5TH ALGAE WORLD ASIA

SINGAPORE, 7-9 Nov 2012
Novotel Singapore Clarke Quay

Centre for Management Technology®
into our 29th year

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Day 1 – 7th Nov 2012, Wednesday

Separately Bookable Workshop

Algae Harvesting & Extraction of Bio-Compounds For Production of High Value Ingredients

7 Nov 2012 (1400 – 1730 hrs.)

*Led by **Dr Chen Shulin**, Professor*
Department of Biological Systems Engineering
Washington State University

14:00 **Algae harvesting**
- Basic principles of algae harvesting technologies
- Advantages and disadvantages of different types of harvesting technologies
- Concentration and dewatering
- Recent innovations in harvesting technology development

15:30 Discussion and tea break

16:00 **Extraction of bio-compounds from algae**
- Basic principles of common extraction technologies
- Combining selective, efficient and environmentally clean advanced extraction techniques
- Characteristics of algae that affect extraction processes
  - Screening of different algae for sought-after bioactive compounds
  - Defining parameters for screening
- Advantages and disadvantages of different types extraction process
- Main potential functional food ingredients that may be extracted from different algae and challenges
  - antioxidants
  - lipids
  - carbohydrates
  - peptides and proteins

17:30 Workshop conclusion

Day 2 – 8th Nov 2012, Thursday

08:00 Registration

09:00 Chairman's Introduction
Mr. Per Dahlen, Senior VP - Biorenewables
Dovre Group

09:10 **Algae – Sustainable Solutions for Food & Feed & Changing the Energy Value Chain**
Mr. Daniel Simon, President & CEO
Heliae Development, LLC

09:40 **Sustainable Production of Microalgae using a Large-Scale Hybrid Photobioreactor-Raceway Pond System**
Dr. Jeff OBBARD, Scientific Advisor
Cellana LLC
Dept of Civil & Environmental Engineering
National University of Singapore

10:10 Discussion followed by Coffee

10:40 **Korea - Roadmap for Algae Development**
Prof Min S. Park, Bioscience Division
Los Alamos National Laboratory, USA
Advanced Biomass Research Center Korea

11:10 **Japan - Recent Deveiopments in Algae Industry**
- Technology overview of individual value chain for algae industry and most recent update
- R&D initiative
- Cross industrial initiative
- Governmental support for algae to biofuels development
- A view from equity analyst

Mr. Osamu Miyashita, CEO
J-Phoenix Research Inc

11:40 **Indonesia - Pilot Plant Demonstration of Marine Microalgae Cultivation**
- Strain collection and maintenance

Joint presentation
Dr . Dwi Susilaningsih, Head
Indonesian Institute of Sciences (LIPI)
Rudyanto, Managing Director
PT Barat Jaya Sentosa Perkasa

12:10 **Malaysia - Land Based Seaweed Tissue Culture Technique using Photobioreactors**
Mr. Tian Kian Wee, CEO
Utar Microalgae

12:40 Discussion followed by Lunch

14:00 **Looking Beyond Carraggeenan, from Red Sea Weeds and Algae**
Mr. Abhiram Seth, Managing Director
Aquagri Processing Pvt Ltd

14:30 **India - Microalgae Cultivation using Industrial and Agricultural Waste Streams for the Production of Biofuels**
Mr. Senthil Chinnasamy
Chief Technology Officer,
Biotechnology Division
Aban Infrastructure Pvt Ltd

15:10 Discussion followed by Tea

15:40 **Commercial production of Astaxanthin by large scale cultivation of Haematococcus pluvialis – Prospects and Concern**
- Cultivation and production process adopted by leading producers - both open raceways and closed systems; problems faced in both systems
- Research & Developmental work in astaxanthin production, processing and its applications

Dr. Sebastian Thomas
Technical Advisor
Parry Nutraceuticals

16:10 **Commercialisation of Algae Derived EPA rich Omega 3 Oil**
Mr. Matthew Caspari, Founder & Managing Director Australia
Aurora Algae Pty Ltd.

16:50 Panel Discussion
Tracking the Algae Industry 5 Years Ago, Where Are We Now and Where it will be 5 years in Future ?

