarget which is usually considered not druggable. For the audience who is engaged in cancer research, especially on targeted therapy, the disseminated information through the presentation will help them in their study design by using alternative approach for the undruggable oncotargets. I would also expect to help the professionals who teach cancer related course to use this knowledge to inspire the student to further their career either in the development of anticancer agents or cancer research in large

## Targeting Myc pathway with herbal medicine in liver cancer and melanoma

### Peiyang Yang

The University of Texas MD Anderson Cancer Center, USA

**M**YC is a transcription factor that acts as a potent pro-cancer program across multiple cellular pathways and has been identified as one of the driver genes in various cancers. Targeting Myc itself has been challenging as there is a lack of a druggable binding pocket in MYC molecule. Much effort has been focused on indirect targeting strategies of MYC. As MYC is usually overexpressed in the late stage of cancer, targeting MYC stability is an attractive strategy. Here we reported that using herbal medicine, such as mistletoe and its bioactive components, mistletoe lectin as well as other bioactive components derived from other herbal products, to destabilize the MYC protein resulted in degradation of MYC in either hepatocellular carcinoma (HCC) or melanoma. We and others have demonstrated that mistletoe extracts including Fraxini exerted strong antiproliferative and pro-apoptotic activities in various cancers including HCC. We also recently observed that mistletoe lectin I, Aviscumine, exerted much stronger anti-proliferative activity in both human melanoma A375 and mouse melanoma Yummer cells than that of mouse melanoma B16 cells. It appears to us that the selective antiproliferative effect of Fraxini and Aviscumine in HCC and melanoma is mediated through targeting c-Myc protein. We found that Fraxini and Aviscumine dose dependently suppressed the c-Myc protein expression, but did not affect c-Myc mRNA level in Hep3B cells and A375 cells, suggesting Fraxini and Aviscumine downregulates c-Myc through post-translational regulation. Fraxini reduced half-life of c-Myc protein from control (40 minutes) to 27 minutes. By inhibition of 26S proteasome activity using MG-132 in Hep3B cells, Fraxini elicited downregulation of c-Myc was notably antagonized, suggesting that Fraxini downregulated c-Myc by promoting its proteasome degradation. Fraxini decreased phosphorylation of S62 (stabilizing c-Myc) while slightly increasing p-cMycT58 (destabilized c-Myc) in Hep3B cells. Fraxini (up to 20  $\mu$ g/ml) exerted minimum antiproliferative activity in Burkitt's lymphoma Raji cells, which are known to host T58 mutation on c-Myc, augmenting that Fraxini is acting on c-Myc phosphorylation and resulted in downregulation of c-Myc in HCC. Additionally, Aviscumine injected (s.c.) to LAP-tTA/TRE-MYC mice carrying MYC driven HCC for 3 weeks significantly prolonged the survival of these particular mice compared to that of control mice. Furthermore, A375 tumors with relatively higher expression of c-Myc were markedly smaller in Aviscumine treated mice than in the control-treated group, whereas Aviscumine treatment showed no tumor growth inhibitory effects in B16 tumor-bearing mice and led to no-reduction of c-Myc protein. A number of pathways regulating MYC stability have been explored and will be discussed during the presentation. Furthermore, the effect of other compounds derived from herbal medicine on c-Myc stability will be discussed. In conclusion, our data and others suggested that herbal medicine and its active component could potentially be developed to target MYC stability and resulting downregulation of MYC protein in HCC and melanoma which warrant further investigation.





### Biography

Wendelin Niederberger grew up in a farmers home in a big family of 10 children, where he learned cycles of nature all naturally. After working in the hospitality industry in his younger years he came in contact with the asian culture. After quitting his occupation he studied with taoist masters in Taiwan, Malaysia, Singapore and China. He organized holistic conferences in Switzerland and researched and lectured in his taoist academy chinese astrology, mien shiang and taoist feng shui in Europe and England.

Wendelin Niederberger has been studying for more than two decades to translate the old taoist wisdom of mien shiang into a system which describes the destiny of people in his face reading institute. In he's research he found, living according to the roadmap of the face is crucial for a healthy vital life. The traits showing in the face have to be integrated in ones life in order to feed the soul and spirit. Wendelin Niederberger is the author of the book "Taoist Face Reading" (German Edition) . He describes in this book the importance of knowing a persons face features in order to integrate and foster the inner skills and talents.

## The health effect of living your vocation according to taoist face reading

### Wendelin Niederberger

Visionary Success Academy, Switzerland

In chinese medicine every point in the face is a reflection of a corresponding body part according to the 5-element circles. In the old day's doctors of chinese medicine used the face of the patients to recognize health issues by describing marks, color, wrinkles, puffiness or skin irritations. They also related the face features in their size and proportion to one of the five element patterns.

Depending to the person's elemental correlation they treated patients differently. They also knew how to describe the personality of the person referring to the facial uniqueness. Face reading (mien shiang) is a vital part of the traditional chinese medicine system for more than 3000 years.

Only few people know that there are also signs in the face which describe your vocation, talents and even skills. Even your unique personality is describable by the features of your face. In the old days, there was not much chance to live a life according to your talents. You had to find a preoccupation in order to survive. Nowadays human beings are searching more often for the meaning of life. "Why I'm I here"? is a question more and more people ask. Scientist's studies prove that people who found their purpose of life live longer, healthier and with the feeling of fulfillment. People who know their calling, their vocation and their life plan live a healthier live, have less illness and have a stronger constitution. All this is shown in the features of every face. The very basic of conscious health is to live a life according to your traits you read in your face features.

#### Audience Take Away:

- How to assign the facial features to the 5 Taoist elements
- Describing the skills, talents, personal preferences and behavior according to the elemental type of a person
- The importance of living according to your souls plan which shows itself in the traits
- Recognize another form of pattern to help people staying healthy ore preventing them from physical and psychological illnesses



SPEAKERS

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## The new paradigm of tesla's vibrational medicine has arrived

**Susan Whittaker**

Wellsong Energetics, United States

**I**n this presentation I will describe the concept of vibrational medicine that was anticipated by Tesla--what it is, how I make it, and what I am finding it does. I have simple ideas of how it all works, but I am not a physicist and do not delve into advanced science. If I have a question of how or what, I can get the answer by dowsing. I did not invent the process I use for replicating the vibrational images of the products you find in a health food store. And, while I send out great love and intentions twice-daily in support of the products and services people want from me, I do not provide the power that produces the results. Instead I am a follower and close friend of an amazing higher guide who tells me Infinite Source provides the power and generates the vibrational images. In doing so, I have integrated the ancient healing art of dowsing with focused intentions and as much compassion and love as I can offer. I call this Intentional Dowsing because it manifests intentions. As time allows, I will also describe how this supports the work of healers in all modalities, worldwide. This is a huge new paradigm that is emerging with vast ramifications for a better future.

### Biography

Susan Whittaker grew up near Mt. McKinley in a village far from outsiders where her father watched for Russian Bombers. She gained the original love and closeness to nature that few people ever see or can imagine. She also learned much about the value of electronics and service to others. After attending college in Oregon, she began teaching children. Fate had her meet Steve Jobs, who closely followed her innovative use of an Apple. He later awarded her the annual Apple logo T-shirt that says, "I changed the world." Steve said she was gifted with vision and guidance from above. After Dr. Robert Rowen made her the first person cured of a certain poisoning in 1983, she dedicated her life to promoting alternative and holistic medicine. After retirement she ventured into sales for 7 years interacting with 400,000 people and breaking corporate records while trying only to educate, not sell.

Three years ago, she was inspired to quit and get involved in energy medicine. This led to the fact that dowsing has an important role in medical services where there is a fine line between knowledge and inspiration and between memory and intuition. Dowsing enhances one's receptivity to intuition and inspiration; and from Source comes great guidance. She has created unique services and products at Wellsong Energetics LLC and is writing the Dowsing Docs series of books. She teaches dowsing to holistic doctors, naturopaths, veterinarians, dentists and individuals from many walks of life. Her services help everyone access the goodness above. Sue says she is just a simple person who grew-up in remote Alaska and has nothing special to give, except love. Yes, but she has out-of-body experiences, psychic downloads, telepathic ability, time-travel and synchronicities almost daily that lead her to be a creative genius and administrative powerhouse for the benefit of all. Her company Wellsong Energetics, LLC offers innovative products and services that directly and effectively optimize the energy profile of people and animals. Our products utilize the principals of advanced, esoteric science described in cutting-edge Energy Medicine books, journals and conferences to produce world-changing advancements in achieving wellness and enhancing the effectiveness of medical services.

## Homoeopathie – The divine medicine

### Irmgard Rose Parys

Community Practice Dres. Parys Lindau-Bodolz, Germany

**H**omoeopathie – the divine medicine means a total view on our patients. Based on two examples it will be shown that the homoeopathic treatment not only improves some symptoms rather above all the emotional and mental healing is the goal of our efforts. This is a very serious difference to conventional medicine. In our time there are more and more people who are mentally ill. Many patients suffer with psychosomatic states and complaints and they are not really improved by conventional medicine. Indeed it is suppression. Especially the mental situation respectively the forced position of our patients is the real suffering.

With homoeopathie we have the craft stuff to heal deep and make them free. We can rid them from bad emotions, make them better human beings and in the end make the world a better place. Therefor we can use the word divine. There is so much hate and violence and we are able to reduce this, this is the most important task we have. We should not lose us in the treatment of single physical sufferings but always keep an eye on the big goal.

#### Audience Take Away:

- A teenager with a purulent wound on the left knee with serious swelling of the joint, healed with Lyssinum
- A 30 year old woman with psoriasis and depression and big problems with family and society, healed with Causticum

**Keywords:** Divine Medicine, Total view, Suppression, Mental healing, Difference to conventional medicine

#### Biography

Dr. med Irmgard Rose Parys studied medicine at Eberhard-Karls-University Tübingen, Germany and received her approbation 1982. She earned her MD in 03.12.1982 about a gynecological topic also at Eberhard-Karls-University Tübingen. After various assistant positions (universitätsfrauenklinik Tübingen, Marien hospital stuggart, various clinics for natural healing and homeopathy, studies with Prof. George Vithoukas in Greece and with Dr. Alfons Geukens in Belgium). She started her own medical practice in 1992 in Lindau, Germany, Where she treated her patients mostly with homeopathic remedies. Since 12 years she works together with her husband (specialist in internal medicine). In the last 30 years she held lectures for patients and doctors, talks in various congresses in Germany and at the LMHI buenos Aires, Argentina, 2016.

## Combining the cutting edge with traditional method - Reducing cosmetic procedure recovery time by half through the use of aromatherapy

**Fai Chan**

Deli Aroma LLC, Austin, Texas, USA

According to American Society of Plastic Surgeons (ASPS), in 2015, there were 14.2 million people undergoing minimally invasive cosmetic procedures. That number is increasing each year as more people are interested in improving personal appearance without having to go through plastic surgery.

Of those cosmetic procedures involved, the top five are Botox (type A), soft tissue fillers, chemical peels, laser hair removal, and microdermabrasion. Based on the experience of my clients, those who have undergone this kind of procedures have to bear with redness and pain (sometimes dryness) for an average of 5-7 days. Actual duration varies from person to person.

As a clinically trained aromatherapist, those clients come to the author for two reasons. First, they believe in aromatherapy and want to heal faster. They are working women, and they want to look good at work. Second, they are not satisfied with the advices or products given by the dermatologists or plastic surgeons.

This presentation is a sum up of the clinical findings on all those cases the author has successfully treated her clients with amazing results which wowed the doctors. Those doctors even requested a sample of the product to further examination.

In this presentation, the advantages of cutting-edge technology of CO2 extraction over traditional methods such as cold pressed and steam distillation in the extraction of carrier oils and essential oils will be discussed.

It is essential to know that “less is more” concept be applied to product formulation. Examples will be given for illustration.

Cases with pictures of before and after pictures will be used for demonstrating the potency of aromatherapy related product. If you have been using aromatherapy and CO2 for years but still find it not impressive, then it is time to think “why”, “how”, “when” and “what”.

This presentation not only tells you the facts or evidence but also points to the way that you can improve your formulation to better serve your customers.

### **Audience Take Away:**

- What composes a practical research that can resolve real life issues
- A win situation to each party including clients, practitioners, researchers secured the interests of the society and making research grants highly accessible
- Evidence based research is widely applied in many areas of the alternative therapies. A good research must start with an insight that has practicability and applicability on how to bridge the gap between theory and reality. This presentation attempts to point the way of improvement instead of only telling the audience facts or evidence
- A good feedback system from the parties involved makes the whole design of research more appealing and realistic

### **Biography**

Clinical Aromatherapist Fai Chan started her career in 2014, when she was still a student, she already published research findings with international Aromatherapy journals. In 2015, she served the board of a world leading aromatherapy association (Alliance of International Aromatherapists). She was also the chair of the publication committee. Deli Aroma LLC is dedicated to holistic healing protocols and research. Grounded by pharmacology, her specialties are in the healing of psychiatric/neurological issues and diabetes. Based on Traditional Chinese Medicine (TCM) framework, with the synergistic effects of combining the therapeutic approach with chemistry, her remedies are very effective.

## The traditional medicine in Mascareines islands (Indian Ocean)

**Laurence Pourchez**

Anthropologist, Department Africa, INALCO, Sorbonne City University, Paris, France

**D**uring this communication, I will present the traditional medicine that exists in the Mascarene Islands (Réunion, Mauritius, Rodrigues). This medicine was born from a process of creolization that occurred after the arrival in these islands, from the end of the 17th century, of European settlers, slaves, and then engaged workers from India, from Africa, Madagascar, Asia. It is a medicine of moods, which acts according to a classification between natural and supernatural diseases and includes a double logic, prevention and treatment of the disease. Without being able to reduce it to this simple aspect of the treatments, it relies in particular on the uses of the medicinal plants.

### **Audience Take Away:**

- The interest of this communication resides first of all in the discovery of a little known traditional medicine: the traditional medicine present in the Mascarene Islands, in the western Indian Ocean
- The works that will be discussed here have many interests. The first is to show how, even in young societies like the Creole islands of the Indian Ocean, traditional medicine can develop. It is therefore the processes of creation of traditional medicines that appear here
- The research being conducted in the Indian Ocean can contribute, in a much more general way, to the development of ethnomedicine research. These are the techniques of care that are concerned, as well as the use of herbal medicine
- The knowledge of plants and remedies used in traditional medicine of the Mascarene Islands can lead to important scientific advances, especially for the discovery of certain treatments for patients such as diabetes, certain cancers, wound healing, signs of Aging. Some plants, which have recently been registered in the French pharmacopoeia, have scientifically proved their effectiveness. They could go into clinical trials and help with drug development

## The role of growth factors on extracellular matrix and morphogenesis: The Chinese concept of phlegm (TCM) revisited

**Fossion Jean**

Group Investigation of dys-Autonomy (GidA), Belgium

**W**e suggest a role for growth factors in a staged process of Phlegm, an ancient concept in traditional East Asian medicine. Chronic stagnation of interstitial fluids constitutes a pre-phlegm stage. Venous overfilling in heart failure and/or the renin-angiotensin-aldosterone system may play a constitutive role. Central venous- and hydrostatic pressure burdens not only cava vessels but also azygos veins, perivertebral veins (Botson) and portal system as hydrostatically communicating vessels.

Protophlegm stage appears when interstitial pressure is no longer intercepted by lymphatic drainage. Growth factors play a role in endothelialization of lymphatic tissue, hindering active transport by the lymphangions.

Phlegm stage II is characterized by the role of growth factors in fibrogenesis with the transformation of fibroblasts into myofibroblasts. Macrophages type 2 predominate this fibrogenesis.

Growth factors play a role in the morphogenesis of benign- and malign neof ormation in phlegm stage III. Macrophage type 2 may induce neo-angiogenesis into an anoxic region, becoming tumor-associated. Epigenetic influences may express transforming growth factor into unshielded tumor growth.

Phlegm stage IV is characterized by the role of thermogenetic brown adipose tissue in erythropoietic proximal red bone marrow, promoting metastasis of breast- and prostate cancer in bone. microRNAs could play a role as diagnostic and prognostic biomarkers for cancer.

### Biography

At present Jean Fossion, MD, organizes accredited lectures for physicians in assignment of the Belgian state institution for illness and invalidity (RIZIV). He is president of the group for the investigation of dysautonomy (GidA). He organizes medical acupuncture in the basic course of the Netherlands (NAAV). He is invited speaker for the scientific association WAVAN (Netherlands). He is consultant for integrative medicine in hospital-associations Zeno, campus Knokke. He gives lectures on sympathovagal balance and heart rate variability (HRV) and is external consultant for the center for complexity studies in Mex-city (UNAM/C3). He is vice-president of the Belgian association of medical acupuncture in Brussels (BVGA), responsible for scholarship, homologation and accreditation.



