บริษัท ศูนย์ห้องปฏิบัติการและการวิจัยทางการแพทย์และการเกษตรแห่งเอเชีย จำกัด
ASIA Medical and Agricultural Laboratory and Research Center

สมาคมผู้ตรวจรับรองและวิเคราะห์คุณภาพ
Verification and Laboratory Analysis Association

INTERNATIONAL CONFERENCE

ON

วิทยาศาสตร์เพื่อการพัฒนาคุณภาพ ของผลิตภัณฑ์เสริมอาหารจากสมุนไพรเพื่อความยั่งยืน

"The Harness of Sciences behind the Herbal Dietary Supplement for Sustainable Development"

Organized by

AMARC, VLA and
SELAMAT (Global Food Safety Network)

VENUE

Main Convention, 3rd Floor, the Emerald Hotel,
Ratchadapisek, Huaykwang, Bangkok, THAILAND

DATE

Friday 9 November 2018

SELAMAT COORDINATOR'S TEAM

Dr. Hans Marvin Coordinator of Global SELAMAT
RIKILT Wageningen University and Research
RIKILT Institute of Food Safety, Wageningen, The Netherlands

Associate Prof. Dr. Virat Vongsaengnak: SELAMAT Local organizer
President: AMARC Co., Ltd., THAILAND

Dr. Vinai Pitiyont: SELAMAT Local Coordinator
President: Verification and Laboratory Analysis Association (VLA), THAILAND

Dr. Piet Stouten: Global SELAMAT Coordinator/Secretary
RIKILT Wageningen UR
The Institute of Food Safety, Wageningen, the Netherlands

SELAMAT 2018

Conference Committee

▶ Assoc. Prof. Dr. Virat Vongsaengnak,	Coordinator Chair, Thailand
▶ Dr. Vinai Pitiyont,	SELAMAT SN Thailand
▶ Dr. Hans Marvin	SELAMAT SN, the Netherlands
▶ Mr. Piet Stouten	SELAMAT SN, the Netherlands
▶ Dr. Teresa Crespo	IBET, Portugal
▶ Prof. Dr. Xingang Liu	IPP-CAAS, China
▶ Dr. Siri Ekmanaraj	Thailand
▶ Assist. Prof. Dr. Chaniphan Butryee	Thailand
▶ Ms Arrom Saengwanitch	Thailand
▶ Ms. Suwanna Charunutch	Thailand
▶ Dr. Chindanai Chaiyong	Thailand
▶ Assoc. Prof. Dr. Bongkotrat Pitiyont	Thailand

http://www.amarc.co.th/index.php/en/

ABOUT SELAMAT

SELAMAT Global Food Safety Network is an international consortium that brings together stakeholders dealing with food safety from all over the world to share methodology, expertise, knowledge and policy developments related to food production with emphasis on food safety, food quality and related issues (www.selamat.net).

The **SELAMAT** network, which was established in 2004, transcends food safety authorities, ministries, universities, research institutions, industries and consumers and enables them to work together to optimize resources, integrate programs and improve food safety and food quality. In addition to food safety and quality, participating organizations also focus on other related issues such as food security, climate change, herbs and spices issues and new technology developments.

The partners of this network are **RIKILT**, Institute of Food Safety, The Netherlands; Instituto de Biologia Experimental e Technológica (**IBET**), Portugal ; Institute of Plant Protection, Chinese Academy of Agriculture Science(**IPP-CAAS**), China; Institute for Agri-food Standards and Testing Technology (ASTT), China; Shanghai Academy of Agricultural Sciences (**SAAS**), China; Plant protection research institute Guangdong academy of agricultural sciences (**PPRI-GDAAS**), China; Rural Development Administration (**RDA**), South Korea; **LANAGRO** - Laboratório Nacional Agropecuário, Brazil; The A.N. Bakh Institute of Biochemistry (**RAS**), Russia; Faculty of Agriculture, University of Mauritius (**UoM**), Mauritius; Food and Drugs Authority (**FDA**), Ghana; Durban University of Technology (**DUT**), South Africa; Federal University of Agriculture (FUNAAB), Nigeria and **AMARC** Thailand.

