

2018 3rd International Conference on Nutrition and Food Engineering (ICNFE 2018)

November 14-16, 2018

Kuala Lumpur, Malaysia

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Conference Venue

Hotel Royal Kuala Lumpur

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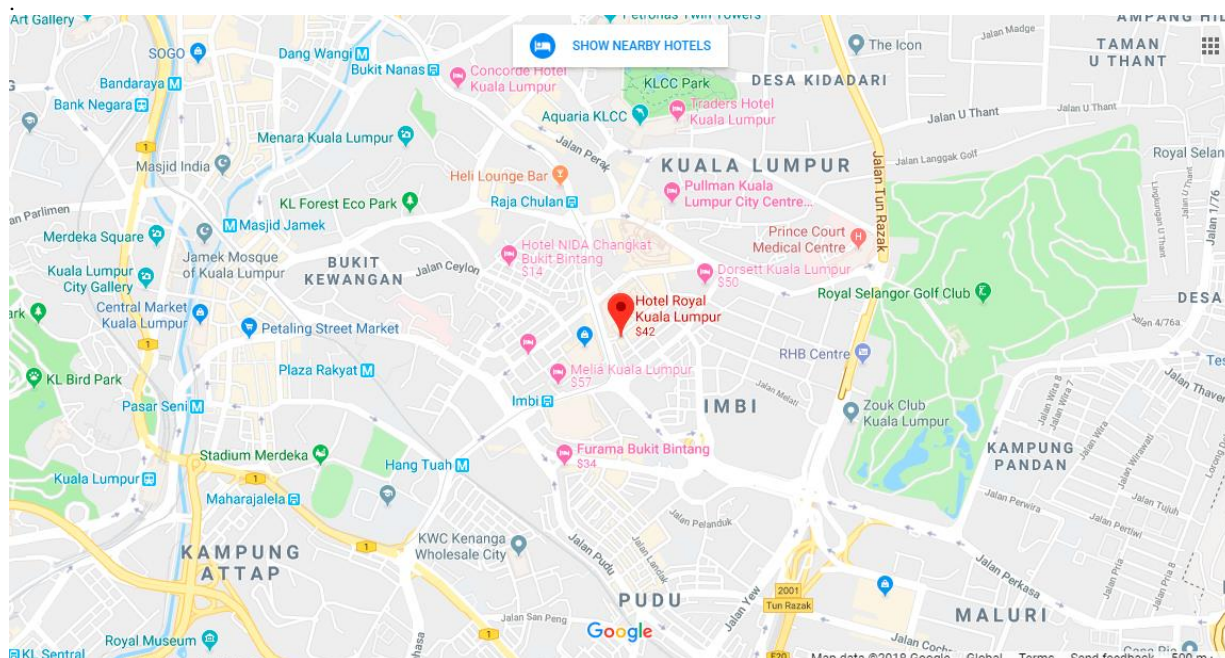
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This 20-storey high, stylish downtown city hotel boasts 285 rooms and suites, stylishly refurbished and is equipped with modern amenities including Satellite TV and Internet Broadband access with all your needs in mind.



One of our top picks in Kuala Lumpur. Hotel Royal enjoys a central location in Kuala Lumpur's Bukit Bintang Area. It features an indoor swimming pool and guests can enjoy meals at the in-house. Free WiFi is available throughout the property for in-house guests.

Hotel Royal Kuala Lumpur is a 5-minute walk from several shopping malls including Lot 10 Mall and Sungei Wang Plaza. The famous Petronas Twin Towers and Petaling Street are a 10-minute drive from the hotel.

Fitted with wall-to-wall carpeting, rooms are equipped with air conditioning and a satellite TV. A personal safe, tea/coffee maker and bathroom amenities are provided.

Guests can approach the 24-hour front desk for tour arrangements, concierge services and luggage storage. A refreshing workout can be enjoyed at Cardiotheque Fitness Center. The hotel also provides a convenient business center and laundry services.

All-day buffet meals are available at Makan 2 Coffee House. Coffee and snacks are available at the Lobby Lounge.

Bukit Bintang is a great choice for travelers interested in entertainment, family-friendly trips and markets.

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Kuala Lumpur Conference Introductions

Welcome to 2018 HKCBEEES Kuala Lumpur conference. This conference is organized by HKCBEEES. The objective of the Kuala Lumpur conference is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Nutrition and Food Engineering.

2018 3rd International Conference on Nutrition and Food Engineering (ICNFE 2018)

Papers will be published in the following journal:



International Journal of Food Engineering (IJFE, ISSN: 2301-3664), and which will be indexed by Google Scholar; Crossref; Engineering & Technology Digital Library; etc.