## Comparative human PK-study under fed conditions with three marketed oral curcuminoid-products and first-time a pure intravenous curcumin (Diferuloylmethan)

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<sup>3</sup>Bio Agile Therapeutics Pvt. Ltd, Bangalore, India

**Objective and Design:** The task of this study was to measure the plasma concentration and kinetics of three different marketed oral Curcuminoid-products and the one available synthetic Diferuloylmethan i.v. preparation under fed conditions in an open-label, balanced, randomized, single-dose, four-treatment, four-period, four sequence, four-way crossover, single-blind study in healthy, adult, human subjects, to compare the relative bioavailability and pharmacokinetic of free curcuminoids/curcumin of these products under realistic treatment conditions in humans. International Study Number SLS-CT-0002-19-CURC.

**Methods and Realization:** Six healthy Indian men and 6 healthy Indian woman, 18 to 45 years of age with a body-mass-index of 18.5 – 25.0 kg/m<sup>2</sup> were supplied (after a washout period of one week) 30 minutes after a standard meal with a single dose of CUREminACTIF<sup>®</sup> one capsule (Cureit<sup>®</sup> 125 mg of Curcuminoids + 125 mg Tumeric matrix, 90 mg of Curcumin), or MERIVA<sup>®</sup> Thorne capsule (500 mg Curcumin Phytosome/phospholipid complex, 80 mg of Curcumin), or Curcumin-Loges<sup>®</sup> one capsule (NOVASol<sup>®</sup>, 50.4 curcuma extract in 450 mg Tween-80<sup>®</sup>, 35,5 mg Curcumin), or an intravenous infusion of 150 mg diferuloylmethan in 250 ml 0.9% NaCl over a time period of 2 hours (Burg Apotheke<sup>®</sup> 150 mg diferuloylmethan). Blood samples were taken before and up to 48 hours after compound application at 21 time points. The free curcumin concentration was determined in plasma samples by UPLC/ESI-Q-TOF-MS spectrometry.

**Results:** 11 from 12 individuals completed the study, one female had to be excluded do to noncompliance to the protocol. No adverse effects and no biochemical abnormalities have been reported. The AUC<sub>0-24h</sub> (ng/mlxh) normalized to 1 mg Curcumin substituted, calculated as mean AUC<sub>0-24h</sub> from individual subjects (Mean + SD) was 14.34+6.86 (CUREminActif<sup>®</sup>), 7.02+3.74 (MERIVA<sup>®</sup>), 15.88+8.61 (Curcumin-Loges<sup>®</sup>) and 15.13+14.76 (i.v. Burg Apotheke<sup>®</sup>). The bioavailability of CUREmin Actif<sup>®</sup> (Cureit<sup>®</sup>) and MERIVA<sup>®</sup> was 3-fold increased compared to application under fasting conditions. AUC<sub>0-24h</sub> Cureit<sup>®</sup> 4.58 ng/mlxh, MERIVA<sup>®</sup> 2.33 ng/mlxh [Gopi S. et al. 2017 Phytother Res 31(12):1883-1891] measurements performed under same analytical conditions. The T<sub>max</sub> of the orally applied Curcuminoid preparations was at 2 hours, that of the intravenous Curcumin at 0.75 hours. All, the oral and the intravenously applied curcumin preparations showed a high inter-individual coefficient of variation.

**Summary:** The claimed vast superiority of Curcumin Loges<sup>®</sup> (NOVASol<sup>®</sup>) above other oral Curcuminoid preparations could not be verified [Schiborr C et al. 2014 Mol Nutr Food Res 58:516-527] Unexpectedly the intravenous applied pure Curcumin did not show a superior bioavailability to CUREminACTIF<sup>®</sup>/Cureit<sup>®</sup> and Curcumin-Loges<sup>®</sup> in terms of the free curcumin content in the blood plasma.

## Biofeedback, mineral salts and bach remedies: A powerful combination

**Lynda van Heerden**

Traditional Healer's Association (THA), ASCHP, Natural Healer's Association (NHA), South Africa

The focus will be on how biofeedback harnesses the quantum energy field as a healing platform. Biofeedback is a non-invasive therapeutic technology that energetically scans and harmonizes the body's stresses and imbalances. It returns the body back to health by reducing the stressors that cause disease. Excess stress is the pathway to disease. Certain dis-ease patterns attach to the human energy system/ Electro Physiological Reactivity or body electric. The body is an electromagnetic static being with frequency patterns that have resonance, reactance and self-correcting capacities. The holistic approach uses the physical-, the mental-, spiritual- and emotional dimensions to bring about healing change and enhances the body-mind connection.

The Biochemistry of mineral or cell salts found in rocks, soil and the human body are essential and vital for ongoing life. The signs of deficiencies are easy to learn and can be used by everybody. It was later discovered that mineral deficiencies also have psychosomatic connections. Certain human behaviour patterns demonstrate specific deficiencies, as minerals work on a cellular level, they are capable of altering cell information. Mineral salts are essential biochemical function agents that are most effectively assimilated into the body in a triturated form. Then the body can restore itself from within.

Dr Edward Bach spent his life searching the purest methods of healing. He believed that attitude of mind plays a vital role in maintaining health and recovering from illness. He developed a complete system of 38 flower remedies, each prepared from the flowers of wild plants, trees and shrubs. They work by treating the individual rather than the disease or its symptoms. These remedies support the person on an emotional level and mental state with factors like stress, anxiety, depression, feeling overwhelmed or guilty and trauma. They are gentle and safe and do not conflict with any medication. The effect of taking the remedies is not to suppress negative attitudes but to transform them into positive ones, stimulating the person's own potential for self-healing. This also frees the physical system to fully engage in fighting disease and stress.

This powerful combination of biofeedback, mineral salts and Bach remedies have brought about wonderful sustained healing in my practice.

### Audience Take Away:

- How you can improve your body-mind connection through biofeedback to improve your health
- How to change your Quantum Energy Field with intentional thought patterns and raise your vibrations
- How to use Mineral Salts to heal on a physical and metaphysical level
- How to select and use Bach Remedies to heal on an emotional level
- How this combination contributes to sustained awareness, growth and energy healing

### Biography

Dr Lynda van Heerden completed her Bachelor of Arts at the University of South Africa in 1982, her post graduate Teacher's Diploma in 1984 at the same institution and her B.Ed at the University of Potchefstroom in 1989. She studied at the University of Potchefstroom to complete her Master's degree M.Ed with distinction, specializing in Educational Psychology in 1992. She embarked on her Natural Healing and Specialist Wellness Counsellor journey in 2001, attending numerous trainings, conferences and workshops in Budapest, Colorado, Mexico, Amsterdam, St Maartens and South Africa. She is a certified Assessor, Moderator, Facilitator and Diplomate in Quantum Biofeedback. Starting her own private practice in 2002, she also trained Biofeedback practitioners and held various workshops for 3 years. She has been trained in Sclerology, Dowsing, Bach Remedies, Nutrition, Mineral Salts, HIV/AIDS tutoring and life skills, South African herbs and traditional healing modalities, Neurolink and Integrated Healing (a form of Kinesiology). She obtained her Doctor of Philosophy (Alternative Medicine) from the Indian Board of Alternative Medicines in 2012. She runs a full-time practice in Pretoria using various modalities including ozone therapy and biofeedback. She is currently interested in looking into South African flower essences.

## Traditional methods of knowledge transfer and acquisition with special reference to indigenous knowledge of indigenous medicine in Sri Lanka

**G. R. Padmasiri**

Librarian, University of the Visual and Performing Arts, Sri Lanka, Fellow member, Sri Lanka Library Association

Indigenous Knowledge (IK) is considered as a national heritage of a country. It is unique to a specific geographical area or specific community even in the same country. Rural communities use IK as a mechanism which provide the basis for decision making on their livelihood. Indigenous medical system refers to local health care systems that have been practiced by local communities in many countries for thousands of years. The system encompasses plants, animals and minerals based medicines, spiritual therapies, rituals and astrology. Indigenous medical system is not only a healing system but also it is a life style which teach people to manage their lives and associated flora and fauna. Sri Lanka is a country where rich in IK on different subjects including agriculture, water management, indigenous medicine etc. The indigenous medical system of the country referred as 'Deshiya Chikitsa', 'Sinhala Vedakama' or 'Hela Vedakama', which is very popular especially in rural communities. The main objective of this study is to explore existing methods of knowledge transfer and acquisition in Sri Lanka on indigenous medicine. The qualitative method was employed for this study. Selected indigenous medical practitioners were the study population and data collection was done through documentary survey and interviews. It is identified that IK of indigenous medicine remain as tacit and explicit forms. On the acquisition of Indigenous Knowledge (IK) of indigenous medicine, predominantly local and individual, including parents or family 17 (85%) and through institutional education and practiced as an apprentice under reputed traditional indigenous medical practitioner 03 (15%). Two out of the three above-mentioned indigenous medical practitioners are registered as indigenous medical practitioners. The other respondent is an unregistered practitioner who performs his practice with spiritual power developed by himself. The views of respondents in relation to transfer their indigenous medical knowledge to the next generation can be summarized as:

1. The knowledge can be transferred only within the family members through learning hard, demonstration, observation, and practice
2. The knowledge cannot be transferred; it must be grabbed by interested persons
3. Knowledge can be transferred to a non-relative, but should be an interested and a reliable apprentice
4. The knowledge cannot be transferred at all

**Keywords:** Indigenous knowledge, Indigenous medicine, Knowledge acquisition, Knowledge transfer, Sri Lanka

**Subtheme 1:** Contributing to improved citizen health and wellbeing

## A study of medicinal plants used by the Gusii Community in the treatment of digestive system disorders and other inflammatory conditions

**Lydia Kemunto Matoke**

L.K. Hope Natural Health Care Centre Ltd. Kenya  
Gisesa, W.N.O. Rongo University, School of Science, Technology and Engineering, Kenya

**B**ackground: The medicinal plants used by Herbalists in Kenya have not been well documented, despite their widespread use. The threat of complete disappearance of the knowledge in herbal medicine from factors such as deforestation, lack of proper regulation, overexploitation and sociocultural issues warrants an urgent need to document the information. The purpose of the study was to document information on plants used by herbalists in Gusiiland in the treatment of digestive system disorders and other inflammatory conditions. This knowledge will lead to the utilization of indigenous ethnobotanical knowledge for the advancement of biomedical research and development.

**Methods:** Semi-structured oral interviews were conducted with 100 practicing herbalists in Gusiiland. The types of plants used and the conditions they treated were identified and recorded in field notebooks.

**Results:** Herbal practice is still common in Gusiiland and plants used in the treatment of digestive disorders and other inflammatory conditions were identified. Different herbal preparations are employed in the treatment of the various medical conditions affecting the digestive system.

**Conclusion:** The study provides comprehensive ethnobotanical information about herbs used in the treatment of digestive system disorders by Gusii traditional healers. The identification of the active ingredients of the plants used by the healers may provide some useful leads for the development of new drugs.

**Key words:** Gusii, Herbal medicine, Ethnobotany, Kenya

### **Audience Take Away:**

- They will learn about the plants that people in Gusiiland use in the treatment of digestive system disorders and other inflammatory conditions. They will also learn on how the herbal medicines are prepared by the people of Gusiiland

### **Biography**

Dr. Lydia Kemunto Matoke studied Herbology and Phytotherapy at St. Barabbas University in the USA and graduated with a Bachelor of Science Degree in Herbology and Phytotherapy in 1980. She then went on to open her herbal clinic in Kenya where she has been treating patients with various ailments. She is the President of the Herbalist Society of Kenya and The Traditional and Alternative Medicine Society of East Africa. She is a consultant in the treatment of disease conditions such as cancer, HIV/AIDS, Rheumatoid arthritis, Kidney disease, Diabetes, hypertension, Ulcers and gynaecological conditions among many others. While doing her clinical work and research on Traditional Medicine and Medicinal Plants she enrolled for her Ph.D. in Herbology and Phytotherapy at Bircham International University (Spain). She graduated in 2016, She is currently the Director of Hope Natural Health Care Centre Ltd. She has published extensively in various peer reviewed journals on Traditional Medicine and Medicinal Plants.

## Pharmacognosic standardization of a traditional recipe for incurable wounds based on *Petersianthus macrocarpus* (Lecythidaceae), *Vernonia conferta* (Asteraceae), and *Carica papaya* (Caricaceae) in Cameroon

Ngono Mballa Rose<sup>1,3\*</sup>, Wokam Michèle Noël<sup>2</sup>, Wouessidjewe Denis<sup>4</sup>, Minyem Aude Perrine<sup>3</sup>, Ngoupayo Joseph<sup>5</sup>, Beyene Victorine<sup>6</sup>

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<sup>3</sup>National Drug Quality Control and Valuation Laboratory, Cameroon

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<sup>6</sup>Plantes Médicinales Héritage Africain, Cameroon

Standardization is a process that allows botanical, chemical, pharmacognosic or even pharmacological characterization of herbal medicines. This operation will consist of a macroscopic and microscopic examination of the medicinal material of the recipe (remedy's mixture of powders). Then, a phyto chemical screening of the extract prepared in accordance with the practices of the healer will be carried out. Finally, the desiccation loss and the total ash content will be determined. The recipe used for incurable wounds was obtained following an ethno botanical survey carried out with a traditional healer. Indeed, traditional medicine continues to provide therapeutic solutions through plants. Chronic wounds are severe affections by their manifestations. Their care is difficult because of the multitude of factors behind their constitution. Many conventional therapies are available but mostly unaffordable and less and less effective. The goal of this work was to develop a new affordable and effective treatment. Our work has therefore successfully standardized a traditional recipe based on *Petersianthus macrocarpus* (Lecythidaceae), *Vernonia conferta* (Asteraceae), and *Carica papaya* (Caricaceae), used locally in the treatment of chronic wounds. This research is part of the program initiated by Abondo-Ngono Mballa et al.,<sup>1</sup> on cartography of Healers from the Center Region Cameroon, followed by Ngono Mballa et al.,<sup>2</sup> and Minyem et al.,<sup>3</sup> in standardization of a recipe traditionally used to cure scalp fungal dermatitis. The standardization approach is therefore the appropriate solution to identify chemical and biochemical markers, constituting the substances and compounds of the plants present in the recipe and which could be responsible for the therapeutic activity.

### Audience Take Away:

- Importance of valorization of traditional medicine
- High Interest in inventory of traditional recipes
- The standardization's processes of recipes
- Ethnobotanical, phytochemistic, pharmacognosic and pharmacological standardization of recipes
- Pharmaceutical development of plant based recipes issued from traditional medicine
- Our research work results will henceforth enable the development of quality phytomedicines from traditional recipes
- It is based on pharmacopoeia specifications and WHO Guidelines
- Traditional recipes are not compliant to quality standards and specifications, to be used as medicines: standardization is the key way to make available quality products from traditional recipes
- Design plant monographies – identify biological markers- identify key recipe's components- Master physic chemical properties of markers for better formulation of medicines- identify the pharmaceutical active ingredients- etc

### Biography

Dr Ngono Mballa Rose Industrial Pharmacist (Marseille France, 1988); studied at Yaoundé I University, graduated as 3rd Cycle Doctor in Biochemistry (1993); Researcher at Institute of Medical Research and Studies of medicinal plants (IMPM, 1988-2012). Won the first Prize of Cameroon Academy of Sciences (1995); Director of Pharmaceutical Services MoH (1995-1998), WHO Medicines Adviser Cameroon (2002-2011), Lecturer Faculty of Medicine and Pharmaceutical Sciences Douala and Yaoundé I University (2010-2014), Senior Lecturer 2015; Chair Department of Pharmacology and Traditional Medicine (2017), research work focused on standardization of traditional recipes including codification of African Traditional Medicine. Since 2015, she is Director General National QC Lab (LANACOME) Cameroon. She has published more than 12 research articles and 03 books, and co-directed numerous thesis and masters.

## An ethanolic extract of a two-herb formula Huai-Hua-Jin-Yin-Jiu reprograms melanoma immune microenvironment

Yu-Xi Liu\*, Jing-Xuan Bai, Ting Li, Xiu-Qiong Fu, Jun-Kui Li, Ji-Yao Chou, Cheng-Le Yin Ya-Ping Wang, Ying-Jie Chen, Zhi-Ling Yu

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**Background:** A traditional Chinese medicine formula Huai-Hua-Jin-Yin-Jiu comprising Sophorae Flos and Lonicerae Japonicae Flos (SL for short) was used for treating melanoma in ancient China. We have previously shown that an ethanolic extract of SL (SLE) possesses anti-melanoma effects and suppresses STAT3 signaling *in vitro* and *in vivo*. STAT3 has been linked to the development of melanoma immunosuppressive microenvironment. In this work, we investigated whether SLE inhibits melanoma growth by reprogramming the tumor microenvironment in mouse and co-culture cell models.