The overall coordinator of the **SELAMAT** consortium is Dr. H.J.P. Marvin from RIKILT, The Netherlands. To celebrate the 14th year of **SELAMAT** anniversary in **2018**, AMARC (Asia Medical and Agricultural Laboratory and Research Center) has applied to be a SELAMAT's member and plan to organize one International Conference on **Herbal Dietary Supplement: Authenticity, Quality, Safety and Regulation. This conference aims to update the green revolution produced with Science based on the use and benefit of natural products for mankind.**

ABOUT the AMARC

AMARC or **ASIA MEDICAL AND AGRICULTURAL LABORATORY AND RESEARCH CENTER COMPANY LIMITED** was established in February 19, 2008 by group of laboratory experts from medical science, technicians and scientists which aims to be an Asia leading Laboratory Center as one stop services for analysis and research of agriculture, medical products, foods, feeds, herbs, cosmetics, CB&IB, relevant training and calibration services.

The objective of the establishment of **AMARC** is to enhance and support the **Thai product**'s quality to be standardized quality and safety from up-stream, middle-stream and down-stream till to the consumers, based on scientific traceability, inspection and certification that is compliance with the global quality systems.

AMARC realizes the essential parts of testing, calibration, diagnostics, inspection and certification of agricultural products should be based on quality and safety with **"fitness to the purposes"** for the local use through exportation. All relevant analytical parameters are applied with newly methods, sophisticated and state-of-the-art techniques and equipment to deliver the reports with precision and short turnaround time based on quality system and clients request.

On 2018, AMARC is ready to be one stop services, starting from testing, calibration, inspection and certification systems in GAP and Organic farms based on **National and International Standards** in all relevant commodities such as fresh, finished products from fishery and plant farms for local uses and export. **AMARC** is a part of the **National Heath Certification Systems** and also play more important roles as the consumer protection for the safety and quality of consumer goods.

To celebrate the **Tenth Year Anniversary** of the ongoing business in this year 2018, **AMARC** applied to be a member of **SELAMAT Network** and plan to organize one **international conference** on Thai Herb's issues in November 9, 2018.

This is due to **the establishment of Master Plan on Thai Herbal Development 2017-2021. Under the plan, AMARC is one of the Central Laboratory who develop and support MSTQ of Thai herbs with testing facilities for their AQSR. Thai Herbal Dietary Supplements** are now popular among Thai people as traditional products as foods or drugs on both for local and global business.

Biomarkers of such individual and combination of herbal products are very important part to distinguish their authenticity, quality and safety. **We do wish that from this conference Thai herbs would play more important role to develop our Thai society with the strong harness of Science behind**.

About the VLA

VLA or **Verification and Laboratory Analysis Association**, was found in 1982 by the virtue of the corporate of the companies that work together in the field of **Testing, Inspection and Certification** (**TIC**) in Thailand. The aim of the **Thai VLA** is to assist, uplift and harmonize all the relevant activities under the **TIC** based on the international **MSTQ** (**Metrology, Standards, Testing** and **Quality**) and deliver all the relevant reports with "**fit for the purpose**" for clients under the international quality systems.

The Association will also support the government activities based on **TIC/MSTQ** in balancing the national and international development of standards and practices to be accepted worldwide. Up to now, VLA has 56 members across the countries. This joined conference will actually encourage VLA's members to learn more and strengthen about **Thai Herbal Dietary Supplement** growing in Thailand with the Science harness based and **also celebrate 26th year anniversary of the founding.**

Office: No. 100, 18 floor, J Press Building, Nang Linchi Rd, Chong non-tree, Yannawa, Bangkok 10120, **Tel:** 02 683 0541

PROGRAMME

MORNING SESSION

International conference on

"Herbal Dietary Supplement (HDS), Authenticity, Quality, Safety & Regulation 2018"

Theme: "The Harness of Sciences behind the Herbal Dietary Supplement for Sustainable Development"

Date: 9th November 2018
Venue: the Panorama 1, 14th floor, Emerald Hotel, Bangkok, Thailand.
Time:

08:00 – 09:00 Registration
09:00 – 09:15 Welcome Address by representative of AMARC/VLA
09:15 – 09:25 Welcome Address by representative of the Royal Dutch Embassy (to be confirmed)
09:25 – 09:40 Welcome Address by **Dr Hans Marvin**, Wageningen University and Research and Coordinator of SELAMAT-SN

Pleanary Lecture;

09:40 – 10:20 The Codex standards and related issues on **HDS** by **Dr. Masami Takeuchi**, Ph.D., Food Safety Officer, Food and Agriculture Organization of the United Nations (FAO), FAO Regional Office Asia and the Pacific, Thailand.

