



## Final Agenda

Monday, May 23, 2011, 12 Noon – 5PM

1:00-1:10 Opening Remarks by Conference Chair

Session I: Coalescing Co-Product Strategies and Corporate Partners to Grow an Algae Value Chain

1:10-1:40 *Presentation:*

**Opportunities and Challenges in Breaking New Markets for Algae**

Though the main driver of algal markets has been Biofuels, the transition into broader markets and opportunities may hold the future for this nascent industry. The marketplace for algae has now drawn keen interest from key players in foods, consumer products, bio-based chemicals, and pharmaceuticals. This presentation will outline the broad opportunities for the algal marketplace, while investigating many of the key near and long term challenges that must be overcome.

**Andrew Soare**, *Research Associate*, LUX RESEARCH

1:40-2:00 **Co-Product and Market Survey Presentations:**

**Bulk Resins/BioPolymers**

This presentation will survey recent moves in the bio-based oleo-chemicals space, identifying intermediate chemicals of high value for the algae platform.

*Speaker To Be Announced*

2:00-2:20 **Fine Chemicals from Algae: Cosmetics and Pharmaceuticals**

**Leslie van der Meulen**, *Vice President, Business Development*, AURORA ALGAE

2:20-2:45 **The Animal Feed and Fertilizer Market for Algae Products**

This presentation will survey how major players source animal feed and fertilizers, review current prices, and explore production quality requirements of feed and fertilizer buyers.

**Ron Henson**, *Supply Chain Manager*, PHYCOBIOSCIENCES

2:45-3:15 Networking break

3:15-3:35 **Human Food Products from Algae: Nutraceuticals, Omegas, Protein**

Mr. Edwards will provide the latest update on human food markets for algae byproducts, exploring competitive scenarios, pricing, and quality control issues.

**Mark R. Edwards**, *Professor*, ARIZONA STATE UNIVERSITY

3:35-4:05 **Status Update on Algae for Biofuels**

This presentation will provide an overview on developments in the global biofuels market, assessing where algae-based biofuels, whether bio-ethanol, biodiesel or bio-butanol, fit into the evolving industry. The presentation will touch on current world oil prices and their impact on biofuels production, export/import issues, and key joint ventures between biofuels producers and major petroleum producers/refiners/distributors.

**Russell Teall**, *President & Founder*, BIODIESEL INDUSTRIES, INC.

**Mike Campbell**, *Director Energy Systems Division*,  
LOGOS TECHNOLOGIES

4:05-5:00

*Panel Discussion:*

**What Role Will Corporate Strategics Play in Enabling an Algae Value Chain?**

*This panel assembles a variety of established corporations from different sectors that are looking at algae from different perspectives, and could provide support for algae players, whether as partners in JVs, as product off-takers, or suppliers of key technology components.*

- What are realistic timelines to revenue for different product lines?
- The co-product strategy on the way to fuels—how will it really work?
- How to leverage shorter-term products for longer term lipids scale up?
- Industry consolidation scenarios— different developers have different solutions that may need to be combined – how will this work in practice? M&A, cross-licensing, joint ventures.

*Panelists:*

**James M. Andersen**, *Business Director, Green Fuels and Chemicals*,  
UOP HONEYWELL

**Bryan Yeh**, *Assistant Vice President, Biofuels, Infrastructure, Logistics and Product Solutions Group, SAIC*

**Senior Representative**, CARGILL

**Lucie Bednarova Duesterhoeft**, *Senior Researcher, Global R&D,*  
GENERAL MOTORS

**Pete He**, *Senior Research Fellow, Technology Acquisition, Sustainability,*  
HENKEL CONSUMER GOODS INC.

## **Tuesday, May 24, 2011**

7:00-8:00      *Networking Breakfast*

8:00-8:10      *Opening Remarks by Summit Chair*

### *Session II: Assembling the Breakthroughs Needed to Create a Global Algae Industry*

*Leading algae technology developers, producers, university and government lab researchers will profile advances that together offer the promise of cutting algal production and extraction costs.*

#### OVERVIEW

8:10-8:40      **Challenges Scaling-Up Algae Technologies to Commercial Operations**  
**Mark Warner**, *Senior V.P., Process Industries, HARRIS GROUP INC.*

*“Microalgae Strain Development for Biofuels Applications”*

**Juergen Polle**, *Professor, Department of Biology; Associate Director,*  
*Aquatic Research & Environmental Assessment Center, BROOKLYN*  
COLLEGE OF CUNY

8:40-9:10      **Assessing the Real Near-term Opportunity in Algal Technology in**  
**Light of Biomass Rates, Lipid Rates, Capex & Opex Costs**  
**Brad Bartilson**, *CEO, PHOTON8*

#### ALGAE BIOSCIENCES

9:10-9:40      **Lipid and metabolic profiling of algae under environmental stress**  
**Tobias Kind**, *Assistant Project Scientist, Metabolomics,*  
UC DAVIS GENOME CENTER