Conference website and email: <http://www.icnfe.org/>; icnfe@cbees.net

Presentation Instructions

Instructions for Oral Presentations

Devices Provided by the Conference Organizer:

Laptop Computer (MS Windows Operating System with MS PowerPoint and Adobe Acrobat Reader)

Digital Projectors and Screen

Laser Sticks

Materials Provided by the Presenters:

PowerPoint or PDF Files (Files should be copied to the Conference laptop at the beginning of each Session.)

Duration of each Presentation (Tentatively):

Regular Oral Presentation: about **20** Minutes of Presentation and **5** Minutes of Question and Answer

Keynote Speech: about **40** Minutes of Presentation and **5** Minutes of Question and Answer

Instructions for Poster Presentation

Materials Provided by the Conference Organizer:

The place to put poster

Materials Provided by the Presenters:

Home-made Posters

Maximum poster size is A1

Load Capacity: Holds up to 0.5 kg

Best Presentation Award

One Best Presentation will be selected from each presentation session, and the Certificate for Best Presentation will be awarded at the end of each session on November 15, 2018.

Dress code

Please wear formal clothes or national representative of clothing.

Keynote Speaker Introductions

Keynote Speaker I



Prof. Jinchyau Peng
National Chung-Hsing University, Taiwan

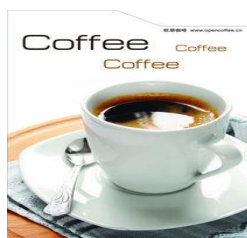
Prof. Jinchyau Peng was born in Taiwan. His major at his BS degree (National Chung-Hsing University at 1976) and MS degree (National Taiwan University at 1978) was in Agricultural Machinery. He completed his PhD from University of Missouri-Columbia, MO, USA at 1991 and major in Food Engineering. Since 1980, he has been working in National Chung-Hsing University as an Instructor, Associate Professor, Professor, and Distinguished Professor. Now he is an Honorary Distinguished Professor. He had been as a chairman in the Bio-industrial Mechatronics Engineering Department from 2002 to 2005. He had received the “Youth Medal” by the Government at 1985 and the “Academic Achievement Award” by the Institute of Chinese Agricultural Machinery at 2007. His research areas include the applications of extrusion technology, food engineering and food machinery, the developments of agricultural machinery. He has published more than 110 papers in different reputed journals and more than 130 meeting and conference reports.

Topic: 'Introduction to tea manufacturing and GABA tea'

Abstract—Tea is a common beverage and has a lot of healthy functions to human being. The total planted areas of tea in the world are more than 3,500,000 hectares, and the total tea productions are more than 5,000,000 tons per year. More than 90% of the tea are in forms of green tea and black tea. The typical tea manufacturing procedures in Taiwan are as follows: Plant branch segment → Management (cultivation, fertilization, pest-control, irrigation, pruning) → Harvesting (pick the fresh tea leaves) → Solar or hot air withering → Indoor withering (setting and tossing) → Panning (stir fixation) → Rolling → Re-panning → Shaping and mass rolling → Drying → Raw tea → Screening and de-stemming → Roasting → Refined tea → Packaging → Commercialized tea products.

In 1986, Dr. Tsushida toujiro (National Tea Research Institute of the Ministry of Agriculture and Forestry of Japan) found that a large amount of γ -amino butyric acid (GABA) was accumulated during anaerobic nitrogenous treatment of fresh tea leaves. The glutamic acid was generated during aerobic fermentation of fresh tea leaves, and it would convert to GABA in the anaerobic fermentation. A lot of medical functions of GABA were proved by the medical profession in the 1950s. The GABA tea was produced since 1987 in Japan, and the GABA contents should be at least 150mg GABA/100g dry tea. The quality index of the GABA tea are as follows: The GABA contents should be at least 150mgGABA/100g dry tea, and the flavor of the GABA tea should not have sour or stink odor.

In Taiwan, the quality of GABA tea manufactured by different tea farmers were uneven because of the complex technique of aerobic and anaerobic fermentation, so the GABA tea was difficult to extend. Therefore, it was urgent to improve the process technique and the quality of the GABA tea. The speaker (Dr. Peng) had gotten financial supports from the government (Council of Agriculture) since 2004, and had developed a GABA tea manufacturing machine and also had established optimum operation conditions of making high quality GABA tea. The new developed GABA tea has stable high quality such as good flavor (no sour or stink odor) and high GABA contents (200-240mg GABA/100g dry tea). The new technique had been transferred to 3 tea manufacturers and the high quality GABA teas were already commercialized.



