



Workshop on Extrusion: Technology and Practices in Food, Agricultural, and Material Applications

Date & Venue: 22-25 November, 2016

• Lecture session:

22 Nov, 2016: Opening section at Room 1201, Faculty of Applied Science, King Mongkut's University of Technology North Bangkok (KMUTNB)

22-25 Nov, 2016

9.00 – 12.00, Room 1205, Faculty of Applied Science, KMUTNB

Workshop:

22-25 Dec, 2016

13.00 – 16.30, Faculty of Applied Science, Polymer Research Center, College of Industrial Technology, KMUTNB

Organized by:

King Mongkut's University of Technology North Bangkok (KMUTNB)

Iowa State University, USA

Thai Society of Biotechnology (TSB)

Food Science and Technology Association of Thailand (FoSTAT)

National Science, Technology and Innovation Policy Office (STI)

Purpose

The products from extrusion, like cereals, snacks, pastas, and pet foods account for billions of dollars in annual sales worldwide. The extrusion technology can also be applied for many value-added food and feed products as well as biopolymer and biocomposite etc. The Extrusion Workshop is an introductory, hands-on workshop combining extrusion theory and techniques for product development in a variety of food categories and biopolymer products. The workshop combines lectures and practical works, and demonstrations from both industry and faculty experts.

Benefits of Participation

This professional development and educational opportunity will allow participants to:

- Learn from experts
- Network with academic and industry experts
- Explore new opportunities
- Observe lab scale and pilot plant demonstrations

Intended Participant

This workshop is geared towards food technicians, scientists and product developers already working or desiring to work in the area of extrusion or any food industry as well as biopolymer works with the goal of expanding their extrusion knowledge base.

Language

The lecture will be given in English (by foreign experts) and Thai (by Thai experts).

Registration fees (include VAT, lunch, refreshment and training materials)

- Lecture session only: THB 4,000
- Lecture and Workshop: THB 6,000



Payment

The government officers and university personnel are cordially invited to attend the workshop. In this case, attendees are disbursement eligible. The request for disbursement should be submitted to the affiliated entity.

Registration deadline 5th Nov, 2016

Program:

Extrusion: Technology and Practices in Food, Agricultural, and Material Applications

22 Nov 2016	8:30-9:00	Registration
	9:00-10:00	Opening and presentation of the Food and Bio-Innovation Network by KMUTNB, TSB, FoSTAT, STI and Food Innopolis.
	10:00- 12:00	Lecture <ol style="list-style-type: none"> 1. Introduction to Extrusion Technology and Applications: An Overview 2. Ingredient response to high shear and temperature (changes and melt characteristics and functionality) <ul style="list-style-type: none"> • Expansion products • Pasta products
	13:00-16:30	Practical lab course and observations <ul style="list-style-type: none"> • Lab scale Extruder (Single screw Brabender) <ul style="list-style-type: none"> Ingredient characteristics (color, RVA etc.) Extrusion of high expansion products Extrusion of high density (low expansion) product Extrusion of protein-rich products
23 Nov 2016	8:30- 9:30	Lectures <ol style="list-style-type: none"> 1) Operation and Process Variables in food and feed Extrusion <ul style="list-style-type: none"> ○ Temperature, pressure, moisture, RPM ○ SME calculations 2) Analytical Techniques for Testing Extruded Products: Food and Feed <ul style="list-style-type: none"> • Expansion ratio • Texture • Microscopy
	9:30-10:30	
	10:30-10:45:	Coffee break
	10:45-12:00	3) Advanced instrumental analysis