10:20 – 11:15 Coffee Break and Photo Session; official opening of the Vendor Exhibition

Morning SESSION: Authenticity, Quality, Safety & Regulation

Chairs: Prof. Dr. Daya Goburdhun (Mauritius) and Dr. Nilson (LANAGRO, Brazil))

Time

11-15 – 11:45 General requirement and trends for quality control of Chinese traditional medicine and Herbal Dietary Supplement, **Prof. Dr. Shen JI**, (Shanghai Institute for Food and Drug Control (SIFDC)), CHINA

11:45 – 12:15 How to identify the authenticity of herbs and spices, by **Dr Yannick Weesepoel**, (RIKILT Wageningen University & Research, RIKILT Institute of Food Safety, the Netherlands)

12:15 – 13:30 Lunch break and sponsors demonstration (on HFS analytical techniques, by relevant Stakeholders)

- **Agilent Technologies** "*The world's premier measurement company*." By Agilent Technologies (Thailand) Co., Ltd
- **Waters Corporation** *"The Science of what's possible"* by Sittiporn Associates Co., Ltd
- **Shimadzu** technologies *"Society and Innovation"* by Bara Scientific Co., Ltd
- **ScieX** technologies *"Answers for Science. Knowledge for Life"* by Phoenix Scientific Co., Ltd
- Others

PROGRAMME
AFTERNOON SESSION

Afternoon Session I: Issues related to herbs quality and biomarkers

Chair: Dr. Hans Marvin, and Assist. Prof. Dr. Chaniphun Butryee

13:30 – 14:00 AQS of HFS in Thailand, by Mr. **Somnuek Suchaitanavanit**, **Director**, Herbs and Thai Traditional Medicines Development Division, Dept. of Thai Traditional and Alternative Medicines, MoPH.

14:00 – 14:30 Microbiology Safety of Herbs and Spices, by **Dr Frédéric Gaspar** Instituto de Biologia Experimental e Tecnológia, Portugal

14:30 – 15:00 "Pesticide Registration and Safe use of seasoning vegetables, herbs and spices in South-Korea ", by **Dr Su-Myeong Hong** (Rural Development Administration (Rural Development Administration, South Korea)

15:00 – 15:30 Afternoon refreshments

Afternoon SESSION II: Scientific models applied, Regulation and case study about HDS

Chairs: Assoc. Prof. Dr Virat Vongsaengnak and Dr. Piet Stouten

15:30 – 16:00 The use of Predictive models, like BN for the quality, safety and authenticity of herbs and spices, by **Dr Hans Marvin** (RIKILT Wageningen University & Research, RIKILT Institute of Food Safety, the Netherlands)

16:00 – 16:30 Regulation of Herbal Dietary Supplements in Thailand, by **Secretary General** of **Thai FDA**

16:30 – 17:00 Herbs as dietary supplements and medicinal plants-case study of Mauritius by **Prof Dr. Daya Goburdhun** (University of Mauritius, Mauritius)

17:00 – 17:20 Wrap up, discussion, conclusion and Certification, by Dr. Hans Marvin and a representative of AMARC

17:20 **End of program**

18:15 – 21:15 Welcome dinner for invited guests, speakers and SELAMAT members

BIOGRAPHY OF SPEAKERS

1. DR. MASAMI TAKEUCHI

Dr. Masami TAKEUCHI currently serves as the Food Safety Officer in the **Food Safety and Codex,** Unit of the Food and Agriculture Organization of the United Nations (FAO). She obtained her PhD in Food Science and Human Nutrition from Washington State University (USA).