Coffee Break & Group Photo Taking	10:20~10:35
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Keynote Speaker II



Prof. Gihyung Ryu
Kongju Nationnal University, South Korea

Gi-Hyung Ryu is a professor of cereal process engineering at Kongju National University (KNU), Korea. He was a dean of the College of Industrial Science, vice president of Planning, KNU. He is current a president of Korean Society of Food Engineer. His research interest is cereal processing and textured vegetable protein (animal-free meat), including the extrusion process, puffing mechanism, and process analysis. He has designed a lab-scale twin extruder for production of textured vegetable protein and puffed rice snack with carbon dioxide injection. Ryu has published more than 160 peer-reviewed papers and book chapters on cereal processing. He received his B.S. degree in food science and M.S. degree in food engineering from Gyeongsang National University and Korea University, respectively. He obtained his Ph.D. degree at Kansas State University and is a specialist in food extrusion cooking. Ryu is a KSFE, AACC International and IFT member. Dr. Lieh's research areas cover green energy technology, additive and smart manufacturing, electric vehicles, hybrid electric aerial vehicles, mechatronics, nonlinear systems, control and automation, biomechanics, etc.

Topic: 'Food extrusion and its application in food process'

Abstract—Extrusion cooking has been widely used in the food industry as a high temperature short time (HTST) process to produce commercially shelf stable products, because of low cost, high productivity, energy efficiency and versatility. Extrusion offers continuous processing and could also maintain significant nutrient levels of ingredients. Extrusion process is used for various food manufacturing such as puffed snack, RTE cereals, imitation meat, and pretreatment of oil extraction etc.

This presentation covers some application of extrusion process for food and pretreatment of bioethanol production as following:

1) Comparison of conventional extrusion process and cold extrusion process with CO₂ injection

The study was designed to investigate the effects of die temperature and CO₂ injection on physicochemical properties of extruded rice with vegetable powder. Moisture content and screw speed were fixed at 25% and 150 rpm, respectively. The first experiment of extrusion condition was adjusted to 80, 110, and 140°C die temperature with CO₂ injection of 0, and 300 mL/min. In conclusion, die temperature and CO₂ injection affect physicochemical properties. CO₂ injection affects expansion properties of extrudates, and die temperature affects antioxidant activities. Antioxidant activities by cold and conventional extrusion were not significantly different. Therefore cold extrusion with CO₂ injection could be used for value-added puffed snack or cereals with unique texture and expansion properties.

2) A comparison of physicochemical properties of texturized vegetable protein and meats

The comparison of physicochemical properties and cell structure of texturized vegetable protein (TVP) and different types of meats (beef, pork, and chicken samples) were studied. TVP from the blend of 40% isolated soy protein (ISP) and 60% wheat gluten (WG) was texturized with a twin-screw extruder at 100 g/min feed rate, 45% moisture content, 250 rpm screw speed and 140°C die temperature. The nitrogen solubility index, integrity index, chewiness, longitudinal cutting strength and microstructure of TVP were similar to the chicken sample, compared to the other meats. However, water absorption capacity (WAC) of TVP (217.38%) was significantly ($P < 0.05$) higher than those of meat samples (109.53 to 165.35%). The microstructure of TVP showed the fibrous and layered structure. Non-uniform air cells were observed in the microstructure of TVP, which could indicate high WAC. The study demonstrated that the physicochemical and cell structure of TVP from the mixture of 40% ISP and 60% WG with 45% moisture extrusion process was similar as chicken sample.

3) Extrusion-pretreatment of corn fiber for bioethanol production.

Corn fiber is the hemicelluloses-rich bran from the corn hull and is generated during the wet milling of corn and contains approximately 17% residual starch, 18% cellulose, and 35% hemicelluloses. The production of bioethanol from renewable biomass faces significant technical and economic challenges at present and its success depends largely on the development of environment-friendly, cost-effective pretreatments and highly efficient enzymatic hydrolysis for economic cellulosic production. The present study reports the development of effective pretreatment methods and optimum enzyme dosages and thermomechanical extrusion process conditions on bioconversion rate of corn fiber in ethanol production.

Keynote Speaker III



Prof Nyuk Ling Chin
Universiti Putra Malaysia

Nyuk Ling Chin obtained her Ph.D in Chemical Engineering from University of Manchester Institute of Science and Technology (UMIST), United Kingdom at the age of 26. She is now a Professor with the Department of Process and Food Engineering, Faculty of Engineering, Universiti Putra Malaysia. She is a registered professional food engineer with Board of Engineers Malaysia and a chartered chemical engineer with Institute of Chemical Engineer, UK. She lectures on food engineering operations and systems. Her research is on physical and engineering properties of food and natural products with aims of structuring food tailored towards end-user functionality for improved texture, appearance, perception, shelf life stability, consumer acceptability and healthiness. Her focus operations include mixing, heating, baking, spray-drying, freeze-drying and extraction where physical properties including rheological aspects are studied fundamentally. Her most recent projects are on food authentication; in particular, honey and bird nest origin traceability. She has 125 journals published. She receives recognitions from the many professional services rendered being an invited foreign lecturer, an editor of Journal of Food and Bioproducts Processing and others, an invited speaker in local and international conferences and seminars, a panel judge for research competitions, a panel reviewer for research grant proposals, a panel examiner for curriculum and programme reviews, and a visiting professor to other institutions.