**Results:** In B16F10 melanoma-bearing mice, we found that intragastric administration of SLE (1.2 g/kg) dramatically inhibited tumor growth and angiogenesis, decreased tumor cell proliferation, and induced tumor cell apoptosis. These observations were associated with the downregulation of protein levels of phospho-STAT3 (Tyr 705) and STAT3-targeted genes involved in tumor growth, angiogenesis, and immune evasion. We also observed decreased immune suppressive cytokines and increased Th, Tc and dendritic cells in B16F10 melanomas of the SLE-treated mice. In a co-culture system composed of B16F10 cells and mouse primary splenic lymphocytes, we found that SLE not only inhibited the proliferation of and STAT3 activation in B16F10 cells, but also increased the percentages of Th, Tc and dendritic cells. In the co-culture setting, SLE downregulated mRNA levels of STAT3-targeted genes in the splenic lymphocytes as well. Further, it was found that over-activation of STAT3 in B16 melanoma cells diminished SLE's effects for increasing the numbers of Th, Tc, dendritic and NK cells, decreasing the numbers of MDSCs and Tregs, and lowering the levels of immune suppressive cytokines in a co-culture system consisting of B16STAT3C cells (stable cells harboring a constitutively active STAT3 variant STAT3C) and primary splenic lymphocytes.

**Conclusions:** Our findings indicate that reprogramming immune microenvironment, partially mediated by inhibiting STAT3 signaling, contributes to the anti-melanoma mechanisms of SLE. This study provides further pharmacological groundwork for developing SLE as a modern agent for melanoma prevention/treatment, and provide further justifications for the traditional use the formula SL in treating melanoma. Moreover, this study supports the notion that reprogramming immunosuppressive microenvironment is a viable anti-melanoma strategy.

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**Keywords:** Sophorae Flos, Lonicerae Japonicae Flos, Melanoma, Tumor immune microenvironment, STAT3 signaling

### Biography

Miss. Yuxi Liu is a PhD student from School of Chinese Medicine, Hong Kong Baptist University, majoring in mechanism study of natural herbs. She received her undergraduate and master degree from China Pharmaceutical University. In the past, she had won National Graduate Scholarship, Academic Scholarship and Best Thesis Award more than once.

## Research progress on *Salvia miltiorrhiza*

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Cardiovascular, especially ischemic heart disease, remain consistently among the leading cause of death worldwide. In China, the use of Traditional Chinese Medicine (TCM) medication and principles in treating such conditions is among the most developed fields in TCM practice and research. Among the many Chinese medicines used for ischemic heart disease, the root of the *Salviae miltiorrhizae* is particularly known in China as well as other parts of Asia. To date, at least 50 components have been purified and identified from *Salviae miltiorrhizae*, which can be largely categorized into hydrophilic compounds (including various polyphenolic acids) and lipophilic compounds (mostly from the tanshinone family of diterpenes). Our study contained extract, active compounds, and the combination of active compounds from *Salviae miltiorrhizae*. Salvianolic acids, the hydrophilic extract containing salvianolic acid A (SalA), salvianolic acid B (SalB), rosmarinic acid and other phenolic acids, significantly reduced doxorubicin-induced cardiomyopathy in mice, and decreased infarct size, improved LV function in rat with acute myocardial infarction. SalA prevented endothelial dysfunction, cardiac remodeling and vascular remodeling in spontaneously hypertensive rats; attenuated aortic aneurysm formation in apolipoprotein E-deficient mice. SalB functioned as a competitive inhibitor of matrix metalloproteinase-9 (MMP-9), attenuated cardiac fibroblast migration, collagen and cytokine secretion, and further efficiently prevented cardiac remodelling. The herb pair, derived from roots of *Salviae miltiorrhizae* and *Panax notoginseng*, has been widely used for improving coronary or cerebral circulation in China. Our study evaluated the cardioprotection of combined SalB and ginsenoside Rg1 (Rg1) against myocardial ischemia/reperfusion injury. SalB-Rg1 combination was found to maintain mitochondrial membrane potential and resist apoptosis and necrosis in H9c2 cell. SalB-Rg1 combination down-regulated myocardial infarct size, maintained myocardium structure and cardiac function and improved the viability of cardiac myocytes other than cardiac fibroblasts in rats with ischemia/reperfusion injury. All of these founding elucidated the cardioprotection of the active components from *Salviae miltiorrhizae* and the underlying mechanism.

### Audience Take Away:

- Deepening the mechanism of *Salvia miltiorrhiza* on cardiovascular protection
- Elucidating the mechanism for the combined application of *Salvia miltiorrhiza* and *Panax notoginseng*

### Biography

Baohong Jiang, PhD, Professor of Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai, China. Prof. Jiang received her PhD degree in 2004 at Kansai Medical University, Japan. She engages in cardiovascular research and focuses on the areas of myocardial infarction, aortic dissection and aortic aneurysm. She and her group try to clarify pathogenesis and therapeutic target, and further screened bioactive compounds from TCM for the treatment of myocardial infarction. Prof. Jiang has published more than 70 SCI papers.

## Working with Ma through rolfing structural integration - New perspectives of manual intervention

**Hiroyoshi Tahata**

Japanese Rolfing Association, Japan

**Introduction:** To apply for the people who is a pressure sensitive of touch, Agneessens and Tahata developed the Art of Yield, which can facilitate drastic structural change. This approach is a derivation of 'yield' touch being taught in some Rolf Movement trainings. A key difference is that integral in Tahata's approach is the ongoing inclusion of the practitioner's perception, which creates the field the work occurs in. To further refinement, Tahata focused attention to positioning in-between the practitioner and the client before intervention. It was shown that when the practitioner could find a suitable position, it could facilitate the client's body to fit and spread on the massage table without touch, followed by decompression of joints and core space. This positioning might have potential to enhance responsiveness of the body.

**Methods:** The Ten Series of RSI incorporated with the Art of Yield was given to the client according to the sequence of Ida P. Rolf's protocol through gentle touch and the somatic resonance of the Hara(center of gravity) to guide us in our particular position in the room to set up for the order of intervention. In some case studies, the session was involved a conscious use of positioning by the practitioner.

**Result:** The photo data shows that suitable positioning between the practitioner and the client could facilitate postural change without touch. Rolfing incorporated with the Art of Yield and positioning facilitated drastic structural change as shown in some case studies.

**Conclusion:** Positioning of the practitioner in the session room, may underlie the basic therapeutic relationship in-between the client and the practitioner, which might convey the essence of safe, which can be applicable to any kinds of therapies and somatic practices, which is called Ma, Japanese concept about space and time. Ma might be the key factor to provide the safe environment for the client.

**Keywords:** Posture, Rolfing, Structural Integration, The Art of Yield, Ma

### Biography

Hiroyoshi Tahata has worked as a Rolfing practitioner since 1998. He joined the Rolf Institute faculty in 2009. As a Rolf Movement Instructor he brings to this work a depth of creativity and understanding that integrates the principles of structure and function through a gentle and non-invasive approach to transformation. His background in biochemistry clearly bridges the inquiry between science and art. Hiro's work is grounded through experience and enriched by a thriving practice. His unique approach called as the Art of Yield, promotes profound experience and physical geometric balance. He offers workshops on yielding and ma in Japan, which provide credits toward Rolf Movement certification and continuing credits for IASI (International Association of Structural Integration).



## Decolonizing minds attitudes and practices of health practitioners

**Mbulaheni Simon Nmutandani**

Department of Public Oral Health, University of the Witwatersrand, Johannesburg, South Africa

**C**enturies of western colonization has destroyed the trust between indigenous health practitioners, patients and the western trained health practitioners. As a result, patients abandon their medications including ARVs, and an increased number of ARV defaulters. Dual consultations present serious challenges such overdose and toxicity due to lack of communication and referral system. The presentation will focus on the cyclical processes of decolonization applied among communities, indigenous and allopathic health practitioners in management of HIV and AIDS in post-colonial Africa. Participatory action research design model was used and six processes of decolonization applied. The outcome was change of mind-set where they acknowledged that: 'neither health system is better than the other, they should complement each other' and patients do not belong to any of the two systems and should be allowed to exercise their beliefs 'and rights'.

### **Audience Take Away:**

- How indigenous and allopathic health practitioners could work together in the dual consultation society
- Model of collaboration and Decolonization of health services among previously colonized communities
- Two health systems should complement each other' and patients do not belong to any of the two systems
- Patients should be allowed to exercise their beliefs 'and rights'

### **Biography**

Prof MS Nmutandani graduated from University of the Western Cape, South Africa in 1989. He received Masters in Public Health ( MPH) at University of Venda, Masters in Medicine( MSc) and Masters in Community Dentistry ( M ChD) at University of the Witwatersrand, and PhD at University of Pretoria. He has spent more than 20 years working with indigenous health practitioners. He was presented research work to more than 100 conferences and workshops papers locally and internationally. He is currently the CEO and Head of School of Dentistry at University of the Witwatersrand, South Africa.

## The accompaniment of the native sages to the urban societies of our era. Punctual contributions for physical, energetic and mental healing

**Arturo Huerta-López**

Co- fundador en Comunidad Biocultural, A.C.

The current capitalist economic model has fostered a circle between health and disease, which derives from current food, the exploitation of people by the capitalist system of production, as well as the exploitation of wild ecosystems from which they extract natural goods, collectives available. These diseases at the planetary, ecosistemic and living species levels, including humans, have been identified by the wise natives of the world as a condition that has to be solved. For this reason, the registry of procedures and elements of healing within the ritual has been made through ethnographic techniques such as participant observation in meetings of spiritual leaders in Mexico and South America, as well as in healing ceremonies with 37 wise men of the American continent in different times. And for 14 years the mobility of these native authorities, doctors and traditional healers was also recorded, to serve the non-indigenous, mestizo and urban populations; populations with whom they share elements of healing through ancestral herbalism, corporal therapies and psychological and spiritual accompaniment during rituals. The aspects that are distinguished are based on commonality, good living and respect for nature with its biotic and abiotic components, as well as the balance and retribution to the natural ecosystems that are used, either in the productive systems themselves as are the producers of handicrafts, the agricultural communities, the fishing communities of the coast and the hunter societies. Among the elements used in ritual and healing processes are the use of plants, animals and minerals, which collectively and individually generate medicine. In this sense, the meaning of “medicine” also encompasses the invocations, petitions, thanks, the words and visions of the wise, where ceremonial songs, fasts, retreats in solitude to the mountain, dances and offerings stand out. It should be noted that, in this process of knowledge transmission, the mestizo community has been healed and has been incorporated into the healing process after years of accompaniment and learning with the native sages still present in our times.

### Audience Take Away:

- The access systems that have been carried out by the indigenous sages in urban communities, in Mexico to share medicine and wisdom regarding the health, illness, and health process in the non-indigenous entities to which they come
- Indigenous mobility
- Native medicine
- Teaching systems in traditional medicine
- With the presentation, the audience will be able to identify access routes to the ceremonies and rituals, understanding in the first instance, that it is a process of approaching health and not only a way of access to extractive and academic research
- It will help to understand each other as part of a ritual process rather than simply approaching ethnic communities as an object of study
- The audience can assimilate the holistic way in which said ethnic communities integrate health from the mental, the feeding, the ritual, the world view, the herbalism and the community
- This contribution shows a way in which ordinary people in cities or rural areas, can heal their illnesses without having to resort to the constant use of pharmaceutical drugs, also commits the patient to take responsibility for their healing and self-care
- At the ethnobiological, ethnomedical levels, the active processes of the native sages are understood and respected, encouraging them and they to apply the ritual procedures to the urban, rural or non-native population of the world, with emphasis on the youth and the childhood of the villages where ancestral knowledge has been diluted in health and disease processes
- Approach to the circumstantial investigation
- Promotion of conferences of wise and native natives in academic spheres as main speakers
- Demystification and native application of psychoactive or psychoactive plants and animal extracts

- Claiming and strengthening the language through songs of healing and healing

### **Biography**

With cultural roots nahua - xochimilca, the M. in C. Huerta-López studied the careers of Biology and Social Anthropology simultaneously, the first in the Universidad Autónoma Metropolitana - Xochimilco and the second in the Escuela Nacional de Antropología e Historia, Cuicuilco, both to the south of the Mexico City. In this context, he kept close contact with wise men and women of different ethnic groups from the north, center and south of the American continent. Member for 13 years of Centro Ceremonial Oxtoyohualco, Teotihuacán, as well as the Asociación Mexicana de Etnobiología, A.C. (AEM) since 2010, of Sociedad Latinoamericana de Etnobiología, SOLAE, AC, since 2012, as well as co-founder and Secretary General of Comunidad Biocultural, A.C., since 2014. The main contributions have been regarding the protection and dissemination of the biocultural and zoocultural heritage of the peoples with whom he has worked, examples of which are the Mazatec communities of Oaxaca, the wixarrica-huichol native populations of Nayarit and Jalisco, as well as the coastal communities of the North of Guerrero and the south of Quintana Roo. He graduated as Master of Science with a specialization in Natural Resources Management from El Colegio de la Frontera Sur, ECOSUR, from the master's program in Natural Resource Management and Rural Development.

## Posture and it's effect on muscle tension, health and well-being

**Annette Booiman**

Mensendieckmoves, Netherlands

**P**osture nonverbally communicates information about ourselves to others. However, most people are unaware of their posture and how this can affect their life. Looking at a screen is becoming more dominant in people's lifestyle. The downward looking or the head forward position may significantly contribute to neck and shoulder discomfort, headaches, and upper body stiffness. It is also associated with depressive memory bias, failure-related emotions and lower confidence. An upright posture on the other hand is associated with increased confidence, performance, self-image and less pain. Changing posture is a simple way to alter the chemistry of the body as a means of improving one's physical wellbeing. However, the influence of our posture on our physiology as it interact with our breathing amplitude or frequency, heart rate, and muscle tension is not always acknowledged. Changes in the breathing pattern due to a collapsed posture has an impact on the physiological and psychological processes of the client.

In this talk the results of our study at the State University of San Francisco about posture, health and the influence on an individual's well-being will be discussed and demonstrated by case materials of clients in a private practice. The presented examples can be brought into the everyday life of both the participants and their clients.

**Keywords:** Posture, Feedback, Mood, Pain, Muscle tension

### **Audience Take Away:**

- The audience will learn to identify harmful postures in daily activities, due to bad habits. Using simple changes in their posture, participants learn to improve their muscle tension and psychological state. The presented case helps the audience how to teach these improvements to their clients. A large advantage of these techniques is that people are able to make positive changes in their posture and lifestyle at any age. Changing a posture in more comfortable positions will help in physiological and psychological well-being. As most presented cases are shown with biofeedback recordings, pictures or visually demonstrated by the speaker, the audience can easily identify and familiarize themselves with the presented materials.

### **Biography**

For over 30 years Annette Booiman has been working as a Mensendieck-Somato Cognitive Therapist in her private clinic in the Netherlands, where she successfully combines Mensendieck and Biofeedback. Her main interest is to encourage people to participate in a healthy lifestyle by changing their posture, movement patterns and stress levels. Exercises, mirrors and biofeedback are her primary tools for helping her clients implement new habits as part of a healthier lifestyle. She has been associated with the CSR Centre as a coach since 2007. She is a teacher at a Dutch Post Graduated Education Institute, co-author of several articles and BCIA certified.

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### Biography

Dr. Charles Shang received his bachelor's degree in biology at Peking University, master's degree in biochemistry at Harvard University and doctor of medicine degree at Boston University School of Medicine. He received the Medical Acupuncture Research Foundation award for publishing the first biological model on acupuncture which has multiple independently confirmed predictions in both conventional biomedical sciences and acupuncture research. His publication on biology of acupuncture has been top-ranked by Google.

He is a former faculty member of Harvard Medical School and current faculty member at University of Texas MD Anderson Cancer Center, Baylor College of Medicine and American College of Acupuncture & Oriental Medicine. He is an invited reviewer for the New England Journal of Medicine, Annals of Internal Medicine and British Medical Journal. He is on the editorial board of Medical Acupuncture, World Journal of acupuncture-moxibustion, and on the University Cooperation Working Committee of World Federation of Acupuncture Moxibustion Societies.

## The successful integration of acupuncture research with modern sciences - From observation to prediction

### Charles Shang

University Of Texas MD Anderson Cancer Center, USA

**Background:** Acupuncture has been shown to cause long lasting systemic changes with weak, nonspecific stimulation which is most similar to the stimulation of organizers in growth control in conventional biology. Growth control is crucial in maintaining normal structure and function of various organisms and its disorder has a pivotal role in many neoplastic, degenerative and inflammatory diseases. Organizers are a small group of cells which control the growth of a larger region. It has been well established that the organizers are macroscopic singular points (points of abrupt change) of morphogen gradient and bioelectric field in embryogenesis. Consequently, organizers are sensitive to subtle perturbations such as weak mechanical and electrical stimulation which have resulted in long lasting systemic changes. In recent decades, a model of growth control system has been developed that a network of organizers in addition to humoral factors continue to exist and partially retain its function after embryogenesis and throughout adulthood. This growth control system is embedded in the structure and function of other physiological systems such as immune, nervous and circulatory systems. The organizers exist at the extreme points of surface or tissue interface curvature (such as locally most concave, convex and saddle points). They appear to coincide with the location of acupuncture points – suggesting that acupuncture points originate from organizers. There is a hierarchy of stem cells in the growth control system with the least differentiated germ cells distributed along the midline axis of the body.