After extensive food safety and behavioral science researches conducted in the USA, Japan and Thailand, she joined FAO in 2006, where she is primarily involved in the provision of scientific advice on risk assessment of food safety issues related to new technologies, such as biotechnology, nanotechnology, omics and other crosscutting issues. She is the manager of the **FAO GM Foods Platform (http://fao.org/gm-platform)**.

From 2006 to 2009, she conducted various capacity development activities in South-East Asia and Eastern Africa regions. From 2008 to 2011, she co-led FAO's initiative to develop the Emergency Prevention System for Food Safety (EMPRES Food Safety) to deal with prevention of food safety emergencies. She has also represented FAO in the joint FAO/WHO International Food Safety Authorities Network (INFOSAN)'s management body. She is the author of a number of peer reviewed articles and policy documents on food safety at FAO.

According to the **FAO Diversification Booklet No. 17** on Health and wealth from medicinal aromatic plants, spices and herbs are more in global trades. In recent years **fresh herbs** have become popular and are perceived to be of higher quality. Spice and herb derived essential oils and oleoresins are sold in large and growing markets. The main quality problems are arisen which include:

- **Quality/Efficacy indication**?
- Contamination with pesticides and illegal heavy metals,
- Infestation by pests, alive or parts,
- Contamination by foreign matter – stones, hair, etc,
- Microbiological safety and quality,
- Mechanical damage to the product – splits, bruising,
- Rots and moldy product
- Compaction caused by overfilling/over-stacking of containers.

By these issues, FAO takes more action to elaborate more knowledge on the use of HS based on safety of the products.

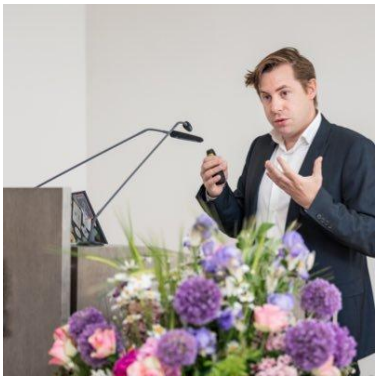
2. Prof. Dr. Shen JI

Shen Ji, Ph.D., Chief scientist, the director of Traditional Chinese Medicine department in Shanghai Institute for Food and Drug Control, has over 30 years' experiences in the research areas of **quality control for traditional Chinese medicines from 1988 to date.** Dr. Shen Ji served as the **committee of Chinese Pharmacopoeia Commission, the vice-chairman of Professional Committee of physical and chemical analysis & Professional Committee of Chinese patent medicine**, the expert of National new drug evaluation, the expert of Healthcare Food and drug Appraisal Commission in State Food and Drug Administration, and also a **member of USP Expert Committees and Advisory Panels, China**.

Dr. Shen Ji engaged in the research of the quality standards for traditional Chinese medicines including the crude drugs, extracts, and preparations. She pays more attention to the security methods for the detection of pesticides, mycotoxins, heavy metals and harmful elements in food, traditional Chinese medicines and other natural products, and the research works also involved in the isolation and identification of the active components in the natural products. More than 200 technical and review articles had been published.

In this conference, Dr. Shen Ji will present about General requirement and trends for quality control of Chinese traditional medicine and Herbal Dietary Supplement.

3. Dr. Yanick Weesepoel



Dr Yannick Weesepoel obtained his PhD degree at the chair of Food Chemistry of Wageningen University and Research in 2014. He continued his career by working for one of the research institutes of Wageningen Research: RIKILT. Mostly occupying himself with **food authenticity problems** and fast diagnostics, he is working on multiple solutions for fast on-site analytics for food control authorities, industry and consumers. This includes multiple commodities and food classes.

The biomarkers are part of the difficulty of herbs and spices used in the products**,** dr.ir. YJA (Yannick) Weesepoel is one of the leading Scientists who studied the biomarker of the natural products in The RIKILT, Wageningen University, and the Netherland.

Dr. Weesepoel joined many EU projects, particular authenticity of the natural products this is done in the RIKILT who carrying out research on various portable instruments that can measure the composition of products within seconds – even through the packaging. These small instruments need only a few seconds to **measure the composition of products and provide information** about, for example, their freshness or contamination.