Topic: 'The Ultra Technologies in Food Processing'

Abstract—The future of food production lies within the aspects of security and sustainability. In achieving both the aspects, novel and efficient processes have significant roles and contributions. Innovations in food processing techniques can significantly contribute to meeting the needs of growing population, preserving their health while ensuring product competitiveness in consumer markets. This talk presents some new developments and novel uses of emerging food technologies to enhance sustainability in food processing. It brings about alternative processes using non-thermal techniques mainly the ultra-sound, ultra-violet and ultra-high pressure energies. Specific examples include the use of power ultrasound to assist various food processing and preservation needs including bread and cake making processes, juice and bio-active compound extractions, and drying. Besides increased process efficiencies, quality of products also improved. Baked breads and cakes had higher volumes with enhanced textural characteristics. Yields of bio-active compounds of total monomeric anthocyanin and total phenolic content from mangosteen hull increased up to 45% and 21% respectively. Dried guava with comparable quality to those available commercially gave 33% savings in total convection hot air drying time. In post-harvest handling of perishable fruits and vegetables, combined treatment of ultraviolet C with ultrasound energies has helped disinfection tomatoes during storage with significant improvement of 2.58 log reduction of aerobic bacteria population and 1.56 log reduction of yeast and mold population. The ultra high pressure processing technology utilising 6000 bar pressure is anticipated to make an excellent alternative to the cold pasteurisation process. These novel ultra food technologies, the ultrasound, ultraviolet C and ultra high pressure technologies can bring many positive effects to both the process and product in food processing. They are clean operations and can be conveniently adapted or replace existing food processes.

**Lunch****12:05~14:00**

Brief Schedule for Conference

Day 1	<p>November 14, 2018 (Wednesday) 13:00~17:00</p> <p>Venue: Hotel Royal Kuala Lumpur (Lobby) (Add: Jalan Walter Grenier, 55100 Kuala Lumpur, MALAYSIA)</p> <p>Participants Onsite Registration & Conference Materials Collection</p>
	<p>November 15, 2018 (Thursday) 9:30~18:00</p> <p>Arrival Registration, Keynote Speech, Conference Presentation</p>
Day 2	<p>Morning Conference Venue: Orkid Room 2, Level 1</p>
	<p>Opening Remarks 9:30~9:35 (Prof Nyuk Ling Chin, Universiti Putra Malaysia, Malaysia)</p>
	<p>Keynote Speech I 9:35~10:20 Topic: ‘Introduction to tea manufacturing and GABA tea’ (Prof. Jinchyau Peng, National Chung-Hsing University, Taiwan)</p>
	<p>Coffee Break & Group Photo Taking 10:20~10:35</p>
	<p>Keynote Speech II 10:35~11:20 Topic: ‘Food extrusion and its application in food process’ (Prof. Gihyung Ryu, Kongju National University, South Korea)</p>
	<p>Keynote Speech III 11:20~12:05 Topic: ‘The Ultra Technologies in Food Processing’ (Prof Nyuk Ling Chin, Universiti Putra Malaysia)</p>
	<p>Lunch 12:05~14:00 Venue: Restaurant in the Hotel</p>
	<p>Afternoon Conference Venue: Orkid Room 2, Level 1</p>
	<p>Session 1: 14:00~15:15 Venue: Orkid Room 2, Level 1 3 presentations-Topic: “Agricultural Science and Food Engineering” Session Chair: Prof Nyuk Ling Chin</p>
	<p>Coffee Break 15:15~15:35</p>

2018 HKCBEEES KUALA LUMPUR CONFERENCE

	Session 1: 15:35~17:15 Venue: Orkid Room 2, Level 1 4 presentations-Topic: “Agricultural Science and Food Engineering” Session Chair: Prof Nyuk Ling Chin
	Poster Session: 17:15-17:35 Venue: Orkid Room 2, Level 1
	Dinner 18:00 Venue: Restaurant in the Hotel
Day 3	November 16, 2018 (Friday) 8:30~18:00 One Day Visit

Tips: Please arrive at the conference to upload or copy PPT into the laptop room 10 minutes before the session begins.

Note: (1) The registration can also be done at any time during the conference.

(2) The organizer doesn't provide accommodation, and we suggest you make an early reservation.

(3) One Best Presentation will be selected from each presentation session, and the Certificate for Best Presentation will be awarded at the end of each session on November 15, 2018.

Session 1

Tips: The schedule for each presentation is for reference only. In order not to miss your presentation, we strongly suggest that you attend the whole session.