**Objective:** Verify independent confirmations of the predictions and corollaries of the growth control model.

**Method:** Literature search and review of PubMed using various key words related to the predictions and corollaries of the model.

**Results:** Several predictions and corollaries of this model have been independently confirmed by multiple research groups and therefore have met the gold standard of science: 1. Many morphogens and organizers continue to exist and function after embryogenesis. 2. High density of gap junctions exists at the organizers and boundaries of body domains. 3. The effect of acupuncture is negatively correlated with age and disease chronicity. 4. Organizers have high electrical conductance. 5. Acupuncture points tend to distribute at boundaries between body domains and therefore overlap with connective tissue. 6. Singular points and separatrices exist in growth control. 7. Acupuncture has various growth control effects.

**Conclusion:** There is growing evidence that this line of research is outlining a new physiological system of growth control in biomedical sciences since the previous discovery of immune system. The existence of the growth control organizer network offers a potentially convenient, cost-effective approach to treat a variety of diseases and manipulate stem cells in which weak perturbation can cause long lasting systemic changes with low side effect profiles. We are conducting statistical analysis and imaging studies to further verify the model.



### Biography

Dr. Takashi Seki studied medicine at the Tohoku University School of Medicine, Japan and graduated as MD in 1988. He then joined the research group of Prof. Sasaki at the Tohoku University Graduate School of Medicine. He received PhD degree in 2002 at the same institution. He obtained the position of a lecturer in Department of Traditional Asian Medicine.

## Traditional dietetic treatment - From Hippocrates to China

### Takashi Seki

Tohoku University, Japan

**Objectives:** To study the difference of the effect of foods described in the complete works of Hippocrates in ancient Greek, Ayurveda in Southern Asia, science of nutrition of the traditional Chinese medicine (TCM) in East Asia and suggest the new viewpoint of the future diet study.

**Methods:** Compare the indices to evaluate the effects of foods described in the complete works of Hippocrates, Ayurveda and the TCM.

**Results:** In these three medicines, the common index to evaluate the effects of the foods is chill/warm.

**Discussion:** In traditional medicine, the chill/warm is a broad general index to express subjective feeling, presence of inflammation, mental excitement as well as increase or decrease of physical temperature.

In this study, we do not compare the effect of foods except the chill/warm.

The similarity in these three medicines is that three or four elements are used to explain diseases. Four fluids in the medicine of Hippocrates, three do as in Ayurveda and qui-blood-fluid in TCM were used as elements which describe the mechanisms of diseases.

We will compare the effects of foods except the chill/warm in the near future.

#### Audience Take Away:

- There are the similarity in the index which evaluate the effects of foods in the complete works of Hippocrates, Ayurveda and the TCM
- To compare the difference in the effects of foods described in these three medicines will provide some ideas to improve the diet therapy



### Biography

Prof. Xijun Wang, male, born in December 1961, got his pharmaceutical doctoral in Japan Hokkaido College of Pharmacy at 1998, and Chinese medicine prescription postdoctoral at 2002. Now, he is traditional Chinese medicine (TCM) professor, doctoral tutor, vice president of Heilongjiang University of Chinese Medicine, China. He mainly engaged in research on the serum pharmacology of TCM, metabolomics and chinmedomics. In early 1990s, he established the theory and method of serum pharmacology of TCM. In the 21st century, he integrated serum pharmacology of TCM with metabolomics technology, developed chinmedomics research strategy which made contributions in solving the key scientific issues on the discovery of syndrome/disease biomarkers, the effectiveness and safety of TCM. He has published more than 350 academic papers more than 220 SCI papers, such as MCP, Hepatology, Mass Spectrom Rev, and other well-known international journals, cited 10000 times, H index 55, and 30 papers selected as 'ESI global highly cited papers'. His research work has been recommended as special topics or highlights by Nature, F1000, RSC and other international academic institutions, and received that positive evaluation from international counterparts.

## Theory and application of chinmedomics

### Xi-Jun Wang

Heilongjiang University of Chinese Medicine, China

Evaluation of the efficacy of traditional Chinese medicines (TCMs) is an important prerequisite for discovering effective substances, lead compounds, and quality markers (Q markers). At present, there is an urgent need to develop a biological language that can act as a bridge for the scientific elaboration of the efficacy of TCMs, and to further highlight the significant value of TCM. Chinese medicinal formulae and syndromes are two essential parts of TCM that directly relate to its efficacy. Syndromes and formulae have been taken as the research objects of our team. We have integrated the serum pharmacology of the TCM approach with metabolomics and established an innovative chinmedomics strategy, which is able to explore syndrome biomarkers and evaluate TCM efficacy in order to discover effective substances from TCMs. Chinmedomics approach has been widely used in identifying the candidate biomarkers of a syndrome and revealing the efficacy of the related formula in order to the discovery of lead compounds and Q markers from TCMs. We have already performed a great deal of concrete work in chinmedomics to bridge the gap between Chinese and Western medicine, and to provide a powerful approach to enhance the scientific value of TCM theory and clinical practice.





### Biography

Mr. Stephan Breu studied physical therapy in Schwandorf, Bavaria / Germany and the Hogeschool van Amsterdam, Netherlands and graduated in 1999. From 1999 to 2005 he studied osteopathic medicine at the D.O.K. which is a partner college of the CEO (Collège d'Études Osteopathiques de Montréal, Canada). During his osteopathic studies he already started to get deeper into neuroscience by his teacher Philippe Druelle (Assessment and treatment of endocranial spasms). In 2005 he met Dr. med. Eckardt in Munich and later on Dr. Allan Phillips from New Zealand and this was the inescapable beginning of his journey into the functions of the brain and the neuroscience in special. He achieved his Masterlevel of NIS (Neurological Integration System) in 2008 and the Masterlevel of Neurofunctional Integration in 2017. His career of teaching Mr. Breu started in 2010 at the Neurolog Academy, Germany.

## Networks of the brain - How a functional treatment of the trigeminal nerve can help in multiple dysfunctions of the body (e.g. migraine, back pain and in connection with long term stimuli even chronic diseases of the CNS)

### Stephan Breu

Stephan Breu

Stephan Breu is going to present the research work on functional Neurology of the last fifteen years by Dr. Eckardt and him with the example of having a closer look at the cranial nerve five - the trigeminal nerve, and on its functions and connections throughout the whole central and peripheral nervous system. It will be shown how large the impact of functional disconnection of that specific cranial nerve can be on several body systems and what symptoms these dysfunctions can cause. But not only the pathological patterns will be discussed - there will be also demonstrated how fast and effective these dysfunctions can be dissolved in a matter that can be practiced by nearly every physician with a good knowledge of the functions of the brain and the rest of the nervous system. It will be shown, that it is by far one of the gentlest and most natural ways of approaching several pathologies that are most of the time accompanied by chronic pain syndromes or other severe dysfunctions of the body and the brain. Why it is shown at the example of cranial nerve five? Because it is that one of the twelve cranial nerves that shows the highest - apart from the vagus nerve - connectivity to all of the other cranial nerves and in which all functional aspects are combined: the sensitivity, the motor activity and the sensory. Another interesting aspect of cranial five is the anatomical location of its nuclei and the easy access to most of its branches and fibers, so it gives the therapist multiple ways of testing and finding solutions to several dysfunctions.

#### Audience Take Away:

- During the presentation it will be shown how to connect several dysfunctions with the functions of the cranial nerves, especially with the trigeminal nerve and some functions of the brain. The audience will be guided through most of the anatomical and neurophysiological aspects of that special approach and should be able to apply it on their patients right away. With that special practical approach to the brain functions and the whole nervous system it should also change the way we look at the neuroscience itself, because it could give us a very new connection between the theoretical knowledge and its applicability in all different kinds of therapies.



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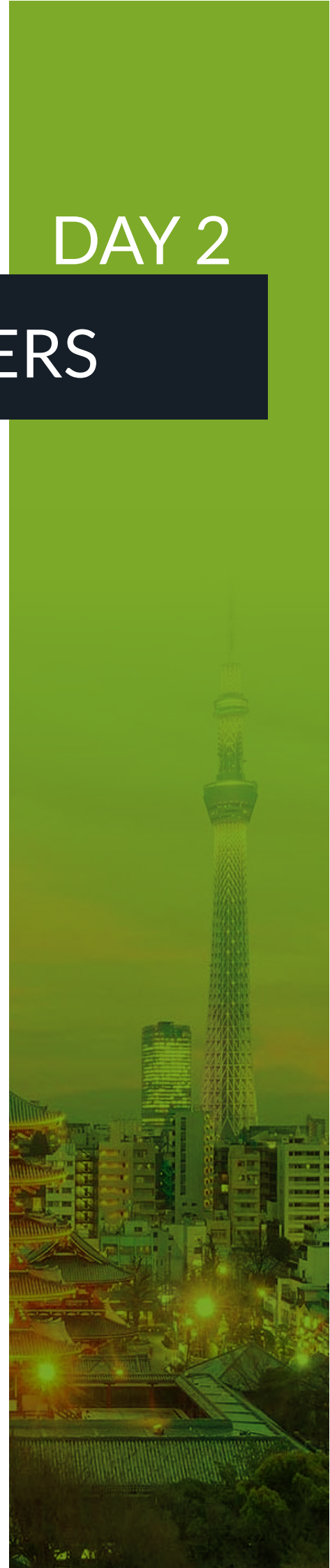
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## Remission of type 2 diabetes by diet treatment: The UK diabetes remission clinical trial (DiRECT)

**Michael Lean**

University of Glasgow, United Kingdom

**Background:** Type 2 diabetes has usually been considered a chronic progressive disorder that requires lifelong treatment. The DiRECT trial was designed assess remissions over two years using a dietary weight-management programme.

**Methods:** DiRECT is an open-label, cluster-randomised controlled trial in UK primary care practices assigned to provide either a weight management programme (intervention) or usual best-practice care (control). We recruited people aged 20–65 years, diagnosed with type 2 diabetes for up to 6 years, BMI 27–45 kg/m<sup>2</sup>, and not receiving insulin. The integrated intervention comprised Total Diet replacement (825–853 kcal/day formula diet) for 3–5 months, stepped food reintroduction (2–8 weeks), and structured support for weight loss maintenance, with 20–30 minute appointments with a trained local dietitian or nurse. All anti-diabetes drugs and antihypertensive drugs were stopped at the start, and reintroduced in necessary later. Remission of diabetes was defined as HbA<sub>1c</sub> <6.5%, <48 mmol/mol on no anti-diabetes medications. SRCTN registry, number 03267836.

**Findings:** Primary outcome data were available on all 149 participants in each group in each group from baseline to 24 months. At 12 months, with a mean weight loss of about 10kg, 46% of patients in the intervention group were in remission. Overall, 86% of participants who lost >15kg, and 73% of those who lost >10kg, no longer had diabetes. The cost of providing the intervention programme is under half the average healthcare cost of continuing to treat the diabetes conventionally. Cardiovascular risk factors and quality of life all improved. Results at 24 months, to be announced 8th March 2019, will be presented.

**Conclusion:** Type 2 diabetes is a disease of ectopic fat accumulation and not necessarily permanent. Remission of type 2 diabetes is a practical and important treatment target. A structured weight management can sustain remission to a non-diabetic state, with great personal benefits.

### Biography

Mike Lean MA, MB, BChir, MD (Cambridge), FRCP (Edinb), FRCPS (Glasgow), FRSE holds the chair of Human Nutrition, based at Glasgow Royal Infirmary, where he is also a consultant physician with NHS responsibilities for an acute medical ward and emergency receiving duties. His primary training was in Medicine, completing a Cambridge MA degree in History and Philosophy of Science. Medical undergraduate training was at St Bartholomew's Hospital, and postgraduate training mainly in Aberdeen and Cambridge. He received research training as an MRC Clinical Scientist for 4 years at the MRC and University of Cambridge Dunn Nutrition Laboratories, and on a Leverhulme Scholarship to the University of Colorado in Denver, in 2003. He has held Visiting and Adjunct Professorships at the Robert Gordon University, Aberdeen; the University of Otago, New Zealand (currently) and at University of Sydney, Australia (also currently). He has been a non-executive director of the Health Education Board of Scotland for 8 years, and chaired the Food Standards Agency Advisory Committee on Research. He was awarded the Rank Nutrition Lectureship by Diabetes UK in 2013; the Tenovus Medal in 2017 and elected a Fellow of the Royal Society of Edinburgh in 2018.

## Potassium channels: Targets for multiple therapeutic actions of herbal medicines

**Geoffrey W. Abbott**

Department of Physiology & Biophysics, University of California, Irvine, CA, USA

**T**raditional folk medicines based on herbs have been used for thousands of years and currently persist alongside modern therapeutic approaches. However, the molecular basis for many folk medicines is unknown or incompletely understood. We recently discovered that some folk anticonvulsants activate specific types of voltage-gated potassium (Kv) channels. Kv channels are important in cellular repolarization and in maintaining resting membrane potential of neurons and other cell types. Kv channels are activated by membrane depolarization and repolarize cells or prevent, for example, neuronal firing. We and others have found that Kv channels in the KCNQ gene family can also be activated by certain small molecules, including traditional herbal remedies and also modern medicines. Recently, we discovered that several folk anticonvulsants from African, Chinese and Western cultures contain small molecules that activate KCNQ channels in the brain, providing at least one molecular basis for the anticonvulsant action of these traditional medicines. In several cases, we identify the active components, and also their binding sites on the KCNQ channels. We also examine relative specificity of action within different KCNQ channel isoforms, and demonstrate how this might shape the spectrum of therapeutic effects, and side effects, of the herbal medicines. In the case of the African anticonvulsant derived from *Mallotus oppositifolius* extract, we demonstrate that two components of the extract, mallotoxin and isovaleric acid, bind together in a KCNQ channel binding site to synergistically activate neuronal KCNQ channels and ameliorate seizures. In addition, when combined with the modern anticonvulsant retigabine, mallotoxin and isovaleric acid can completely lock KCNQ channels open at all membrane potentials. The results provide the molecular basis for several widely used herbal medicines, and also uncover compounds from the medicines that can be used in subsequent medicinal chemistry optimization strategies to develop safer and more efficacious anticonvulsants. Finally, the data suggest that specific combinations of herbal medicines might be used to treat specific forms of epilepsy for which the underlying genetic basis has been identified.

### Audience Take Away:

- That specific potassium channels are targets for some herbal medicines
- The active chemical components of some herbal medicines that act on potassium channels
- The molecular mechanisms underlying activation of potassium channels by compounds within herbal medicines
- This work will educate the audience in the mechanistic basis for action of specific herbal medicines, especially those used as folk anticonvulsants and hypotensives. This may aid future drug design. The work also provides strong scientific evidence that the herbal medicines are effective

### Biography

Dr. Abbott received his Bachelor's degree with Honors in Zoology from University of Durham, UK in 1991, and a Master's with Distinction in Molecular Pathology from University of Leicester, UK in 1993. He received his Ph.D. in Biochemistry from University of London in 1997, followed by postdoctoral training at Yale University. He joined Cornell University Medical School in 2001, becoming Professor with tenure there in 2011. Dr. Abbott then moved to University of California, Irvine, where he currently holds the position of Professor with tenure and Chair of the College of Health Sciences Academic Senate. He has published >100 papers.

## Antibacterial action of Corsican honeys on nosocomial and foodborne pathogens

Vannina Lorenzi\*, Jean-Pierre Poli, Elodie Guinoiseau, Anne Luciani, Yin Yang, Marie-José Battesti, Julien Paolini, Jean Costa, Liliane Berti

CNRS UMR 6134 SPE, Université de Corse, BP 52, 20250 Corte, France

The antibacterial activity of eleven protected designation of origin (PDO) “Miel de Corse – Mele di Corsica” commercial corsican honeys was investigated. First, they were classified according to the PDO recommendation using melissopalynological analysis leading to 2 “Spring”, 3 “Chestnut grove”, 1 “Summer maquis”, 2 “Honeydew maquis” and 1 “Autumn maquis” and 2 samples classified as “generic” corsican honeys. Then, they have been tested on seven foodborne and nosocomial bacterial strains by Minimum Inhibitory Concentration (MIC90). 29 of the 77 MIC90 values determined were under 10%. *Pseudomonas aeruginosa* and *Staphylococcus aureus* seem to be the most sensitive strains especially in presence of “Honeydew maquis”, “generic” corsican honeys and 2 “Chestnut grove” honeys (MIC90 values ranging from under 5 to 9%). However, *Enterococcus faecalis* appears resistant to the action of the honey (MIC90 values systematically above 10%). Statistical analysis was used to help correlate the antibacterial action and the palynological composition of the different honeys. The samples were classified into two groups: “Autumn maquis”, “Summer maquis” and “Spring” can be considerate as globally not or only moderately active whereas “Chestnut grove”, “Honeydew maquis” and “generic” corsican honeys are biologically active. Our results demonstrate (suggest) that *Castanea sativa* pollen is responsible for the activity of corsican honeys. However, synergistic or antagonist effects between *Castanea sativa* pollen and other nectariferous or polliniferous taxa seem to be involved in the intensity of the response observed.