The principle used by these scanners is well-known and dates from the nineteen-fifties. Many of us associate infrared with TV remote controls and supermarket scanners. In fact, measuring the composition with infrared is comparable to scanning the shopping. In both cases, a scanner shines infrared light on the product and receives the infrared light reflected by the product. A barcode scanner uses this reflected light to identify the barcode, whilst the analytical scanner collects the infrared spectrum that constitutes the product's unique fingerprint.

The product's infrared spectrum is processed by complicated algorithms programmed in the scanner's software. The scanner uses algorithms of the same type as those used by Google. Although these computation algorithms and software impose a very heavy burden on the computer hardware, following the latest technological developments the software can now run on a tablet or even a mobile. This makes the use of these scanners – even in the field – very simple.

In this conference, Dr. Yannick will present on how to identify the authenticity of herbs and spices.

4. **Mr. Somnuek Suchaitanavanit**,
Director,

Mr. **Somnuek Suchaitanavanit** graduated from Pharmacology Faculty and now, he is the Director of **Herbs and Thai Traditional Medicines Development Division**, **Department of Thai Traditional and Alternative Medicines, Ministry of Public Health**, THAILAND. As an officers, he has created the motto of "**Thai Herbal development, Our Passion**", and put many efforts to assist the herbal produced entrepreneurs to meet the Thai standards and also global acceptation. As a pharmacologist, he published many papers involve with Thai herbs and the implication.

Dr. Frederic Gaspar

Frédéric Gaspar, 3rd degree connection, 3rd Researcher at iBET - Instituto de Biologia Experimental e Tecnológica, he works on Food Safety and Microbiology Lab focused in the identification and characterization of genetic elements, microorganisms, and microbial populations (bacteria, fungi, and viruses) involved in food & water safety, quality, and authenticity. He publishes many publication such as Development and validation of a multi-locus DNA metabarcoding method to identify endangered species in complex samples; Incongruence between the cps type 2 genotype and host- related phenotypes of an Enterococcus faecalis food isolate; Proposal for a reliable enterococcal cytolysin production assay avoiding apparent incongruence between phenotype and genotype; Virulence of Enterococcus faecalis dairy strains in an insect model: the role of fsrB and gelE; Enterococcus hirae causing wound infections in a hospital; Enterococcus faecalis V583 LuxS/AI-2 system is devoid of role in intra-species quorum-sensing but contributes to virulence in a Drosophila host model.

In this conference he will present about Microbiology Safety of Herbs and Spices using different the current advance techniques where he now working in his institute.

Dr Su-Myeong Hong

Rural Development Administration

(Rural Development Administration (Rural Development Administration, South Korea)

Dr. Su Myeong Hong is an outstanding in agrochemical study focused to the techniques of pesticide residues analysis and related issues. Under the RDA, there is an Institute of Horticulture and Herbal Science (NIHHS). This institute is the main institute to study of Herb Science in Korea, the scopes are:

- Develop new varieties and breeding technologies
- Develop technologies for production of **functional nutritious vegetables** and food safety cultivation system
- Research on increasing **productivity and quality of horticultural and herbal crops**, and reducing production cost
- Research on the improvement of fertilization system, insect pest and disease control, and virus diagnosis **using environment friendly horticultural practices**
- Develop new technologies for protected cultivation, environment, and **postharvest quality of horticultural and herbal crops**
- Increase breeding efficiency and develop applicable bio-technologies
- Conduct activities related to technology promotion, application and dissemination of novel horticultural technologies

One of the interested work in this institute is the full study of Jinseng in this institute and then later transferred to the private sector.

In this conference, **Dr. Su Myeong Hong** will talk on “Pesticide Registration and Safe use of seasoning vegetables, herbs and spices in South-Korea. Now RDA and KFDA are joined mission to final evaluate and review for the import tolerance of the pesticide MRLs.