Afternoon, November 15, 2018 (Thursday)

Time: 14:00~15:15

Venue: Orkid Room 2, Level 1

7 presentations-Topic: “Agricultural Science and Food Engineering”

Session Chair: Prof Nyuk Ling Chin

N2003-A Presentation 1 (14:00~14:25)

Preparation and Stability of Highly Uniform Droplet Size Oil-in-water Emulsions by Swirl Flow Membrane Emulsification

Jophous Mugabi, Noriyuki Igura and Mitsuya Shimoda
Kyushu University, Japan

Abstract- Swirl flow membranes emulsification method was developed to prepare emulsions at high disperse phase throughput. The droplet size and droplet size distribution (uniformity) are governed by a set of various process conditions and the purpose of this study was to find the suitable operating conditions for preparing emulsions with highly uniform droplet size distribution, measured as span and to determine their stability during storage. The main parameters investigated were swirl flow velocity, emulsifier concentration, disperse phase flux and the membrane pore size. It was found out that the most uniform droplets prepared were of mean droplet size (d_{50}) = 9.675 μm and span of 0.231, d_{50} = 20.383 μm and span = 0.255, d_{50} = 33.427 μm and span = 0.2389, and d_{50} = 69.835 μm and span = 0.27078, for shirasu porous glass (SPG) membranes of pore size 1.9, 5.2, 9.6, and 20 μm respectively. These emulsions were obtained at various ranges of operating conditions of swirl flow velocity 5.1 – 15.6 m/s, disperse phase flux of 2.0 – 11.7 $\text{m}^3/\text{m}^2\text{h}$, and SDS surfactant concentration of 0.01 – 0.5 w/v% and they remained stable during a storage period of 140 days at room temperature ($\approx 25^\circ\text{C}$).

Session 1

Tips: The schedule for each presentation is for reference only. In order not to miss your presentation, we strongly suggest that you attend the whole session.

Afternoon, November 15, 2018 (Thursday)

Time: 14:00~15:15

Venue: Orkid Room 2, Level 1

7 presentations-Topic: “Agricultural Science and Food Engineering”

Session Chair: Prof Nyuk Ling Chin

N2004-A Presentation 2 (14:25~14:50)

Influence of the emulsion droplet size on aroma release rate from mono-dispersed O/W emulsions

Shunji Tamaru, Tomoko Noda, Ayaka Ono, Noriyuki Igura and Mitsuya Shimoda
Kyushu University, Japan

Abstract- Emulsion droplets size can influence food taste and texture. Therefore, we investigated the effect of droplet diameter of oil-in-water (O/W) emulsions on the flavor release rates from the emulsions. The O/W emulsions were prepared by surfactant phase emulsification method and membrane emulsification method with the droplet size of about 0.4, 2.0, and 20 μm . The volatile compounds used were limonene, ethyl hexanoate, 2-methylpyrazine, nonanal, benzaldehyde, ethyl benzoate, α -terpineol, and benzyl alcohol. The rates of their release from the O/W emulsions were measured under non-equilibrium conditions using a purge-and-trap dynamic headspace extraction system. The aroma release behavior and release rate from 20 μm and 2 μm droplets emulsions showed similar, while the release rate of 0.4 μm droplets was higher than 20 μm and 2 μm emulsions regardless of some features of volatile compounds. The results indicated that volatile compounds in oil droplets can diffuse to water phase rapidly because small droplet diameter leads large oil-water surface area. Our findings therefore suggest that smaller droplet emulsion can be used to produce the better flavor processed foods than large droplet emulsions.

Session 1

Tips: The schedule for each presentation is for reference only. In order not to miss your presentation, we strongly suggest that you attend the whole session.

Afternoon, November 15, 2018 (Thursday)

Time: 14:00~15:15

Venue: Orkid Room 2, Level 1

7 presentations-Topic: “Agricultural Science and Food Engineering”

Session Chair: Prof Nyuk Ling Chin

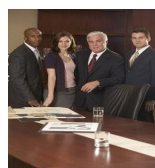
N0009-A Presentation 3 (14:50~15:15)

Study on Protein Solubility and Quality of Round Scad Salted-Boiled Fish (*Decapterus russeli*) Added by Liquid Smoke as Flavouring Agent During Storage at Cold Temperature

Fronthea Swastawati, Ima Wijayanti, Abdul Syakur

Diponegoro University, Semarang, Central Java, Indonesia

Abstract- Salted-boiled fish is one of the most popular fisheries product in Indonesia. The present study was carried out to investigate the influence of liquid smoke flavouring agent to consumer preferences and quality of round scad salted-boiled fish. Protein characteristic such as: protein content, amino acid profile, water soluble protein, salt soluble protein, alcalyne soluble protein were also determinated, lipid oxidation, was analysed by determination of lipid content, TBA and PV. Result of the protein solubility and quality evaluation revealed that the addition of liquid smoke flavouring showed high performance of round scad salted-boiled fish during cold storage. Liquid smoke was found able to maintain oxidation proved by the TBA and PV value was at lower standard maximum of limit. In terms of sensory value, the addition of liquid smoke showed high score of acceptability.