### Audience Take Away:

- “Chestnut grove” and “Honeydew maquis” corsican honeys are efficient against foodborne as well as nosocomial bacteria
- They can be a promising alternative in the use of conservative or antibiotics

### Biography

Dr. Lorenzi studied Analytical Chemistry at the University of Corsica (France) and graduated as MS in 2001. Then, she joined the research group of prof. Berti at the UMR-CNRS 6134 of the University of Corsica (France). She received her PhD degree in 2005 at the same institution. After one year postdoctoral fellowship supervised by Dr. Bolla at the Membrane and Therapeutic Targets Laboratory of the Aix-Marseille University (France), she obtained the position of an Associate Professor at the University of Corsica (France). She has published a dozen of research articles in SCI(E) journals.

## Molecular mechanism underlying a traditional anticonvulsant: Synergistic KCNQ2/3 potassium channel activation by dual components of *Mallotus oppositifolius* extract

Rían W Manville\* , Geoffrey W. Abbott

Bioelectricity Laboratory, Dept. of Physiology and Biophysics, School of Medicine, University of California, Irvine, CA, USA

Voltage-gated potassium channels formed by KCNQ2 and KCNQ3 generate the phosphatidylinositol 4,5-bisphosphate (PIP<sub>2</sub>)-augmented M-current, which regulates neuronal excitability. Hyperexcitability of neuronal cells is associated with numerous neurological diseases, such as benign familial neonatal seizures (BFNS) and epileptic encephalopathy, diseases linked to mutations in the genes encoding KCNQ2 and KCNQ5. In the developing world, an estimated 80% of epilepsy patients use herbal remedies for primary healthcare, such as the Ghanaian shrub *Mallotus oppositifolius*. *M. oppositifolius* extract has been previously shown to delay the onset of seizures as well as reduce their frequency and duration in mouse models of epilepsy. However, the active components and the molecular basis for these anticonvulsant properties were unclear. Using two electrode voltage-clamp electrophysiology, we screened 10 compounds previously identified from *M. oppositifolius* extract against oocytes expressing KCNQ2/3 channels. Here, we report that mallotoxin (MTX) and isovaleric acid (IVA) activate neuronal KCNQ2/3 channels, with homomeric KCNQ2 exhibiting the greatest sensitivity to both, suggesting KCNQ2 as the primary molecular target. Strikingly, dual application of MTX and IVA to KCNQ2/3 channels produced a highly effective, synergistic KCNQ2/3 activation. In mouse pentylenetetrazole (PTZ) chemoconvulsant assays, MTX halved the clonic seizure incidence whereas IVA had no effect. MTX and IVA halved tonic seizure incidence when applied in combination. Most strikingly, MTX and IVA only increased survival in the seizure assay when administered in combination, tripling survival, compared to vehicle. Thus, MTX and IVA acted synergistically to reduce seizures and seizure-related mortality in mice, mirroring the observed effects on KCNQ2/3 activation in oocytes. Finally, co-administration of MTX and IVA with the modern, synthetic anticonvulsant retigabine (a KCNQ activator that favors KCNQ3) created a further synergy that locked KCNQ2/3 open, such that its activation was voltage-independent. Thus, leveraging the heteromeric composition of KCNQ2/3 channels in order to exert optimal synergistic effects on channel opening presents a novel approach to developing safe yet effective anticonvulsants by harnessing the synergy of ancient and modern medicines.

### Audience Take Away:

- The identification of new KCNQ channel activators from ancient herbal medicines
- The exploitation of potassium channel heterogeneity offers a new approach for future drug development
- Alternative therapeutic strategies for patients

### Biography

I am currently a postdoctoral scholar in the laboratory of Geoffrey W. Abbott at University of California, Irvine. After completing my undergraduate studies in Biomedical sciences, I spent 3 years working as a hematology and transfusion scientist in the NHS, and a lead scientist in the design and implementation of Phase I and II drug trials for an international CRO. I returned to academia and received a PhD in Biophysics working on the cloning and characterization of fungal two-pore potassium (K<sub>2</sub>P) channels. My current research interests involve the regulation of KCNQ2/3 channels by endogenous neurotransmitters and ethnobotanicals, and channel-transporter interactions.

## ***Anti-Candida* activity of some essential oils from wild plants growing in Corsica island belonging to the genus *Mentha***

**Dominique de Rocca Serra**

University of Corsica. Lab. SPE UMR6134, route des sanguinaires 20000 Ajaccio

**C**andidosis is today the most important cause of fungal infections in humans, and *Candida albicans*, an opportunistic pathogen, is responsible of the majority of yeast infections, more and more frequent because of the increase of the number of immunosuppressed patients, the excessive use of antibiotics, immune-suppressor therapies. The number of antifungal agents is limited. The most commonly used antifungal for the treatment of candidoses belongs to the azoles family (fluconazole, ketoconazole and itraconazole), and polyenes (nystatin and amphotericin B). Excessive use of these drugs is one of the factors that may favor the development of resistant strains to antifungals. That resistance is becoming a serious public health problem, which justifies the search for new alternatives with antifungal potential.

Corsica, one of the largest islands of the Mediterranean, is a hotspot of plant biodiversity characterized by a high rate of plant endemism. So that more than 2000 species of plants grow wild in the Island, 132 species being endemic. Among them, there are various aromatic and medicinal plants. Essential oils are mixtures of naturally occurring substances showing various biological activities. Numerous oils have demonstrated anti-oxidative, antifungal, or anti-inflammatory effects.

Several species of *Mentha* have been studied on their chemical composition, antibacterial and antifungal properties by culture tests (inhibition, CMI), transmission and scanning electron microscopy.

The mode of action of molecules depends of their structure. For example *cis-cis-p-menthenolide* and *mintlactone*, bearing the same *p-menthanolide* framework, possess the  $\alpha$ - $\beta$  unsaturated lactone substructure. They differ only by the position of the double bond (exocyclic or intracyclic), which is probably responsible for the difference in antimicrobial activity.

### **Audience Take Away:**

- They will be able to see the major interest of some molecules and we can hypothesize on its potential use in therapy in oral candidiasis

### **Biography**

Dominique de Rocca Serra has completed his PhD at the age of 27 years from Bordeaux University (France). She was in charge of genetic citrus improvement in an agronomic research institute, then she join the university of Corsica and became research professor and works in collaboration with chemists on the antimicrobial activities of natural products.



## Dynamic treatment of autism by acupuncture with the integration of TCM and early intervention

**Linda Yang**

Director, Dr Yang TCM Health Clinic, Chatswood, NSW, Australia

**Background:** Research suggests that the prevalence of any complementary and alternative medicine (CAM) use in children with autism spectrum disorder (ASD) ranged from 28 to 95 percent. Special diets or dietary supplements were the most frequent CAM treatments. However, research on the benefits of Traditional Chinese Medicine (TCM), especially acupuncture has been much less studied.

**Aim/Purpose:** This paper explores the integration of TCM with early intervention is a better way to improve the interpretation and treatment of autism. Besides early intervention and biomedical treatment, TCM is the ideal option to address the complex and dynamic nature of autistic symptoms.

**Method:** TCM understands the cause and symptoms of autism are closely related to the interaction among viscera systems, though the diseased area of autism is located at the brain. An evidence-based literature study was conducted via medical journals online.

**Findings/Results:** Distinguished from biomedicine's reductionist approach, in which regards the deficiencies of chemical compound and the abnormalities in the brain cortex as the key factor of autism, TCM takes a holistic approach to consider the deficiency of kidney essence and the abnormalities of viscera as an integrated whole to contribute to autism.

The literature review on clinical studies in children with ASD showed that acupuncture-treated groups have a superior improvement over behavioral therapy-treated groups or herbal treatment groups, and the combined group with both acupuncture and behavioral therapy has an even greater improvement than either acupuncture or behavioral therapy alone.

**Conclusion:** TCM takes entire body systems into consideration as the interactive cause of autism and dynamic treatment in a life cycle, not just the brain and certain dietary supplement alone. One case study demonstrated the integration of acupuncture TCM dietary therapy with early intervention can assist an ASD child in restoring normal development.

### Biography

Dr. Honglin (Linda) Yang had developed a new effective way to treat autism spectrum disorder (ASD) with the combination of TCM and early childhood intervention. She successfully helped an ASD child back to normal development. Dr Yang also achieved a significant theoretical breakthrough in mental health by the integration of TCM theory and modern psychological theory. She effectively treated many patients with various mental illnesses. Dr Yang also has substantial experience in many fields such as endocrinology; miscellaneous diseases and health preservation for individual wellness.

## Traditional knowledge of ethno-medicinal plants, their ayurvedic concepts and religious believes for sustainability and healthy living in Kangra valley of Himachal Pradesh, India

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Kangra valley is located in the sub Himalayan terrain of state of Himachal Pradesh in India and considered as land of Gods. It is well known for its rich biodiversity of medicinal plants. The people of the valley have great faith in efficacy of these traditional medicinal plants. The study highlights the use of 35 traditional medicinal plants of the valley used as immune-modulators for healthy living and for curing various physical and mental diseases and disorders. These plants have been described in ancient Vedic texts and Ayurvedic literature for their effectiveness and they form an integral part of their families, culture and society since ancient time. The paper also focuses on traditional uses and utilisation of these plants in day to day life, their use for religious ceremonies, rituals, prayers in Hindu religion, their correlations for community health and their connection with celestial bodies.

### Audience Take Away:

- Understanding of parameters of health for holistic healing
- Insight knowledge of traditional way of healing by people in India
- Correlation between ethno- botanical uses, traditional plants and *Ayurvedic* aspect of their utilization
- Understand the spiritual relation of health with physical and mental health
- Relation of plants with human life in Indian culture
- To practice the use of traditional ethno-medicinal plants, herbs, leaves, flowers and seeds for curing various diseases as Ayurvedic medicines without any side effects. They can use as substitutes to or with allopathy medicines
- Selection of plant species for their propagation and genetic modification for holistic healing
- To preserve the endangered species of plants
- This research can be used by following faculty
  1. Ayurveda
  2. Ethnobotanists
  3. Forest and biodiversity conservators
  4. Herbalists
  5. Holistic healers
  6. Biosciences
  7. Pharmaceutical research
  8. Traditional Healers
  9. Astrological sciences
- It provides practical solution to many physical, mental and spiritual health related issues. Proper use and utilization will not only restore good health but will also open new grounds for using these methods for curing many ailments in whole world where these plants can be propagated
- This approach of traditional medicine and Ayurvedic research will open new area to explore reverse pharmacology. To utilize this natural asset in a proper way and authenticizes the words of our ancient saints and wise people. It will help to increase the grounds for further research and development

### **Biography**

Dr Amrita studied at Himachal Pradesh University Shimla and graduated as Bachelors of Ayurvedic medicine and surgery in 2006. She did Post graduate in Indian herbal pharmacology from Hoshiarpur University, Punjab. She has done M.B.A (Human resources) from PTU Jalandhar. She holds diplomas in *Yoga, Naturopathy, Alternative medicine* and *Diet and nutrition*. She is serving as a physician, life style counselor and yoga therapist past 10 years and presently working as a director of '*Amrita's Ayuryogavidya*' at Dharamshala dedicated for dissemination of knowledge in the field of yoga, Ayurveda and holistic health.

## Study on metallic elements important for life determined in selected TCM plant materials used in civilization diseases

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Far East Medicine, and others Traditional Chinese Medicine (TCM) has recently acquired more and more attention in Europe. Due to this, it seems adequate and reasonable to monitor the level of metallic elements in medicinal plants originating from China available in European market. Therefore the aim of the studies was to analyze quantitatively the concentration of Fe, Mn, Zn, Cu, Cd and Pb in medicinal plant materials originating from China used against civilization diseases. The studied samples were as follows: *Radix Polygoni Multiflori* (He Shou Wu), *Fructus Lycii* (Gou Qi Zi), *Fructus Crataegi* (Shan Zha), *Radix Rehmanniae* (Shu Di Huang) – Sheng and *Radix Rehmanniae Preparata*. After microwave digestion, the obtained digests were used for evaluation of metallic element contents by FAAS technique (Fe, Mn, Zn, Cu, Pb and Cd). It was found that the highest amounts of the studied elements were present in *Radix Rehmanniae*, whereas the lowest in *Fructus Lycii* and *Fructus Crataegi*. For interpretation of the results, statistical methods were applied, and cluster analysis showed that samples originating from the same botanical plant species were often found in the same cluster. Principal component analysis revealed that the contents of Fe, Pb, Cu and Cd were among the most important factors responsible for differentiation of investigated medicinal plants.

### Audience Take Away:

- The audience will learn about levels of selected metals in TCM available in EU market, and this can have practical aspect in terms of their safety
- The study involves statistical methods, such as cluster analysis (CA) and principal component analysis (PCA), which can be used to interpret the obtained results and based on metallic elements quantitative analysis results it is possible to select medicinal products rich in studied elements
- The sources of differentiation of TCM can be identified thanks to the use of PCA method

### Biography

Dr. Pawel Koniecznyński studied Pharmacy at the Medical University of Gdansk (MUG), Poland and graduated from Faculty of Pharmacy at MUG in 1992 as a master of Pharmacy. Then he started his scientific and didactic work at the Department of Analytical Chemistry of MUG. He obtained his PhD degree in 1997 at MUG and in years 1997-1999, Dr P. Koniecznyński was a fellow of EU scientific scholarship (PostDoc) at the Department of Inorganic, Metallorganic and Analytical Chemistry at the University of Padua (Italy). His research interest is focused on analysis of metallic and non-metallic elements in medicinal plants. In 2018 he obtained the position of an Associate Professor at the Medical University of Gdansk. He has published more than 50 research articles in SCI(E) journals.

## Systematic review of published data on herb induced liver injury (HILI)

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Herbal products have been widely used as a means of ethnomedicine worldwide. Recently, the potential hepatotoxicity of herbs has become a medical issue but comprehensive studies are limited. I tried to determine the clinical features of herb induced liver injury (HILI) including its constituent ratio among liver injury case cohorts that included both HILI and drug induced liver injury (DILI). A systematic review was conducted using a literature search for DILI/HILI in seven electric databases including PubMed, Cochrane and Embase. I analyzed the DILI/HILI cases and clinical characteristics in terms of herbs, conventional drugs, concomitant, or others. Thirty-one studies met the necessary criteria and included 9 prospective and 22 retrospective studies. Among total number of overall DILI/HILI cases (7,511, male 2,819, female 3,669 and unknown 1,023), 25.0% (1,874 cases) were implicated in herbs. HILI was relatively higher in females (69.8% vs. 30.2% male), compared to conventional drugs (57.3% female vs. 42.7% male,  $p < 0.01$ ), while it was prone to induce hepatocellular injury (hepatocellular 78.8%, cholestatic 8.9%, mixed type 12.3%), contrary to conventional drugs (hepatocellular 56.7% vs. cholestatic 22.1% vs. mixed 21.2%), respectively ( $p < 0.01$ ). The main herbs causing HILI included *Polygonum multiflorum*, *Psoralea corylifolia*, *Corydalis yanhusuo*, and *Rheum officinale*. My systematic review study created the comparative and comprehensive feature of hepatotoxicity by herbal products, which provides reference data for the clinical applications of herbs.

### Audience Take Away:

- Audience can learn the constituent ratio of HILI among total DILI cases
- This study can show the HILI-associated clinical feature such as susceptibility, dominant liver injury type
- This study can suggest the list of causative herbs
- This presentation will be a useful reference for clinical applications of herbs and future herbal safety research

### Biography

Dr. JungHwan Byeon earned his bachelor's degree at the age of 24 years from Daejeon University School of Korean Medicine. He is the director of Oriental Medicine in Dundeok-myeon health center. In 2019, he has published a paper as a first author in Journal of Ethnopharmacology (IF : 3.115).

## ***Oldenlandia diffusa*-derived ursolic acid had anti-tumor effects associated with mitochondrial disorder in adult T cell leukemia cells**

**Yasuhiro Yoshida**

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**W**e previously reported that extracts from Chinese medicinal herbs, *Oldenlandia diffusa* (OD) have immunomodulating activity in murine spleen cells (1). Ursolic acid (UA) is included in OD and one of the active components for anti-tumor effects; however, anti-tumor activity of UA on ATL cells is largely unknown. In this communication, the effect of UA on proliferation of ATL cell lines (MT-1, MT-2, MT-4), Jurkat cells, and ATL patient cells were studied. PBMC was prepared from healthy donor and treated with UA for 12 h and 24 h. UA (10  $\mu$ M) was not toxic for PBMC from healthy donor at 12 h. MT-4 was most sensitive to UA on inhibition of cell proliferation. To elucidate the mechanisms of UA-induced cell death, we investigated the effect of UA on apoptosis and autophagy induction on the ATL cells. Compare to control, Electron microscope demonstrated that UA treatment dramatically induced autophagosome in MT-4 cells. Additionally, mitochondrial potential was changed by UA treatment in MT-4 cells. Autophagy-related protein, mTOR was inactivated by UA treatment. Taken together, these results suggest that UA induced cell death might associate with autophagy and mitochondrial disorder.