17:15 Final Discussion. Close of Day 2

Day 2 – 9th Nov 2012, Friday

08:50 Chairman's Introduction
Mr. Syed Isa Syed Alwi
Chief Executive Officer
Algaetech International Sdn Bhd

09:00 **Bottleneck in Outdoors Photosynthetic Productivity: Why is Algal Production Expensive, the Way Forward**
Assoc Prof. Lee Yuan Kun, Associate Professor, Department of Microbiology
National University of Singapore (NUS)

09:30 **Thailand - Loxley Green Solutions and our Algae Bio-fuel Project**
Mr. Nattapon Dejvitak, VP, Business Development
Loxley Public Company Limited

10:00 **Vietnam - Biodiesel Production from Closed-Algae Growing Systems Using WasteWater of Cassava Ethanol plant**
Prof. Truong Vinh, Lecturer
Nong Lam University - Ho Chi Minh City

10:30 Discussion followed by Coffee

10:50 **Myanmar - Commercial Production and Use of Spirulina Microalgae from Crater Lakes**
- Emerging applications for Spirulina as biofertiliser, biogas enhancer
- Opportunities for new joint ventures (private & govt) in Algae and cooperation with foreign companies

Min Thein, Founder
June Pharmaceuticals

11:20 **China - Feasibility Study of Large-scale Algal Fuel Production in China**
Prof. Pu Peng
Algal Biofuel Devt Division
Sinopec Research Institute of Petroleum Processing

11:50 **Enzymatic Technology to Produce Fuel Ethanol, Fine Chemicals, and Protein from Seaweed**
Shilpa Ramani, Scientist and Global Project Leader
Novozymes South Asia Pvt Ltd

12:20 Final Discussion. End of conference.

Optional Site Visit - Biopolis
9 Nov 2012 (1400 - 1600 hrs.)

Not the usual tours for general tourists, the site visit to Biopolis will bring insight to Singapore capabilities and innovation. Biopolis is the heart of biomedical research in Singapore. Over the years, it has built up a strong reputation and today, it is now home to more than 30 companies with some of the big names including Novartis, Abbott, Glaxo, Danone, Procter & Gamble, L'oreal, Davos LifeScience, Thermo Fisher Scientific, Fujitsu and many others.

The visit will a brief overview of A*STAR followed by a tour in Biopolis Shared Facilities, introducing the various capabilities and potential in this area.

14:00 Gather at lobby and board the bus for visit to **Biopolis**

14:30 Arrive Biopolis
Duration of Tour - from 14:30 - 16:00 hrs.

16:00 Return to Hotel

Advanced Algae heads for Asia!

Heliae raises $15M from Salim Group – R&D center in 2012, aiming for commercial production in 2014; food, feed, fertilizer now, fuels later. - Biofuel Digest 4 May 2012

With latest rounds of investments announced for Asia, Algae research and developments are gaining interest as companies race to develop and validate technology solutions for the commercial production of algae.

With the involvement of agribusiness and big food conglomerates like the Salim Group, its evident that algae focus has expanded beyond fuels and into foods, feed and fertilizers industry

Analysts say that over the next few years, a number of algal companies will hinge on to the feed and food sectors, en route to entering fuels.

Yet, many established companies are focussed on feed and food. While these are smaller markets than fuels, they offer vast opportunities, and higher per-ton prices

One promising market is astaxanthin estimated to be worth $200 million by 2015.

Microalgae are a highly promising resource for the sustainable production of a wide variety of biomaterials for a wide range of applications and Asia represents a promising market.

Don't miss CMT's **5th AlgaeWorld ASIA** this November in Singapore.

Top Panel Shares Expertise

- Roadmap for algae developments in **Korea & Japan**
- **Indonesia** – latest demonstration plant with two kinds of testing facilities; one vertical reactor the scale of up to 1250 liter and the other a horizontal reactor with working volumeof 5000 liter.
- What are the various strains of marine mocroalgae that has been isolated from Indonesian ocean and how are these strains managed ?
- **Malaysia** - extracting phycobiliproteins from macroalgae and seaweed tissue culture techniques
- **India** - Microalgae cultivation using industrial waste streams
- Producing high-value added products from Macroalgae
- Commercial production of Astaxanthin, cultivation to processing challenges
- **Vietnam** – Utilising wastewater from Cassava Ethanol plants to grow algae for biodiesel. In collaboration with the Finland Institute of Environment (SYKE) and cassava ethanol plants, this project is now targeted for scale up to 2500 liter PBR .
- Commercial production of spirulina from one of the worlds largest producer in **Myanmar**
- **China** – Sinopec reveals what they are working on in large scale algae fuel production

And many others

Join us on the **7-9th** of **Nov** for an insightful event with extensive business opportunities. Send your registration to **huiyan@cmtsp.com.sg**

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Regular Fee for 1	1795.00
Group Fee for 3 or more	1495.00
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Pre Conference Workshop for Non Conference Attendee: 7 Nov	795.00
Pre Conference Workshop for Conference Attendee: 7 Nov	595.00
Site Visit for Conference Attendee: 9 Nov	50.00
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