Coffee Break	15:15~15:35
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Session 1

Afternoon, November 15, 2018 (Thursday)

Time: 15:35~17:15

Venue: Orkid Room 2, Level 1

7 presentations-Topic: “Agricultural Science and Food Engineering”

Session Chair: Prof Nyuk Ling Chin

N0012-A Presentation 4 (15:35~16:00)

Study on the Use of Low-Energy Oven for Liquid Smoke Fish Processing

Abdul Syakur, **Veinard Vingtsabta**

Department of Electrical Engineering, Diponegoro University

Abstract- Liquid smoke is the result of condensation from wood containing phenol, organic acids, and carbonyl. The three compounds play a role in improving the properties of smoked fish products, antimicrobials and antioxidants. The application of liquid smoke to traditional products such as salted fish, shrimps and smoked fish as well as value-added products (galantine, dumplings and dragon legs) has not been widely carried out. The addition of liquid smoke is expected to improve product quality. The use of liquid smoke in traditional products usually requires drying to reduce water content. Drying in salted fish can be done using conventional methods or using the oven method. In smoked fish using liquid smoke also requires an oven in its processing. The oven used for the dryer can use electrical energy, however, the energy required is large. Low energy electric oven can help reduce energy costs and then production costs can be lower. By using Nichrome 80 and Kanthal A-1 wire as heating element in oven. Nichrome 80 and Kanthal A-1 are low resistance wire that can produce high temperature. By using Nichrome 80 wire diameter 0.8 mm and coil variations

10 mm can dried the *Decapterus spp* within 7 hours and energy consumed 87.5 Wh in 40°C.

As a comparison using Kanthal A-1 with same wire diameter and coil diameter within 7 hours and energy consumed 107.8 Wh. It can be concluded that Nichrome 80 wire use lower energy to dried *Decapterus spp*. than Kanthal A-1.

Session 1

Afternoon, November 15, 2018 (Thursday)

Time: 15:35~17:15

Venue: Orkid Room 2, Level 1

7 presentations-Topic: “Agricultural Science and Food Engineering”

Session Chair: Prof Nyuk Ling Chin

N0017-A Presentation 5 (16:00~16:25)

The Dynamics of Vacuum Impregnation of Baby Spinach Leaves and Its Metabolic Consequences

Noor Liyana Yusof, Lars Wadsö, Allan G. Rasmusson and Federico Gómez Galindo
Universiti Putra Malaysia, Serdang, Selangor, Malaysia

Abstract- Vacuum impregnation (VI) is a unit operation that allows the introduction of solutions into porous structure of plant tissues. The tissue is immersed in the solution of interest and is then subjected to partial vacuum, causing the removal of air. When the atmospheric pressure is restored, the solution is drawn into the tissue, replacing the air. The application of VI with different substances into baby spinach leaves is studied as means of affecting the metabolic activity of the leaves during modified atmospheric packaging (MAP). The short-term metabolic response of impregnating spinach leaves with different substances (calcium lactate, sucrose, citric acid and ascorbic acid) was investigated using isothermal calorimetry at 5 °C and 21 °C, 2 h after VI treatment. The gross metabolic activity of the impregnated spinach leaves changed significantly, depending on the impregnation solute and treatment temperature. Sucrose induced the highest metabolic heat production at 21 °C, whereas calcium lactate led to the highest metabolic activity at 5 °C. The high metabolic activity of sucrose-impregnated leaves was reflected by high oxygen consumption and carbon dioxide production measured in the packaged product stored at 21 °C. However, this was not reflected by the changes in atmosphere inside the calcium lactate-impregnated, packaged products. The incongruity between calorimetric and atmospheric measurements may be the result of the different time scales of the measurements. The results obtained could be of importance in the food industry as they provide a better understanding of how VI could influence specific quality characteristics and respiration upon packaging.