Yoshida Y, et.al. Int J Immunopharmacol. 1997 19, 359

### **Biography**

Yasuhiro Yoshida, male, molecular immuno-biologist, graduated from department of immunology, school of medicine, Hiroshima University in 1998. He worked for University of occupational and environmental health in 1998-now. Since 2008, he became an associate professor of department of immunology and parasitology, school of medicine. From 1999 to 2002, he worked in Harvard University in USA as a research investigator with Prof. Philip Auron, who cloned IL-1B. In recent year he focused on the event of transcription factor in immunological phenomena such as cancer and allergy. Additionally, he made an effort in the anticancer drug discovery from a natural plant energetically.

## **Ayurvedic aromatherapy: The application of modern aromatherapy in ancient ayurveda**

**Naphatsorn Ditthawutthikul**

Beauty Technology Program, School of Cosmetic Science, Mae Fah Luang University, Chiang Rai, Thailand

**A**yurveda is the oldest medicine system available on earth. According to the legend, it has existed before the creation of the universe by Brahma, the lord of the creation. In Ayurveda, holistic healing is focused. There are many treatment and healing systems utilized in Ayurveda. One of interesting examples is using the aromas from natural sources. Aromas are employed by Ayurvedic practitioners as a tool for disease management since long time ago. In Ayurveda, aromas can be used by many techniques, including simple inhalation and massage therapy. There are two major purposes of using aromas in Ayurveda. Firstly, aromas are used to balance the dosha of the body, which can relieve certain diseases. Secondly, aromas are used to balance or stimulate chakra systems in order to relieve certain physical, mental and spiritual conditions. It was also described that aromas are able rebalance the three human life forces, which are prana, ojas and tejas, which subsequently create healthy and long lifespan. There are three different doshas component in our body. They are kapha, pitta and vata. These doshas are created by the assimilation of the five elements, which are ether, air, water, fire and earth. For example, kapha dosha is created from earth and water. Dosha controls both physical and mental function of our body. When there is an imbalance in dosha, the disease is usually occurred. Since aromas can rebalance dosha, so it provides disease prevention effects. In this article, the detail of utilizing aromas from essential oils will be discussed; the effects of these essential oils on dosha and chakra system also will be discussed. Formulation guideline for aromatherapy products will also given.

### **Audience Take Away:**

- Audience will learn the basic of Ayurvedic aromatherapy
- Audience will able to utilize aromatherapy for balancing dosha and chakra system
- Audience could apply this principle in their life for maintaining good physical and mental health
- If Audience is currently working as a medical practitioner or healthcare provider, this presentation could be applied as complementary or adjunctive healing system for improve the outcome of the treatment
- Given formulas for aromatherapy products may be useful for the audience in order to prepare their own products

### **Biography**

Dr. Naphatsorn Ditthawutthikul (Kumar) was studied in Program of Pharmaceutical Science, and graduated in 2007. After that, she had joined the health care products research unit at Faculty of Pharmacy, Chiang Mai University and received her Ph.D. in 2012. Currently she is a lecturer in a Beauty Technology Program, School of Cosmetic Science, Mae Fah Luang University, Chiang Rai, Thailand, since 2014. She had studied aromatherapy product development in 2007 and she began to study Ayurveda in 2016.

## A new way of drug R & D - Guided by methodology of reverse pharmacology

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**P**lant-based drug from each nationality has become a potential abundant source for international pharmaceutical market. In reverse pharmacology, traditional drug that has a history of therapeutic activity is used as a starting point for drug discovery. However, documented natural-product drugs from traditional medicine are generally the mixtures of compounds having a variety of pharmacological effects. It is extremely difficult to identify their active components and clarify their pharmacological mechanism due to the complex relationship between the pharmacological effects of traditional drug itself and that of its components.

**T**he key idea used in solving this problem is that traditional medicine-inspired approaches to drug discovery should start with the relevance between identifying the material basis for the efficacy and clarifying the pharmacological mechanism of traditional drug. So, the operational definition of the material basis for the efficacy of traditional drug was established. Searching for the material basis of the efficacy of traditional drug was converted to the detecting, expressing and analyzing of the relationship between the pharmacological effects of the component and/or combination and the traditional drug itself. Thus the research framework of the pharmacological mechanism and the material basis of traditional drug were built up.

We are engaged in the drug discovery in the traditional medicine, resources based on the drug showed indeed efficacy in the long-term clinical practice. The application of the modern science and technology in-depth study on the traditional medicine knowledge, in order to find lead compounds or pharmaceuticals, that has revealed clear structure and has become a new drug at the clinical medicine in the further.

The field is known as reverse pharmacology. The research object in the field of traditional medicine is generally a mixture of compounds. Therefore, according to the specific effect by drug, research should be confirmed at the molecular level and find the effective components or the combination of effective constituents, and also to clarify the effect mechanism. Thus, we need to establish a research framework of traditional medicine, material basis and mechanism of action as the Methodology of Reverse Pharmacology (MRP).

With the guidance of the new method, we studied the analgesic effect of Dragon's Blood from the traditional medicine, the analgesic effect of Dragon's Blood and total flavonoids was determined by several cell channels and the animal model from *Dracaena cochinchinensis* raise extract, and to explore the combination of three kinds of components were the basis. Pharmacodynamic substance from Dragon's Blood had analgesic effect. Sodium channel, capsaicin receptor and the wide-dynamic range neuron in dorsal horn were the effect targets.

We will use a combination of three components as the lead compound, developing to a new analgesic drug with high efficiency and non-addictive from Dragon's Blood. This study will be divided into two stages to implement. First, we will develop the total flavonoids of effective parts containing three components, then we will transform a combination of three active monomer compounds development into modern pharmaceutical dosage form.

Dragon's Blood is a name of Dai Drug and is effective in the clinical treatment for relieving pain. We have systematically studied its analgesic mechanism and found that its modulations on tetrodotoxin-resistant (TTX-R) sodium channel and acid-sensing ion channel (ASIC) may be its analgesic mechanism. Further research shows that its modulations on the above channels are caused by the synergistic actions of its three flavonoids. The three flavonoids are loureirin B, cochinchinenin A and cochinchinenin B. Interestingly, we have found that the mode of action of cochinchinenin A on TTX-R sodium channel complied with occupancy theory while that of cochinchinenin B complied with rate theory. The different modes of action on TTX-R sodium channel, different rate constants of combination and different rate constants of dissociation directly induce the antagonistic interaction between cochinchinenin A and B. However, neither occupancy theory nor rate theory could well describe the time dependent inhibitory effect of loureirin B on TTX-R sodium currents, which suggested that a second messenger-mediated signaling pathway may be involved in the modulation mechanism. Loureirin B can modulate the TTX-R sodium channel in DRG neurons via the AC/cAMP/PKA pathway involving the activation of AC and PKA, which can explain the synergistic effect on the TTX-R sodium channels of the three flavonoids. In addition, we also found that the combination of the three flavonoids could decrease half of the peak amplitude and the sustained portion of ASIC currents. The combination of the three flavonoids was fully efficacious on CFA-induced inflammatory thermal hyperalgesia. And the combination rescued thermal hyperalgesia through down-regulation of ASIC3 expression in CFA-induced inflammation.



**Audience Take Away:**

- Loureirin B, cochinchinemin A and cochinchinemin B have the potential to develop new analgesics from Dragon's Blood
- Although drugs that interact with the receptor with an action mode consistent with the rate theory are rare, it seems that the compounds can be found from traditional Chinese medicine
- Loureirin B can modulate the TTX-R sodium channel in DRG neurons via the AC/cAMP/PKA pathway involving the activation of AC and PKA
- In order to develop out the new pharmaceutical, the relationship between the pathway of pharmacological effects with various ingredients (here is three compounds) need to be clarified by the mathematics model and the gene chip technology
- A multiple components was the pharmacodynamic substance that have been obtained from the raw materials, how should the pharmacodynamic material combination achieve stable and efficient Drug Delivery System (DDS) which can produce clear pharmacological effects in vivo

**Biography**

Dr Jun Li, College of Pharmacy, South-central University for Nationalities, Wuhan, P. R. China. He received his PhD (pharmacy) in 2007 from department of pharmacy, Kumamoto University, Japan. From 2007 to 2009, he has served as assistant research fellow in the School of Pharmacy, Sun Yat-sen University and focused on the direction of natural products chemistry. Then he joined South-Central University for Nationalities and became a teacher. Now he is the vice dean of College of Pharmacy.

## Antimicrobial activity of medicinal plants from Burkina Faso

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**Background:** In developing countries, integration of traditional medicine into national health care system has renewed interest. Cost, accessibility, emergence of antimicrobial resistance, side effects and so forth are multiple reasons. Therefore, scientific validation of traditional pharmacopoeia is critically needed. In this work, antimicrobial activity of nine medicinal plants was carried out on five bacterial and two fungal strains involved in dermatoses.

**Aim:** To investigate antimicrobial activity of medicinal plants used in the traditional treatment of dermatoses.

**Materials and Methods:** Plant materials were constituted of leaves, stems and root barks. They were macerated in organic solvents and water. Organic supernatants were dried by evaporation using a rotavapor and aqueous extracts were freeze-dried. Tested microorganisms were constituted of five bacteria whose three Gram positive and two Gram negative, and two fungi. Antimicrobial activity screening was carried out by disc diffusion method. Microdilution method was used to determine minimal inhibitory concentration (MIC) and minimal bactericidal concentration (MBC) of active extracts.

**Results:** Twenty-eight extracts from eight plants have shown inhibitory activity on tested strains. Among investigated plants, seven have shown good antibacterial activity on tested cocci. Leaf ethanolic extract of *Lawsonia inermis* and hydro alcoholic extract of root barks of *Opilia celtidifolia* were the most actives with MIC of 0.063 and 0,030 mg/mL on *S. pyogenes* and *S. aureus* respectively. The leaf extracts of *Lannea acida* and *Lawsonia inermis* were active on *Candida tropicalis* with 7.81 and 2.34 mg/mL as MIC, respectively. Gram negative bacteria were less susceptible.

**Conclusion:** Results allow to justify traditional use of these plants in the treatment of skin infection. Other biological activities like anti-inflammatory and antioxidant activities will be performed, and extracts with best activities will be used for skin ointment formulation.

**Key words:** Antimicrobial activity, MIC, MBC, Skin diseases, Medicinal plants

### Biography

I started my professional career as biomedical technologist and worked in hospital laboratory in different fields like Microbiology, Hematology, Blood transfusion, Parasitology, Biochemistry Immunology from 2007 to 2014. After completed my Master in Microbiology in 2014, I joined "Institut de Recherche en Sciences de la Santé" (Burkina Faso) as research engineer. There, my works focused on antimicrobials from natural product especially medicinal plants and metals. After receiving a Ph.D. scholarship in 2018, I joined International Ph.D. Program in Biomedical Engineering in the research group of Prof. Tsung-Rong Kuo at Taipei Medical University. So, I am on my thesis focused on antimicrobial metal plasmonic nanomaterials.

## The extracts from wild bitter gourd fruit reduced the expression of inflammatory cytokines in TNF- $\alpha$ -treated pulmonary epithelial cells via the PI3K/AKT/NF- $\kappa$ B pathway

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**W**ild bitter gourds (WBG, *Momordica charantia* L.) is eaten as a vegetable and used as a traditional herb in Asia. The significant pharmacological properties of WBG fruit extract (WBGE) are anti-diabetic, anti-inflammatory, anti-tumor and anti-oxidant actions. However, the anti-inflammatory effects of WBGE on human lung epithelial cells and their underlying mechanisms require further investigation. To analyze the effect of WBGE and charantin on ICAM-1 and IL-6 expression under inflammation, pre-incubated A549 cells with WBGE for 24 h, 10, 30, 50, or 80  $\mu$ g/mL or charantin, 0.5, 1, 3, 5  $\mu$ g/mL followed by 3 ng/mL TNF- $\alpha$  was stimulated for 4 h. TNF- $\alpha$  treatment significantly increased the expression of ICAM-1 and IL-6 in A549 cells. Pretreatment with WBGE or charantin or aspirin (positive control) inhibited this effect. WBGE significantly reduced the expression of inflammatory cytokines in a concentration-dependent manner. Consistently, fluorescence microscopy images showed that ICAM-1 and IL-6 were strongly present in the cytosol of TNF $\alpha$ -treated A549 cells. In contrast, ICAM-1 expression was weaker in TNF- $\alpha$ -stimulated A549 cells pretreated with WBGE or charantin. Inhibition of PI3K / AKT phosphorylation mediates the reduction of ICAM-1 and IL-6 expression by WBGE in TNF- $\alpha$ -treated A549 cells. Inhibition of NF- $\kappa$ B p65 activation and translocation mediates the expression of ICAM-1 and IL-6 in WBGE-reduced TNF- $\alpha$ -treated A549 cells. WBGE reduced ICAM-1 and IL-6 expression in lung tissue of TNF- $\alpha$  treated WT mice. These results indicate that WBGE reduces the expression of inflammatory cytokines in both *in vitro* and *in vivo* conditions. The protective part is mediated through the PI3K / AKT / NF- $\kappa$ B pathway.

### Audience Take Away:

- The extracts from wild bitter gourd fruit reduced the expression of inflammatory cytokines
- The extracts from wild bitter gourd fruit can be used as the herbal medicine on the prevention of inflammation
- The audience learn from our presentation that we provide experimental data by *in vitro* and *in vivo* conditions

### Biography

Dr. Yuh-Lien Chen studied Anatomy and Cell Biology at the College of Medicine, National Taiwan University and graduated as PhD in 1990. The major field of her study was to investigate the pathogenesis of cardiovascular diseases and inflammation and their related mechanisms. She obtained the position of a Professor in 2004. She has published more than 100 research articles in SCI journals.

## Simple novel symmetric acupuncture therapy with 7 press needles is effective for muscle pain

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**Background:** Acupuncture treatment seems difficult to perform, because there are so many invisible acupoints. In addition, treatments depend on a patient's condition, so there are so many variables. This situation presents difficulty for acupuncture.

The author proposes a novel simple technique. It uses only 7 press needles.

**Objective:** This study was undertaken in order to confirm the effectivity of the simple novel symmetric acupuncture therapy for muscle disturbances.

**Method:** Press needles are used as the acupuncture needle. 39 patients were treated by this treatment. They were 12 men and 27 women. Acupoints are selected in symmetrical positions. Treatment steps for correlating acupoints are as follows.

Step 1: foot : Koukan(LR 2) : R&L(2points),

Step 2: arm : Kyokuchi(LI 11) : R&L(2points),

Step 3: knee : Kekkai(SP10) : R&L(2points),

Step 4: sacral : Youyu (GV2) : Center(1point),

Total: 7 points

The patient's pain was evaluated via NRS and reduction % of pain.

**Result:** Patients had several muscle problems such as muscle pain, muscle stiffness and joint movable range limitations. This therapy has made their problems better.

39 patients were treated.

32 patients saw immediate positive results and a reduction of pain.

But the treatment had no reported effect for 7 patients.

Patients with pain levels of 56%(n=22) had pain decreased more than 2 degrees(NRS).

Patients with pain levels of 79%(n=31) had pain reductions by over 30%.

Furthermore, patients with pain levels of 62%(n=24) had pain reductions by over 50%.

Patients with pain levels of 26%(n=10) had pain reductions by over 90%.

The symptoms got better soon after treatment. Patients reported their pain was reduced almost immediately; under 1 minute. In most cases, the symptoms had already changed when the 7th press needle attached the acupoint.

**Discussion:** This therapy has several positive effects. Especially for muscle pain and joint movable range limitations, they clearly and quickly improved. This novel therapy needs a very short time to take effect. It takes only 1-2 minutes. It is simple and effective. Several acupoints (LI11, SP10) are located on tendon areas. This fact seems to be the cause of the effectiveness of muscle pain and stiffness.

**Conclusion:** The author proposed a novel acupuncture method. It is simple symmetrical acupuncture with 7 press needles. This method was effective for various muscle disorders. This, this method is beneficial for use in first aid or pain therapy.