9:40-10:10      **Screening Algal Strains from the Everglades for Biofuel Production**  
**Krish Jayachandran**, *Associate Professor of Environmental*  
*Microbiology, Dept. of Earth and Environment,*  
FLORIDA INTERNATIONAL UNIVERSITY

- 10:15-10:30 *Networking Break*
- 10:30-11:00 **Metabolic Engineering and Characterization of Cyanobacteria for Biodiesel Production**  
*Anne M. Ruffing, Truman Fellow, Bioenergy and Defense Technologies, SANDIA NATIONAL LABORATORIES*
- 11:00-11:30 **Growth Rates and Yields of Oil, Protein and Carbohydrate for Microalgae as Regulated by Growth Conditions**  
*B. Greg Mitchell, Research Biologist, UNIVERSITY OF CALIFORNIA, SAN DIEGO; Associate Director, SAN DIEGO CENTER FOR ALGAL BIOTECHNOLOGY*
- 11:30-12:00 **Technology Update from Origin Oil**  
*Paul Reep, Senior Vice President of Technology, ORIGIN OIL*
- 12:00-1:30 GROUP LUNCHEON
- 1:30-2:00 **Physiological Regulation of Lipid Accumulation in Microalgae**  
*Keith Cooksey, Professor, MONTANA STATE UNIVERSITY*
- 2:00-2:30 **Technology Update from Solix Biofuels**  
*Joel Butler, Chief Executive Officer, SOLIX BIOFUELS*

#### ALGAE FARMING AND POND TECHNIQUES

- 2:30-3:00 **First Principles for Algae Flocculation**  
*John Hewson, Technical Staff, Engineering Sciences Center, SANDIA NATIONAL LABORATORIES*  
*Phillip Pohl, Technical Staff, Engineering Sciences Center, SANDIA NATIONAL LABORATORIES*
- 3:00-3:20 *Networking break*
- 3:20-3:50 **Pond-scale Diagnostics in Algae Production**  
*Jeri Timlin, Technical Staff, Biological & Materials Sciences Center, SANDIA NATIONAL LABORATORIES*
- 3:50-4:20 **Use of CAFO Waste and Anaerobic Digester Nutrients to Enhance Microalgae Production**  
*Barry Toyonaga, Chief Business Officer, KENT BIOENERGY CORPORATION*

#### SESSION III: ALGAE FUNDING

4:20-5:10 **Algae Funding Round-Table – Panel Discussion**  
This panel will bring together corporate strategic investors, equity funds and venture capitalists to explore time-frames to scale-up, major hurdles, financing and growth strategies, and the role of governmental assistance.  
Panelists:  
**Jim Long**, *Partner*, GABRIEL VENTURE PARTNERS  
**John J. McKenna**, *Managing Director*, HAMILTON CLARK & CO.  
**Sandeep H. Patel**, *Managing Director, Investment Banking*, BARCLAYS CAPITAL

Wednesday, May 25, 8:00AM-12:30PM

8:00-8:30 **Challenges and Breakthroughs in Harvesting and De-Watering**  
**Stanton J. Barnes**, *Founder and CEO*, BIOALGENE

Session II Continued: Assembling the Breakthroughs Needed to Create a Global Algae Industry

DOWNSTREAM: EXTRACTION AND CONVERSION

8:30-9:00 **Applications of Ionic Liquids in Dewatering**  
**Blake Simmons**, *Vice President of Deconstruction*,  
JOINT BIOENERGY INSTITUTE

9:00-9:30 **Catalyzed Conversion of Non-Food Biomass to Fuels and Chemicals: Use of Algal Lipids and Carbohydrate Feedstocks**  
**Pete Silks**, *Team Leader*, LOS ALAMOS NATIONAL LABORATORY

9:30-10:00 **Green Recovery: Zero-cost Biofuel Recovery Process from Microalgal Biomass**  
**Xinyao Liu**, *Research Associate*, *The Biodesign Institute*,  
ARIZONA STATE UNIVERSITY

10:00-10:30 Networking Break

10:30-11:00 **Integrative Applications of Biochemical Engineering for Biomass Technology**  
**Ji-Won Yang**, *Professor*, *Department of Chemical and Biomolecular Engineering*, KAIST (KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY) & *CEO*, ADVANCED BIOMASS R&D CENTER

11:00-11:30 **Pyrolysis and Hydroxygenation as It Applies to Converting Algae to Bio-based Chemicals & Fuels**  
**ALLEN ARADI**, *Manager, Customer Technical Service*, ALBEMARLE

11:30-12:00 **Updates from General Atomics**  
**Amit Vasavada**, *Program Manager*, GENERAL ATOMICS

12:00-12:30 **Advanced emission control system & Precision Agriculture; CO2 Sequestration Using Algae Integrated Management System (AIMsys)**  
**Syed Isa Syed Alwi**, *Group Chief Executive Officer*,  
ALGAETECH INTERNATIONAL SDN BHD, MALAYSIA.