Session 1

Afternoon, November 15, 2018 (Thursday)

Time: 15:35~17:15

Venue: Orkid Room 2, Level 1

7 presentations-Topic: “Agricultural Science and Food Engineering”

Session Chair: Prof Nyuk Ling Chin

N8003 Presentation 6 (16:25~16:50)

New Protocol for Mass Propagation of Paulownia hybrid via Stem Cuttings under Egypt Condition

Kh.I.Hashish and Lobna, S. Taha

Ornamental Plants and Woody Trees Dept., National Research Centre, Dokki, Giza, Egypt

Abstract- Paulownia (Paulowniaceae) is a native to China with high commercial value as timber trees, and they are known to be difficult to root by stem cutting in vivo. Rooting paulownia via stem cutting difficult and requires specific treatments and conditions. There has been only limited research into the propagation of Paulownia. The rooting of paulownia depends on several factors like type of stem cutting, seasons of growth, type of growing media and plant growth regulators. This work evaluated the rooting of paulownias stem cuttings under the action of previous condition in order to get the best condition for rooting of stem cuttings. The effect of rooting of Paulownia in winter, spring and summer was evaluated at green house of National Research Centre .Egypt. The effect of cutting type, (soft and semi hard stem cuttings) , growing rooting media(clay or peat + perlite) , and concentration of auxin application (0, 1000 and 2000ppm) under greenhouse conditions, , were also tested on Paulownia rooting. After one month, the percentage of rooted stem cutting, root number per stem cuttings, root length and root fresh and dry weights were determined on stem cuttings. The best results were obtained in cuttings of soft stem cutting in spring season treated with or without 1000 ppm IBA which cultivated in peat+ perlite. These findings could be useful for setting up a practical propagation protocol on Paulownia.

Session 1

Afternoon, November 15, 2018 (Thursday)

Time: 15:35~17:15

Venue: Orkid Room 2, Level 1

7 presentations-Topic: “Agricultural Science and Food Engineering”

Session Chair: Prof Nyuk Ling Chin

N0021 Presentation 7 (16:50~17:15)

Combination of 1-MCP and traditional wisdom of China for preservation of bamboo shoots

Zhang Yunbin

Shanghai University of Traditional Chinese Medicine, China

Abstract- The bamboo shoots were taken as experimental materials to study the physiological and biochemical changes in sand environment. Storing the vegetables or horticultural commodities /plant rhizomes in the sand is a Chinese traditional way to keep fresh. The results showed sand environment can effectively improving the quality of bamboo shoots during storage at 4 °C, and ultimately extending the shelf life of bamboo shoot. The bamboo shoots could effectively maintain the content of soluble solids and reducing sugars in bamboo shoots under the sand storage environment of 4 °C, at the same time reduce the weight loss rate and browning degree of bamboo shoots. Meanwhile, preserve bamboo shoots in the sand to some extent reduce the activities of the enzymes related to enzymatic browning and fiber synthesis, including POD, PPO, CAD and PAL. The shelf life of the bamboo shoots could reach 54 days preserved with 1-MCP in sand environment. This study assesses the scientific of Chinese traditional methods sand preservation, as well as to provide a suitable method for long-time transportation, while maintaining the product quality.

Poster Session

Afternoon, November 15, 2018 (Thursday)

Time: 17:15~17:35

Venue: Orkid Room 2, Level 1

2 presentations

N2006-A Presentation 1 (17:15~17:25)

The antioxidant properties of the optimum four-spirit extrudates

Sheng-Chi Shen, Jinchyau Peng, Wai-Bun Lui

National Chung-Hsing University, Taiwan

Abstract- The four-spirit is composed of Chinese yam, lotus seed, euryale and poria cocos. In our previous research, the optimum four-spirit extrudates was developed. In order to evaluate the antioxidant properties of the optimum developed four-spirit extrudates, the optimum four-spirit powder, the corn mill, and the corn extrudates, the antioxidant properties such as DPPH (1,1-diphenyl-2-picrylhydrazyl) radical scavenging activity, reducing power and total antioxidant activity were determined.

The experimental results showed that the optimum four-spirit powder had the highest antioxidant effects, the second was the optimum four-spirit extrudates, the third was the corn mill and the corn extrudates had the lowest antioxidant effects. This finding was useful for the commercialization of the four-spirit extrudates

Poster Session

Afternoon, November 15, 2018 (Thursday)

Time: 17:15~17:35

Venue: Orkid Room 2, Level 1

2 presentations

N2007-A Presentation 2 (17:25~17:35)

The optimum operation conditions of the four-spirit extrudates

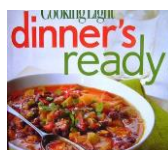
Jinchyau Peng, Sheng-Chi Shen ,Wai-Bun Lui

National Chung-Hsing University, Taiwan

Abstract- The four-spirit refer to four Chinese herbal medicines, and it consists of Chinese yam, lotus seed, euryale and poria cocos. They have high nutritional value and special biological and functional effectson the human body. The optimum operation conditions of the four-spirit extrudates were developed in this research by using a local made single-screw extruder.

In this study, response surface methodology (RSM) was applied to optimize and investigate the effects of operation conditions on the physical properties of the four-spirit extrudates. The effects of four-spirit powder levels (8%, 10%, 15%, 20%, 22%) and screw speeds (203rpm, 220rpm, 260rpm, 300rpm, 317rpm) on the physical properties such as radial expansion ratio, longitudinal expansion, bulk density, hardness, max. shear force, water solubility index and water absorbability index were investigated.