### Audience Take Away:

- This is a simple procedure with skills that can be mastered very quickly
- Cost effective. This treatment only requires several press needles

- This treatment can be used to introduce technicians and patients to acupuncture
- The procedure is fast, only 1-2 minutes and has been shown to reduce pain immediately

### **Biography**

Dr. Ryota Fujiwara studied medicine at Shiga University of Medical Science in Japan where he studied for 6 years. He then began working as a gastroenterology specialist for over 20 years. In 2017 he opened his own general internal medicine clinic in Osaka, Japan. He has begun studying and researching nutrition for anti-ageing and pain relief. He has given presentations all over the world, including recently a presentation for the European Congress for Integrative Medicine in 2014, 2016, 2018 and 2019.

## Benefits of combination therapy of *Lagerstroemia speciosa* and *Cinnamomum burmannii* and the effect of *Glycine soja* on Insulin resistance, HOMA-IR and antioxidant activity (Experience in animals and new DM-T2 patients)

Tjokorda Gde Dalem Pemayun

Dr. Kariadi General Hospital, Semarang, Indonesia

**D**iabetes mellitus type 2 (DM-T2) is a metabolic disease characterized by impaired carbohydrate, fat and protein metabolism. If the condition of this metabolic disorder is not controlled, there will be cardiovascular disease, chronic kidney failure, diabetic retinopathy and stroke. One effort to control hyperglycemia is to use drugs obtained from plants. The mechanism of action of these drugs through the mechanism of inhibition of the enzyme  $\alpha$ -glucosidase,  $\alpha$ -amylase, the effect of glucose transporters, the mechanism of peroxisome proliferator-activated receptors (PPAR), inhibition of the activity of tyrosine phosphatase 1B protein. Other mechanisms such as glucose homeostasis activity: adiponectin, resistin, incretin, and anti-oxidants. Daily food is thought to control hyperglycemia, among others: aloe vera leaves, bananas, bitter melon, cinnamon, cocoa, coffee, garlic, guava, soy, green tea and black tea, turmeric, and walnuts.

DLBS-3233 is a combination of *Lagerstroemia speciosa* and *Cinnamomum burmannii* herbs that can improve insulin resistance, through mechanisms: 1) Increases phosphorylation of insulin receptors, resulting in decreased insulin resistance; 2) Increase translocation and synthesis of GLUT-4 from the cytoplasm to the cell membrane; 3) Increase PPAR- $\gamma$  and PPAR- $\delta$ , increase synthesis, number and translocation of new GLUT-4, 4) Reduce TNF- $\alpha$  levels, occur decreased free fatty acids, decreased PKC- $\epsilon$  and PKC-transl translocations, decreased serine phosphorylation, so insulin resistance decreased. DLBS-3233 is referred to as adiponectin stimulant, GLUT-4 stimulant, lipoprotein modulator, PPAR-mod modulator, phosphatidylinositol-3 kinase- $\alpha$  modulator, proto oncogene protein c-active modulator.

In rat experiments, administering DLBS-3233 dose of 9 mg / kg BW for 2 weeks showed a significant reduction in 29.6% of blood sugar at a time, 30.6% of prandial blood sugar and 31.4% of fasting blood sugar. Giving DLBS-3233 a dose of 100 mg orally once a day for 12 weeks, in patients with new DM-T2, can significantly increase SOD activity compared with placebo.

Black soybeans are foods that contain antioxidant anthocyanins and isoflavones. An animal experiment, using a variety of doses of black soybean (*Glycine soja*) to determine its effect on blood glucose levels, insulin levels and HOMA-IR in obese Sprague Dawley rats. The randomized controlled pre-post-test design study in male primary rats consisted of 24 samples divided into 4 groups: control (K), dose 500 (P1), 750 (P2), and 1000 mg / kgBB (P3). Obese mice with high fat sucrose diet (HFSD) for 4 weeks were then given black soybean extract for 2 weeks. The results showed no difference in blood glucose levels before and after treatment ( $p > 0.05$ ). However, there were differences in insulin levels of 500 doses ( $p = 0.012$ ) and 750 mg / kg body weight ( $p = 0.020$ ) and there were differences in 500 HOMA-IR doses ( $p = 0.043$ ) and 750 mg / kg body weight ( $p = 0.028$ ). This study concluded that there were differences in insulin and HOMA-IR levels at doses of 500 and 750 mg / kgBB and the greatest decrease in blood glucose, insulin levels, and HOMA-IR at 750mg / kgBB doses.

### Biography

Tjokorda Gde Dalem Pemayun, MD, PhD, studied Internist-Endocrinologist at the Diponegoro University, Central Java Province, Semarang, Indonesia and graduated as Internist in 1998. He has been working at Dr Kariadi General Hospital, and Medical Faculty of Diponegoro University, Semarang. He received his PhD degree in 2012 at the same institution. He has published more in field of endocrinology and nutrition. Primary interest in the fields of thyroid disease and diabetes mellitus, including the use of herbal therapies. The title of his research is analysis of SNP A49G CTLA-4 gene in Graves' disease during thiamazole therapy with immunologic and clinical improvement.

## **Ethnopharmacology and ethnocosmetic in Terra Cha (Galicia) Spanish northwest region**

**Josefina Anllo Naveiras**

Universidad de Santiago de Compostela, Spain

**T**ierra Cha is a flat, virtually hill-locked farming area of the northwest Iberian Peninsula with dense systems, lakes and wetlands that forms part of a UNESCO biosphere reserve and is included as a site of Community importance in the Natura 2000 network (SIC Parga-Ladra-Tamoga; ES1120003). Its rich tradition of folk medicine is currently the subject of PhD research by one of us (JAN), who has recorded 231 different medicinal uses of 136 plant species belonging to 52 families. Among the species employed, several are poisonous, as usual folk medicine.

**Items:** Ethnobotany, Diversity, Genetic resources, Medicine

### **Biography**

Josefina Anllo Naveiras graduated in Pharmacy at the University of Santiago de Compostela. The roots of their ancestors to medicine and their origins that are linked to Areas of Biological Interest led her to be interested in the sustainable development and conservation of the Natural Environment. Her visits to the Spa of Curia (Portugal) and to (the Museum of Natural History and that of Geography and History of) London during childhood, developed in her great interest in the different cultures and her passion for botany. She has worked for 20 years in pharmacy, while doing her doctoral thesis "Ethnobotanical Study of the Region of Terra Cha". During this period she developed the section "El rincón verde" in the magazine of the Faraceutics College in which she disclosed the medicinal properties of the plants. She has been a spokesman for various television programs of the Spanish Institute for phytotherapy research. She collaborates periodically, in the preparation of the National Inventory of Traditional Customs, related to Biodiversity, financed by the Ministry for the Ecological Transition. Currently, she studies Molecular and Genetic Biology at the University of A Coruña and investigates the parallelism between the use of "Hortocosmética" (cosmetics made with fresh produce from the garden) and Shinrn-yoku. While testing the effectiveness of this treatment added to the Japanese kovidó massage to antiageing facial.

## **Traditional Medicine in healthcare: The concerns of safety, efficacy and regulation in Kenya**

**Festus M. Tolo**

Natural Products Research and Drug Development Programme, Kenya Medical Research Institute, Nairobi, Kenya

Traditional Medicine (TM) has been used in virtually all cultures as a source of health care. The use incorporating medicinal plants in most developing countries as a normative basis for maintenance of good health has been widely observed and still provides the mainstay of health care as recognized by the WHO, approximating that 80% of the population of Africa use TM. As a consequence, the safety and efficacy of TM, as well as quality control, have become important concerns for both health authorities and the public. As the practices have developed in different cultures in different regions, parallel development of international standards and appropriate methods for evaluating traditional medicine scientifically has lagged behind. Much as it is understood that TM is an ancient medical practice that provided health care to the public prior to the development and application of modern medicine, this long use may not necessarily justify its safety and efficacy. In the Republic of Kenya, a national policy on laws and regulations on TM are being developed. Presently, herbal medicines are sold without much restriction. They are not properly regulated and neither a national pharmacopoeia nor national monographs exists. Lack of this regulatory mechanism has led to quacks in the practice exposing innocent persons to fake TM and exploitation. In order to streamline this, the Kenyan government established a national research centre that conducts research on TM at the Kenya Medical Research Institute (KEMRI). The centre has documented scientific evidence on medicinal plants outlining their safety and efficacy. Through the Pharmacy and Poisons Board of Kenya, the center has been able to register some of the products that are now being developed for use. One such product is “Zedupex”, a herbal preparation for management of human herpes. It is now a requirement in Kenya that TM meets certain basic standards to qualify for listing as a health product. This includes evidence of standardized preparation, toxicity profile, biological efficacy and shelf life. With this information, the integration of TM in the main stream health care system is envisaged.

### **Audience Take Away:**

- The presentation will highlight the need for safety and efficacy evaluations of traditional Medicines
- The presentation will provide the basic requirements needed for the registration or listing of Traditional Medicine products
- The presentation will provide examples of some of the herbal products that has been research and are under development at KEMRI

### **Biography**

Dr. Tolo is a Medicinal Phytobiologist holding a PhD in Medicinal Phytochemistry, a fellow at the African Scientific Institute and an awardee of the “The Nelon Gold Award (NGA)” of the Kenya Medical Research Institute (KEMRI). He also holds the Inter-Academy Medical Panel “Distinguished Scientist Award” of the Chinese Medical Sciences (CACMS) and Chinese Academy of Engineering (CAE) in Natural Products Research. Tolo is a Chief Research Officer and the Head of the Natural Products Research and Drug Development Programme (NAPREDA) at KEMRI. His engagements in natural products research spans over two decades and has played a key role in the “Plant Drug Research Group for Antiviral Agents” leading to the innovation of an anti-herpes herbal product, Zedupex and as lead scientist in the National Council for Science Technology and Innovation (NACOSTI) funded project on the “Natural Products Innovation System: Establishing a National Nutraceuticals and Phytomedicines Development Pipeline”. He has published widely and besides being a part time lecturer in Medical Microbiology, he is an appointed peer reviewer of Quality Standards for University Education in Kenya.





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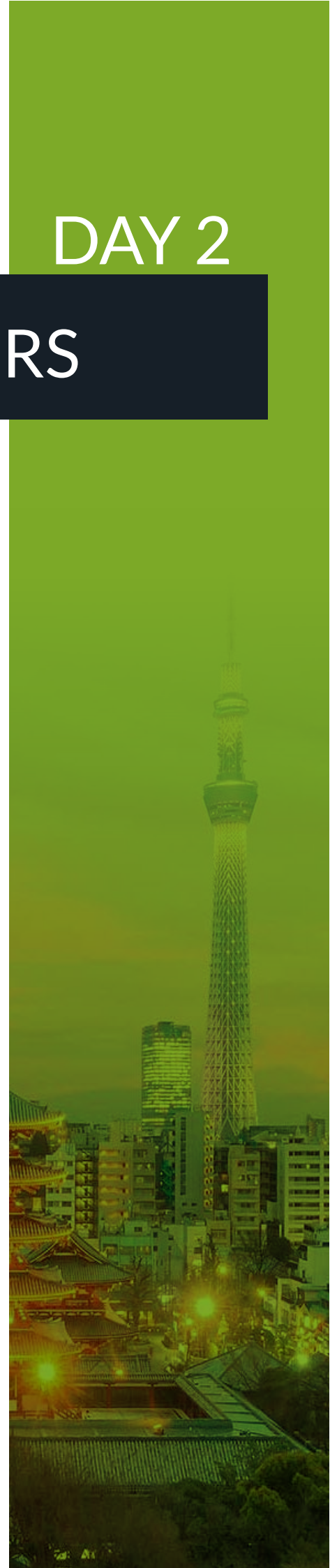
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## The tongue features associated with chronic kidney disease (stage3-5)

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**Background:** Tongue diagnosis plays an important role in clinical prognosis and treatment of chronic kidney disease (CKD) in the traditional Chinese medicine (TCM). By observing tongue features, TCM practitioners can probe qi-blood, yin-yang disorders which are important in treatment selection and prognosis. This study investigated discriminating tongue features to distinguish the relationship between patients with CKD stage 3-5 through non-invasive TCM tongue diagnosis.

**Method:** We conducted a cross-sectional study of 577 patients with CKD (stage3=383, stage4=93, stage5=23, dialysis=78) and compared demography, laboratory and tongue manifestation data. There are 9 primary features for TCM clinical tongue diagnosis including tongue shape (small, moderate and fat), tongue color (slightly white, slightly red, red, dark red, dark purple), fur color (white, yellow, dye), fur thickness (none, thin, thick), saliva (none, little, normal, excessive), tongue fissure, red dot, ecchymosis, tooth marks, and engorged sublingual collateral vessels.

**Results:** Patients with CKD stage 5 possessed significantly fat tongue shape (P<.001), slightly white color (P<.001), ecchymosis (P= 0.002), tooth marks (P=0.004), engorged sublingual collateral vessels (P<.001). The proportion of engorged sublingual collateral vessels in dialysis patients was lower than CKD stage 5 patients (95.7% vs 10.3%).

		CKD stage								Total (n=577)	P-value*	P-value*	
		3 (n=383)		4 (n=93)		5 (before dialysis)(n=23)		5 (after dialysis)(n=78)					
		N	%	N	%	N	%	N	%				
Sex	Female	205	53.5	51	54.8	15	65.2	48	61.5	319	55.3	0.451	0.130
	Male	178	46.5	42	45.2	8	34.8	30	38.5	258	44.7		
Tongue shape	Fat	11	2.9	6	6.5	23	100.0	12	15.4	52	9.0	<0.001	<0.001
	Medium	348	90.9	83	89.2	0	0.0	62	79.5	493	85.4		
	Thin	24	6.3	4	4.3	0	0.0	4	5.1	32	5.5		
Tongue color	Slightlywhite	30	7.8	8	8.6	23	100.0	9	10.3	70	12.1	<0.001	<0.001
	Slightlyred	210	54.8	66	71.0	0	0.0	55	70.5	331	57.4		
	Red	125	32.6	16	17.2	0	0.0	15	16.7	154	26.7		
	Dark red	12	3.1	3	3.2	0	0.0	1	1.3	16	2.8		
	Dark purple	6	1.6	0	0.0	0	0.0	0	0.0	6	1.0		
Ecchymosis	No	331	86.4	66	71.0	23	100.0	54	69.2	474	82.1	<0.001	0.002
	Yes	52	13.6	27	29.0	0	0.0	24	30.8	103	17.9		
Tooth marks	No	178	46.5	33	35.5	0	0.0	32	41.0	243	42.1	<0.001	0.004
	Yes	205	53.5	60	64.5	23	100.0	46	59.0	334	57.9		
Engorged sublingual collateral vessels	No	373	97.4	91	97.8	1	4.3	70	89.7	535	92.7	<0.001	<0.001
	Yes	10	2.6	2	2.2	22	95.7	8	10.3	42	7.3		



Table 1: The tongue features with CKD stage 3-5

figure 1: The tongue with CKD 5

**Conclusion:** The high prevalence of fat tongue shape, slightly white color, ecchymosis, tooth marks and engorged sublingual collateral vessels in patient with CKD stage 5. TCM tongue diagnosis can serve as a preliminary screening procedure in the detection of the severity level of kidney disease in light of its simple and non-invasive nature, followed by other more accurate testing process.

### Audience Take Away:

- To realize the relationship between Tongue diagnosis and TCM
- To apply TCM tongue diagnosis to analyse the tongue features with CKD
- TCM tongue diagnosis can serve as a preliminary screening procedure in the detection of the severity level of kidney disease in light of its simple and non-invasive nature

### Biography

Dr. Jia-Ming Chen is a PhD student from school of Chinese Medicine, China Medical University, Taiwan. He graduated from School of Post-Baccalaureate Chinese Medicine, China Medical University, Taiwan in 2010 and received his master's degree graduated in 2015. He has worked at department of Chinese Medicine, Changhua Christian Hospital since 2010. He is a member of Formosan Association of Clinical Diagnosis in traditional Chinese medicine.

## Combination of *Scutellaria baicalensis* and metformin ameliorates diet-induced metabolic dysregulation in mice via the gut-liver-brain axis

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**Background and Purpose:** In conventional medicine, metformin (MF) is considered as the first-line drug for the treatment of type 2 diabetes (T2D). In traditional Oriental medicine, *Scutellaria baicalensis* (SB) is also commonly used to treat metabolic diseases. This study was conducted to investigate the effects of co-treatment with SB and MF, which may produce a potential beneficial effect on high-fat and high-fructose diet-induced metabolic dysregulation.

**Experimental Methods:** In order to achieve greater therapeutic response of SB and MF combination, first we optimized the dose of SB using four different doses (100, 200, 400 and 800 mg/kg) with a fixed dose of MF (200 mg/kg) in high-fat and high-fructose diet (HFFD)-induced C57BL/6J mice. Next, the optimized dose of SB (400 mg/kg) was co-administered with various doses of MF (50, 100 and 200 mg/kg) to the same animal model to find the effective combinations of SB and MF. To explore the possible molecular mechanisms underlying the beneficial impact of these combinations and their association with gut microbial population, metabolic markers were determined in serum and tissues using different assays, histology, and gene expression, and gut microbial population were analyzed in week-12 stool samples using T-RFLP.