	13:00-4:30	<p>Practical lab course and observations</p> <ul style="list-style-type: none"> • Physical measurement of raw material/ finished product - Expansion ratio - Texture analyzer - Density - Rehydration - Cooking time/ Cooking weight/cooking loss
24 Nov 2016	<p>9:00- 10:15</p> <p>10:15-10:45: Coffee break</p> <p>10:45-12:00</p>	<p>Lecture</p> <p>1) Extrusion Applications and characteristics: Cereal Based Food Products- snacks, pasta Protein-based food products: TVP, milk proteins, whey protein</p> <p>Pet food products, Aqua feed Industrial applications: injection molding of biopolymers</p>
	13:00-16:30	<p>Practical lab course</p> <ol style="list-style-type: none"> 1) Extrusion of biopolymer 2) Injection molding and testing :Impact test, Tensile test, Flexural test
25 Nov 2016	<p>9:00- 10:15</p> <p>10:45-11:30</p>	<p>Lecture</p> <ol style="list-style-type: none"> 1) Critical Control Points and Product safety During Extrusion & Drying 2) Extrusion: post-processing operations Coating of Snacks and Cereals Sensory Aspects of Extruded Products
	<p>13:00-16:15</p> <p>16:15-16:30</p>	<p>Lecture</p> <ol style="list-style-type: none"> 1) Key components in a co-rotating twin-screw extruder, screw geometry and selection 2) Trouble shooting <p>Certificate presentation and closing ceremony</p>



Speakers and lecturers

Key-note Speaker and Major Lecturer

1. Assoc.Prof.Dr.Buddhi Lamsal,
Food Science and Human Nutrition at Iowa State University, USA
2. Mr.Dave Laycock
Dave Laycock Enterprises – Owner, based in Singapore
3. Assoc. Prof. Dr. Vilai Rungsardthong
Department of Agro-Industrial, Food and Environmental Technology, KMUTNB
Head, Food and Agro-Industrial Research Center, KMUTNB

Lecturers' Assistant Team (KMUTNB)

- Department of Agro-Industrial, Food and Environmental Technology, Faculty of Applied Science, Food and Agro-Industrial Research Center, KMUTNB
Assoc. Prof. Dr. Savitri Vatanyoopaisarn
Asst. Prof. Dr. Benjawan Thumthanaruk Dr. Peerapong Pornwongthong
Dr. Nutsuda Sumonsiri Dr. Rattakorn Jumnonpon
Mrs. Utorn Chikhunthod Ajarn Jittimon Wongs
Mrs. Wanpen Noimeung Miss Siriorn Boonyawanich
- Department of Mechanical Engineering Technology and Department of Polymer Engineering Technology, Polymer Research Center, College of Industrial Technology, KMUTNB

Assoc.Prof. Sathaporn Chatakorn
Asst. Prof. Paiboon Sinprayakun
Dr.Thitima Sritapanya



Registration Form
Workshop on
Extrusion: Technology and Practices in Food, Agricultural, and Material Applications

Please type or print CLEARLY all information requested

Name	(Ms./Mr./Mrs.)		
Title	(Asst.Prof., Assoc. Prof., Prof., Dr.)		
Position			
Dept./Unit			
Organization			
Address			
Tel.		Fax.	
Mobile phone			
E-mail			

Registration Fee: (includes VAT, lunch, refreshment and training materials)

NUMBER OF PARTICIPANTS

It is intended that the workshop get down to the details of the instruments and practical works. For this reason the number of participants will be limited to the number that can be reasonably taken care of by the workshop lecturers, around 30 attendants. Participants will be selected on a first come first serve basis and early registrations will have precedence over the later ones.

However, the number of participants for the lecture session is not limited.

Dietary restriction (please choose one):

- None
 Vegetarian
 Muslim
 Others.....

Method of Payment:

For the payment, please transfer money to this account by June 30, 2016 and email your bank transfer slip to duangporn@biotec.or.th or fax to 66-2-644-8079.

Bank: Siam Commercial Bank Public Company Limited

Account name: Thai Society for Biotechnology

Account number: 026-2-96429-4

Branch: Ramathibodi Swift code: SICOTHBK



Payment Receipt: Please indicate the details shown in the receipt

Same as the above mentioned

Name: _____

Address: _____

Please note that the issued date on the receipt will be subject to the date you make payment. After issuing, it cannot be changed. If having problem with that, please do not hesitate to contact course secretariat.

Please send the registration form to:

Ms. Duangporn Lakasong

Thai Society for Biotechnology (TSB)

National Science and Technology Development Agency (NSTDA)

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