

U.S. DOE BETO Algae Cultivation for Carbon Capture and Utilization Workshop

3x5 Slide Session



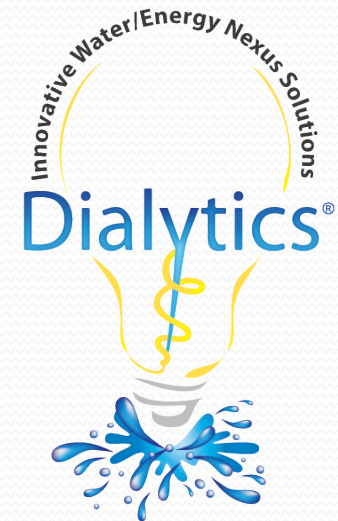
Dr. Clifford Merz, PE

Phone: (727) 409-0770

Email: cmerz@dialytics.com

Presented: May 23, 2017

Location: Double Tree by Hilton Orlando Airport
Orlando, Florida



Why I'm Here – My Background

- Through this workshop and follow-on interactions, I am hoping to acquaint future colleagues of my background and interests and open up discussions for partnering, networking, etc.
- I am an Ocean Engineer and member of the research faculty at the University of South Florida's (USF) College of Marine Science (CMS) in St. Petersburg, Florida and the Program Director of the Coastal Ocean Monitoring and Prediction System (COMPS); a regional network of autonomous meteorological and water quality measurement platforms located in the Gulf of Mexico and around Florida's west coast (3 offshore weather buoys, 5 coastal tidal weather stations, 5 coastal HF Radar systems).
- I am an inventor and patent-holder of a ocean energy generation technology that uses seawater concentration differences for sustainable and renewable salinity gradient power generation (SGP).
- President and founder of Dyalitics, Inc., a research start-up focused on water-food-energy nexus technologies such as aquaculture and SGP.
- Relevant Aquaculture coursework and workshops:
 - 2014: Completed a Marine Aquaculture Graduate Course at USF and an Algae Production Certification Course by the NAA.
 - 2016: Completed Pentair Aquatic Eco-Systems multi-day workshops in Recirculating Aquaculture Systems (RAS) and Aquaponics.
- Relevant Microalgal Publications:
 - Merz, C.R., Main, K.L., 2014: Microalgae (Diatoms) Production - The Aquaculture and Biofuel Nexus". *Oceans'14 MTS/IEEE Conference proceedings - Xplore*, St. Johns, Newfoundland, Canada, doi:10.1109/OCEANS.2014.7003242.
 - Merz, C.R., Main, K.L., 2017: Microalgae Bioproduction - Feeds, Foods, Nutraceuticals, and Polymers. In *Fuels, Chemicals and Materials from the Oceans and Aquatic Sources (Chapter 5)*. Wiley (in process, July 2017).

Why I'm Here - Preparing for the Future

- I am interested in the workshop topic of algae and carbon capture/utilization along with algal cultivation and bioproduction methods.
- Although I have accumulated some technical background to date, I am at a point where I feel that the success of any future endeavor would benefit greatly from:
 - **Direct hands-on experience** with both general and mass culture (i.e., biotech) algal cultivation processes.
 - **Direct hands-on experience** with bioproduction scalability/harvesting methods and the required equipment needs.
 - Stakeholder identification (*i.e.*, biofuels, feeds, foods, nutraceuticals, biopolymers).
 - Discussions on near-term challenges and opportunities.
- Obtaining this level of detail will better provide me with the perspective and material needed to develop and refine my overall future business plan and direction.