**Results:** The SB and MF co-treatment for 12-weeks significantly decreased the body, liver, and VAT weights. The outcome of OGTT was improved, and the fasting insulin, HbA1c, TG, TC, LDL-c, AST, and ALT were decreased, while HDL-c was significantly increased. Histological analyses revealed maintained the integrity of liver, adipose tissue, and intestine prevented lipid accumulation in the liver and intestine and combated neuronal damage in the brain. Importantly, controlled the expression of PPAR $\gamma$ , and IL-6 genes in the liver, and expression of BDNF, Glut1, Glut3, and Glut4 genes in the brain. Treatment-specific gut microbial segregation was observed in the PCA chart, and the Bacteroidetes/Firmicutes ratio was significantly increased in response to SB and MF co-treatment.

**Conclusion:** Taken together, the results of this study indicate that SB and MF co-treatment is an effective therapeutic approach for high-fat and high-carbohydrate diet-induced metabolic dysregulation which is operated through the gut-liver-brain axis.

### Audience Take Away:

- Traditional and Western medicine have their plus and minus therapeutic properties. Through this presentation, the audience will learn more about the combination therapy for the better therapeutic approach using traditional and western medicine
- Different traditional medicine combination gives different outcome, it will help to the researcher for the advancement and development of new combination therapy for specific medical disease treatment
- Combination therapy has a good approach to the solution of the problem and improve the efficacy of disease treatment, and will provide new information to assist to design for a specific disease problem

### Biography

Dr. Ansari completed Masters in Science in Zoology from Allahabad University (India) in 2015, and in 2010 completed his Master in Philosophy in Zoology from Aligarh Muslim University (India). Then he worked as a senior researcher at the Department of Neurosurgery, All India Institute of Medical Sciences (New Delhi, India) for 4 years. After receiving a Ph.D. scholarship in 2014 he joined the research group of Prof. Hojun Kim at Dongguk University International Hospital, Republic of Korea, and received the Ph.D. degree in 2018 in Korean Medicine. Currently, Dr. Ansari working as a Post-Doctoral Researcher with the research group of Prof. Young Ju Kim at the Department of Obstetrics and Gynaecology, Ewha Women University Medical Center. Dr. Ansari is a growing researcher and published 14 research articles in National and International renowned journals.

## The effects of Brazilian propolis and contained flavonoids on platelet aggregation and blood coagulation system

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Propolis has been used worldwide as a dietary supplement for the purpose of health promotion. Recently, some studies have shown that a diet in fruit and vegetables containing flavonoid reduced the risk of thrombosis and cardiovascular disease. We hypothesized Brazilian propolis (AF-08) contained some flavonoids has antithrombotic action. We determined the effects of AF-08 and three flavonoids (apigenin, kaempferol and chrysin) contained in AF-08 against blood coagulation system and platelet aggregation. Plasma from healthy volunteers (The study protocol was approved by our institutional ethics committees.) were incubated with serial-diluted AF-08, apigenin, kaempferol, or chrysin for 10 minutes. The effects of AF-08, apigenin, kaempferol and chrysin on blood coagulation system and platelet function were evaluated by prothrombin time (PT), activated partial thromboplastin time (APTT) and platelet aggregation, respectively. Consequently, AF-08, apigenin, and chrysin significantly inhibited collagen-induced platelet aggregation in human plasma. However, they did not affect PT and APTT. Kaempferol did not affect in all measured parameters. These results suggest that AF-08, apigenin, and chrysin inhibit platelet aggregation without affecting blood coagulation system. Therefore, AF-08, apigenin, and chrysin might have potential to suppress platelet-based arterial thrombosis.

### Audience Take Away:

- AF-08, apigenin, and chrysin but not kaempferol inhibit platelet aggregation without affecting blood coagulation system
- Intake of AF-08, apigenin, and/or chrysin might be beneficial to the prevention of platelet-based arterial thrombosis
- Intake of AF-08, apigenin, and/or chrysin is important to maintain quality of life
- This is research that other faculty could use to expand their research or teaching

### Biography

Dr. Sugita graduated Faculty of Pharmacy, Kyushu University of Health and Welfare in 2007. She then joined the researches of thrombus at Department of Pathology, Faculty of Medicine, University of Miyazaki. She received her PhD degree in 2013 at the same institution. From the same year, she is working as a Research Associate in the Department of Biochemistry, Kyushu University of Health and Welfare.

## Anti-HIV-1 protease activity of the crude extracts and isolated compounds from *Auricularia polytricha*

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<sup>4</sup>Immunomodulation of Natural Products Research Group, Chulalongkorn University, 10330 Bangkok, Thailand

Acquired immunodeficiency syndrome (AIDS) is caused by the Human immunodeficiency virus type-1 (HIV-1). HIV-1 protease (PR) is an essential enzyme for the HIV replication. *Auricularia polytricha* (AP) is an edible mushroom that has several important therapeutic properties. The sequential hexane (APH), ethanol (APE) and water (APW) extracts from AP were screened for inhibitory activity against HIV-1 PR. APH exhibited significant inhibition on HIV-1 PR activity. Phytochemical constituents of APH were purified by chromatography and structurally elucidated by 1D and 2D NMR, HRMS, FTIR, and GC/MS techniques. The isolated compounds were identified to be two triacylglycerols, linoleic acid and ergosterol. All isolated compounds showed significant inhibition of HIV-1 PR activity. The findings from this study suggest that AP is a good source of fatty esters, fatty acids and ergosterol which exhibit anti-HIV-1 properties by blocking HIV-1 PR. These important biological results warrant further development of AP as an alternative antiretroviral drug.

### Audience Take Away:

- The hexane extract of *Auricularia polytricha* exhibited anti- HIV-1 Protease activity
- Triacylglycerols, fatty acids and ergosterol were found in *Auricularia polytricha*
- Isolated compounds from *Auricularia polytricha* inhibited HIV-1 Protease activity

### Biography

Mr. Chanin Sillapachaiyaporn studied Medical Technology in Faculty of Allied Health Sciences, Chulalongkorn University, Thailand in 2015. Then he graduated master's degree in Program of Clinical Biochemistry and Molecular Medicine from Faculty of Allied Health Sciences, Chulalongkorn University, Thailand in 2019. Now, he is studying PhD program at the same institution. He has studied on biological activity of natural products such as anti-HIV-1, immunomodulatory and neuroprotective activities.

## Effectiveness of a chitosan-curcumin mixture in treatment of acetic acid-induced chronic gastric ulcer in rats

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<sup>3</sup>Department of Pharmaceutical Technology, Faculty of Pharmaceutical Sciences, Prince of Songkla University, Songkhla, Thailand

<sup>4</sup>Department of Pharmacognocny and Pharmaceutical Botany, Faculty of Pharmaceutical Sciences, Prince of Songkla University, Songkhla, Thailand

Curcumin has been claimed to exert a potent antiulcer, however, its limitations for further clinical use include its low solubility, low bioavailability, large oral daily dosing and frequent drug administration. Chitosan is a well-known polysaccharide biopolymer with bioadhesive and drug penetration enhancing properties that could be beneficial in enhancing the substantivity in the gastric mucosa and the bioavailability through the gastric mucosa of curcumin. In addition, its ulcer-healing property could also enhance the antiulcer efficacy of curcumin. Accordingly, a chitosan-curcumin mixture was developed and evaluated for its efficacy in treatment of acetic acid-induced chronic gastric ulcer (GU) in rats in which pathological aspects and healing process highly resembles to human chronic GU. Its antioxidant efficacy in scavenging nitrite radical, its anti-inflammatory efficacy against the production of NO from iNOS in activated macrophage RAW 264.7 cell line including its efficacy in enhancing epithelial cell migration in AGS human gastric epithelial cell line using scratch wound healing assay were also evaluated. An oral mixture with a combination of chitosan (150 mg) and curcumin (20 mg) using 0.1 M acetic acid as a solvent was a uniform yellow-color mixture with pH in an optimal gastric pH range. The obtained results showed that an oral chitosan-curcumin mixture given only once-daily administration for 10 consecutive days exerted a comparable ulcer healing efficacy to a twice-daily administration of curcumin (20 mg/kg), chitosan (150 mg/kg) or lansoprazole (a standard antiulcer agent). The ulcer curative potency of a chitosan-curcumin mixture reached almost the maximum at the once-daily dosing frequency as the curative potency of a mixture tended to decrease at a twice-daily dosing. The scratch wound healing assay demonstrated that a chitosan-curcumin mixture, curcumin and chitosan had comparable efficacy in stimulating AGS human gastric epithelial cell proliferation and migration. It was noted that the gastric epithelial cell migration decreased at a higher dose of curcumin, chitosan and a chitosan-curcumin mixture. On the contrary, a chitosan-curcumin mixture exerted a high antioxidant activity against nitrite radicals and a high anti-inflammatory activity in inhibiting NO production in RAW 246.7 cell with a less antioxidant and anti-inflammatory potency than that of curcumin but a higher potency than that of chitosan. This suggested that chitosan can maintain the curcumin concentration in the gastric cavity through its bioadhesive property and enhancing an optimal curcumin bioavailability through its drug penetration enhancing property. It was also indicated that the beneficial antiulcer of an oral chitosan-curcumin mixture may be accounted from the potent antioxidant and anti-inflammatory efficacies of curcumin and from the ulcer healing efficacy of both curcumin and chitosan. The finding indicated the benefit of a chitosan-curcumin mixture with a low daily dosing and low dosing frequency of curcumin as a potential alternative in management of chronic gastric ulcer.

### Audience Take Away:

- The addition of chitosan could be beneficial in enhancing the substantivity in the gastric mucosa, including the bioavailability through the gastric mucosa of insoluble and low bioavailability of natural antiulcer agents like curcumin, leading to an increase of patient compliance or medication adherence and a decrease of adverse drug reaction due to their lower oral daily dosing and dosing frequency
- The findings will be useful for further experimental study of a chitosan-curcumin mixture on the treatment of NSAIDs-induced GU or chemotherapy-induced gastrointestinal mucositis as the pathogenesis and the ulcer healing process of which resemble acetic acid induced chronic GU
- It is important to recognize that a formulation containing active ingredient with a potent iNOS inhibitory activity can exert the opposing effects of ulcer healing and exacerbation of ulcer or ulcer relapse depending on the dose-effect relationship

### Biography

Miss Sineenat Kuadkaew graduated Bachelor degree of Science (General Sciences), and Master degree of Science (Pharmacology), from Prince of Songkla University, Thailand in 2007 and 2010, respectively. She is a lecturer at Department of Thai Traditional Medicine, Faculty of Sciences and Technology, Rajamagala University of Technology Srivijaya, She is now studying PhD degree of Pharmaceutical Sciences at the Faculty of Pharmaceutical Sciences, Prince of Songhla University, Thailand and has published her study on oral ulcer healing and anti-candida efficacy of an alcohol-free chitosan-curcumin mouthwash in *European Review for Medical and Pharmacological Sciences*. 2018: 22:7020-7023.

## Effects of an aqueous *Morinda citrifolia* fruit extract on indomethacin-induced gastric ulcer in rats

Sonsawan Kongpuckdee<sup>1\*</sup>, Sirima Mahattanadol<sup>1</sup>, Suwipa Ungphaiboon<sup>2</sup>, Pimpimon Tansakul<sup>3</sup>

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**N**on-steroidal anti-inflammatory drugs (NSAIDs) have been accepted as a major cause of GU (80% of the cases) that results in impaired quality of life, work loss, and high-cost medical care. The tissue inflammatory response seems to be related to an excess release of a number of inflammatory mediators especially inflammatory prostaglandins (PGs) derived from cyclooxygenase-2 (COX-2) and nitric oxide (NO) derived from inducible nitric oxide synthase (iNOS). Nowadays, the use of herbal or traditional medicines is becoming popular in GU due to the potent antioxidant and anti-inflammatory activities of their biologically active compounds. The mature unripe fruit of *Morinda citrifolia* (Linn.) or noni (Rubiaceae), is one of a tropical medicinal plant that has been used in Thai folk medicine as a reliever of heartburn or stomachache. Previous studies *in vitro* and *in vivo* systems had shown that an aqueous *M. citrifolia* fruit extract (AMFE) possessed potent anti-inflammatory property in suppressing iNOS and COX-2 activities including antiulcer property against ethanol-, serotonin- and acetic acid-induced gastric ulcer (GU) in rats. Therefore, the efficacy of AMFE in treatment of GU induced by an oral administration of indomethacin (NSAID) (30 mg/kg) for 5 h schedule in rats was further evaluated. The sum of the area (mm<sup>2</sup>) of all haemorrhagic ulcerations for each stomach was used as ulcer index. The expression of COX-1, COX-2 and iNOS expression in the gastric ulcerated tissue was also evaluated using quantitative real-time polymerase chain reaction (qRT-PCR) analysis. The obtained results showed that an oral administration of AMFE at the dose of 1.25 g/kg [equivalent to 0.806 mg of scopoletin (a biomarker)] for 3 days significantly decreased ulcer index with a comparable ulcer healing efficacy to that of lansoprazole (a standard antiulcer agent). The qRT-PCR results also showed that AMFE exerted a comparable potency to lansoprazole in down-regulation of iNOS and COX-2 gene expression and in up-regulation of COX-1 gene expression. The finding indicated that AMFE may be beneficial as a potential therapeutic agent for NSAIDs-induced GU mainly through its anti-inflammatory and gastroprotective activities.

### Audience Take Away:

- The potential pharmacological results on NSAIDs-induced GU obtained from the animal study will be useful for further clinical study on the management of GU induced by non-steroidal inflammatory drugs
- Scopoletin might be one of biomarker constituents for quality assessment of AMFE products used for treatment of NSAIDs-induced GU
- The findings will be useful for further experimental study of AMFE on other drugs-induced GU especially chemotherapy-induced gastrointestinal mucositis as the pathogenesis and the ulcer healing process of which resemble NSAIDs-induced GU

### Biography

Miss Sonsawan Kongpuckdee graduated Bachelor of Thai Traditional Medicine and Master of Pharmaceutical Sciences from Prince of Songkla University, Thailand in 2012 and 2017, respectively. Now, she is studying PhD degree of Pharmaceutical Sciences at the Faculty of Pharmaceutical science, Prince of Songkla University, Thailand, She has received one Thailand Petty Patent (14974) of topical bioadhesive gel formulation containing phyto-some complex of AMFE.



## Inhibition of intestinal bacterial $\beta$ -Glucuronidase by Silymarin to alleviate Irinotecan-induced diarrhea and myelotoxicity and to improve anti-cancer therapeutic efficacy

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Irinotecan (CPT-11), a chemotherapeutic agent for colon cancer, commonly induces adverse effects, such as diarrhea and myelotoxicity. After the non-toxic metabolite (SN-38-glucuronide) of irinotecan was excreted to intestine, bacterial  $\beta$ -glucuronidase ( $\beta$ G) converts it into the toxic aglycone (SN-38), causing severe Intestinal damage. Here, we discovered that silymarin, an extract of the milk thistle (*Silybum marianum*), is species-specific inhibitor blocking bacterial  $\beta$ G for alleviating the adverse effects of irinotecan. Silymarin showed specific inhibitory activity against *E. coli*, but not human,  $\beta$ G (purified enzyme and living cells) in an *in vitro* colorimetric assay. After the mice were orally gavaged with silymarin for 4 days, the enzyme activity of intestinal bacterial  $\beta$ G was reduced in a dose-dependent manner revealed by the *in vivo* optical imaging of a fluorescent  $\beta$ G probe (FDGlcU). Mice administered with silymarin prior to irinotecan showed less severe irinotecan-induced diarrhea, weight loss, histological intestinal lesions, anemia and leukopenia. Moreover, the co-treatment of silymarin and irinotecan significantly inhibited the tumor growth of human colorectal adenocarcinoma in mice when compared to either agent alone. Our data showed that silymarin alleviated irinotecan-induced adverse effects and enhanced the anti-cancer efficacy, indicating a prophylactic potential of silymarin for irinotecan-treated cancer patients.

### Audience Take Away:

- New application of silymarin, a well-known hepatic protection drug, as an adjuvant for irinotecan-based chemotherapy
- Protection of patients from serious side effect by only inhibit  $\beta$ G would not cause other side effects which was caused by inhibition of human  $\beta$ G
- Silymarin is a widely-used drug for hepatic failure, and was used for decades. The success of this strategy will speed up its used in clinical

### Biography

Jack, Che-Yi, studied Pharmacy in Taipei Medical University (TMU), Taiwan and graduated as BS and got pharmacist license in 2016. He joined the research group of Prof, Kuo-Hsiang Chuang at the Institute of Pharmacognosy, TMU since 2013. He received his MS degree in 2018 at the same institution. He is currently studying in the second year of PhD Program in Clinical Drug Development of Herbal Medicine. He is also a co-founder of Pharmixperience, a platform for pharmacy. His research interests included antibody drug discovery, autoimmune disease, and traditional Chinese medicine.

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