According to the experimental results, the individual contour plots of the different responses were overlaid, and the regions meeting that the optimum operation conditions were identified at the screw speed of 322 rpm and the portion of four-spirit powder at 19.6%, respectively. The four-spirit extrudates from the optimum operation conditions was recommended to be commercialized.



Dinner	18:00
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Listeners

N001:

JONGKOLNEE YAOWAPAKSOPHON

King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand

N0012:

Abdul Syakur

Diponegoro University, Semarang, Central Java, Indonesia

N0012:

Ima Wijayanti

Diponegoro University, Semarang, Central Java, Indonesia

LS001:

Noriyuki Igura

Kyushu University, Japan

LS002:

Ken Ng

Diponegoro University, University of Melbourne, Australia

LS003:

Laila Ambar Sari

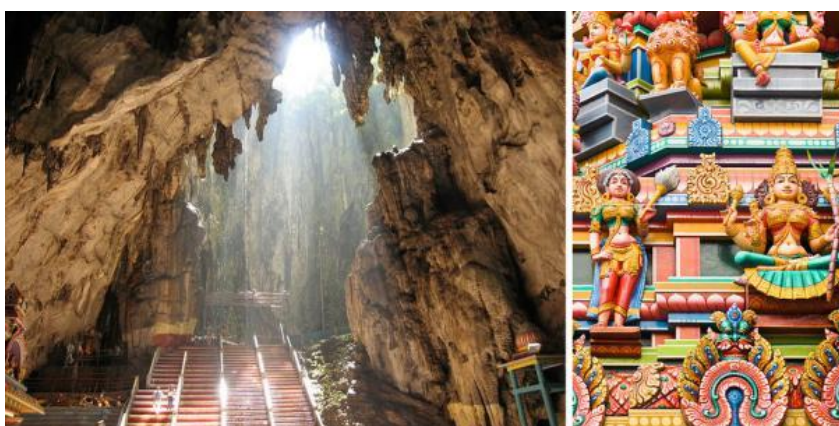
Hitachi, Ltd. Research& Development Group, Japan

One Day Visit

November 16, 2018 (Friday) 8:30~18:00

(Tip: Please arrive at “Hotel Royal Kuala Lumpur” at 8:20 a.m. The following places are for references, and the final schedule should be adjusted to the actual notice.)

- 1. (8:20) Gathering : Hotel Royal Kuala Lumpur**
- 2. Morning visit: Batu Caves**



Batu Caves is an iconic and popular tourist attraction in Selangor.

Site of a Hindu temple and shrine, Batu Caves attracts thousands of worshippers and tourists, especially during the annual Hindu festival, Thaipusam.

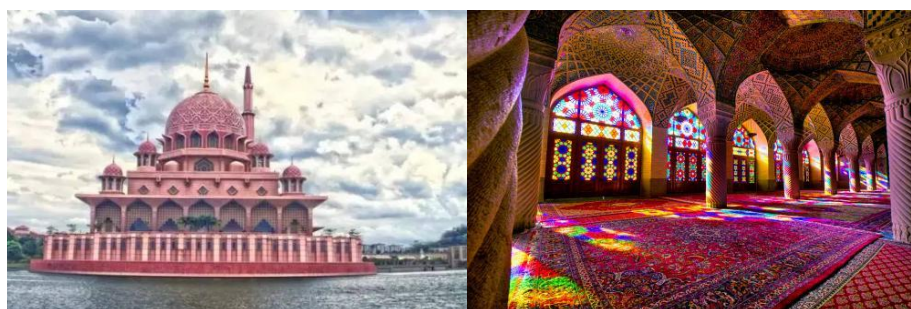
A limestone outcrop located just north of Kuala Lumpur, Batu Caves has three main caves featuring temples and Hindu shrines.

Its main attraction is the large statue of the Hindu God at the entrance, besides a steep 272 climb up its steps to finally view the stunning skyline of the city centre.

Monkeys frolic around the caves, and it is a popular spot for rock climbing enthusiasts. Paintings and scenes of Hindu Gods can also be seen in the Ramayana Cave.

Batu Caves is a place where you should not miss on your next visit to Malaysia!

- 3. (12:00)Lunch time(at own expense)**
- 4. Afternoon visit: Putra Mosque**



The Putra Mosque (Malay: Masjid Putra) is the principal mosque of Putrajaya, Malaysia.

Construction of the mosque began in 1997 and was completed two years later. It is located next to the Perdana Putra, which houses the Malaysian Prime Minister's office and man-made Putrajaya Lake. In front of the mosque is a large square with flagpoles flying Malaysian states' flags

- 5. Back to Hotel Royal Kuala Lumpur**

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Feedback Information

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