Assoc. Prof. Dr. Maya Goburdhun

Assoc. Prof. Dr. Daya Goburdhun has been lecturing in the area of food science and technology for over 25 years. Her research interests are in food safety, postharvest technology, food composition and nutrition. Many of her projects have dealt with assessment of hygiene prevailing in educational institutions, food safety education and consumer behavior in food safety. She has co-authored several publications on the food control system in Mauritius. She is very keen to disseminate knowledge through organization of several short courses for the food community. She has also mounted workshops on topics such as food dehydration and risk analysis for food safety. She is the Chairperson of the Food and Agricultural Standards Committee of the Mauritius Standards Bureau, which oversees the development of standards for agricultural and food products. Prof. Daya is a member of the EDES – **Food Safety Steering Committee**, which is committed to strengthening the food control system in Mauritius. She currently represents the Faculty of Agriculture, University of Mauritius on the SELAMAT consortium.

Due to Mauritius is one of the rich country for herbs and spices, they can either foods or drugs in the normal life of Mauritian cuisine. So, in this conference Prof. Daya Goburdhun will describe about the HDS and herbal medicines in case study of Mauritius.

Regulation of Herbal Dietary Supplement in Thailand, by Deputy Secretary **Thai FDA**

The main role of Thai FDA is to protect consumers' health thru ensuring safety, quality and efficacy of consumable products within its remit. These include: foods, drugs, psychotropic substances, narcotics, medical devices, volatile substances, cosmetics, herbal/traditional products for health and hazardous substances available in the country. This has to be implemented in accordance with the national legislation and international agreements as follows:

1. Drug Act, B.E. 2510 (1967) and Amendment No. 2 (1975), No. 3 (1979), No. 4 (1985) and No. 5 (1987),
2. Psychotropic Substance Act B.E. 2518 (1975) and Amendment No. 2 (1985), No. 3 (1992) and No. 4 (2000)
3. Food Act, B.E. 2522 (1979)
4. Narcotic Act, B.E. 2522 (1979) and Amendment No. 2 (1985), No. 3 (1987) and No. 4 (2000)
5. The Emergency Decree on Prevention of Abuse of Volatile Substances, B.E. 2533 (1990) and Amendment No. 2 (2000)
6. Hazardous Substance Act, B.E. 2535 (1992)
7. Medical Device Act, B.E. 2551 (2008)
8. Cosmetic Act, B.E. 2558 (2015)
9. The Single Convention on Narcotic Drugs 1961, commentary on the protocol amended in Geneva on March 25, 1972
10. The International Convention on Psychotropic Substances, 1971
11. The International Code of Marketing of Breast Milk Substitute, 1981
12. The United Nation Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.

The FDA has task to control pre-post marketing program, Surveillance Program for Consumers' Safety and also Consumer Education ***as well as*** Technical Support and Cooperation with other Agencies.

About category of herbs in Thailand;

- Subcommittee on review and approval for registration of traditional and herbal medicines,
- Subcommittee on policy development and promotion of biological products,
- In other foods, Category III: 3 [a] such as dry herb and spices, flour products, noodles

Dr. Hans P.J. Marvin

Dr. Hans MARVIN is an expert at RIKILT Wageningen University and Research, the Netherlands. RIKILT is specialized in many aspects of food safety, including analysis of foods, research on safety, and risk assessments for authorities. Dr. Marvin works on a number of food safety issues, including emerging risks, food/feed issues related to biotechnology & nanotechnology and risk analysis and has initiated various activities within the Netherlands and EU in these fields. Dr. Marvin has coordinated various large international multidisciplinary projects on various food safety topics, such as the EU projects SAFE FOODS (e.g. risk analysis), SELAMAT (e.g. international collaboration on food safety), GO-GLOBAL (e.g. emerging food safety risks), coordinating Collab4Safety (e.g. promoting international collaboration on food safety) and Nano-Define (e.g. development of methods to analyze nanoparticles in complex matrices).

Dr. Marvin's personal research interests relate to (i) methods for emerging risk identification, (ii) effect of drivers (among others climate change) on food safety, (iii) safety of engineered nanoparticles including stakeholders analysis (among others consumer perception), and (iv)-the development of decision support systems. He has organized and chaired numerous workshops and is author and co-author of many publications on food safety.

Upon, the collection of big data analysis, so in this SELAMAT conference he will present the predictive model on AQS of herbs and spices that might impact to the consumption of both issues.

"Bringing together stakeholders"