

**THE CLEARWATER CLEAN ENERGY CONFERENCE**  
The 43<sup>rd</sup> International Technical Conference on Clean Energy

**SUNDAY – June 3, 2018**

**Short Courses**

**9:00 – 11:00 a.m. – Combustion Issues** – *Alan Paschedag, Covanta, Inc., and J.J. Letcavits, American Electric Power*

**11:15 a.m. – 1:15 p.m. – Practical Optimization of the Coal Supply Chain** – *G.H. Luttrell, Virginia Tech; and P. J. Bethell, Marshall Miller and Associates*

**1:30 p.m. – 3:30 p.m. – Combustion Fundamentals** – *Prof. Ashwani K, Gupta, University of Maryland*

**3:45 p.m. – 5:45 p.m. – Advanced Biomass Pellet Characteristics for Utility Scale Cofiring and Conversion Programs**  
*Les Marshall, Ontario Power Generation Canada*

**3:00 p.m. – Exhibit Center Setup in the Island Ballroom**

**MONDAY – June 4, 2018**

**8:30 a.m. - Technical Session Moderators' Meeting – Gulf Room**

**9:00 a.m. - Continental Breakfast – Exhibit Center**

**9:30 a.m. – Keynote Address &**

**Panel: Emerging International Developments in Power Generation**

*Moderators:*

*Prof. Terry Wall, University of Newcastle, Australia;*

*Klas Andersson (Chalmers University, Sweden) Brigham Young University;*

*and Prof. Viktor Scherer, Ruhr-University Bochum, Germany*

**11:45 a.m. – Lunch in the Exhibit Center**

**1:00 p.m. Panel: U.S. Energy Portfolio Today and in the Future**

*Moderator: Bonnie Courtemanche, Director of Quality and Safety, BPE/BPS, Riley Power, Inc.*

- *Andrew Hlasko, U.S. Department of Energy, USA*

**3:00 p.m. Break – Exhibit Center**

**3:30 p.m. – Four Concurrent Technical Sessions**

- **Session 1 - Sand Key Room - Biomass Co-Firing**  
*Les Marshall, Ontario Power Generation, Canada*
- **Session 2 - Gulf Room - Innovative Low Carbon Fuels I**  
*Dongke Zhang, The University of Western Australia, Australia*
- **Session 3 - Palm Room - Supercritical CO<sub>2</sub> I**  
*Dr. Joshua Stanislawski, UNDEERC and Bhupesh Dhungel, Air Liquide*
- **Session 4 - Bay Room - Carbon Capture Utilization & Sequestration I, Dr. Erik Meuleman, ION Engineering, and Prof. Sankar Bhattacharya, University of Alberta, CANADA**

**5:30 p.m. Beach Party – Poolside**

**TUESDAY – June 5, 2018**

**7:30 a.m. Continental Breakfast in the Exhibit Center**

**8:00 a.m. Three Concurrent Technical Sessions:**

- **Session 5 - Sand Key Room - Energy From Waste**  
*Alan Paschedag, Covanta*
- **Session 6 - Gulf Room - Innovative Low Carbon Fuels II**  
*Dongke Zhange, The University of Western Australia*
- **Session 7 - Palm Room - Oxy-Combustion I**  
*Dr. Klas Andersson (Chalmers University, Sweden) and Dr. Andrew Fry, Brigham Young University*

**10:00 a.m. Break in the Exhibit Center**

**10:30 a.m. – Three Concurrent Technical Sessions**

- **Session 8 - Sand Key Room - Fluidized Bed and Dense Particle Flows**, *Dr. Ronald Breault, National Energy Technology Laboratory, U.S. Department of Energy*
- **Session 9 - Gulf Room - Combustion Fundamentals**  
*Dr. Weihong Yang, KTH Royal Institute of Technology, Sweden*
- **Session 10 - Palm Room - Oxy-Combustion II**  
*Dr. Klas Andersson (Chalmers University, Sweden) and Dr. Andrew Fry, Brigham Young University*

**12:30 p.m. – Lunch – Exhibit Center**

**2:00 p.m. Panel: Energy From Waste – Palm Bay Rooms**

*Moderator: Prof. Ashwani Gupta, University of Maryland*

- *Dr. Marco Castaldi, City University of New York, USA*
- *Dr. Kunio Yoshikawa, Tokyo Institute of Technology, JAPAN*
- *Dr. Somrat Kerdsuwan, King Mungkut University of Technology North Bangkok, THAILAND*

**3:30 p.m. Break**

**4:00 p.m. Four Technical Sessions**

- **Session 11 - Sand Key Room - Radiative Heat Transfer**  
*Brad Adams, Brigham Young University*
- **Session 12 - Gulf Room - Gasification**  
*Massood Ramezan, KeyLogic*
- **Session 13 - Palm Room - Chemical Looping I – Oxygen Carrier Development**, *Dr. Andrew Tong, Ohio State University and Dr. Mandar Kathe, Ohio State University*
- **Session 14 - Beach Room - Carbon Capture Utilization & Sequestration II**, *Dr. David Hopkinson, National Energy Technology Laboratory, U.S. Department of Energy and Prof. Jochen Lauterbach, University of South Carolina*

**6:00 p.m. – Conclusion of Technical Program**

**WEDNESDAY MORNING – June 6, 2018**

**7:30 a.m. Continental Breakfast in the Exhibit Center**

**8:00 a.m. Four Concurrent Technical Sessions:**

- **Session 15 - Beach Room - Combustion Technologies I**  
*J.J. Letcavits, AEP and Alan Paschedag, Covanta*
- **Session 16 - Gulf Room - Recovery of Rare Earth Elements I**  
*Eric Eddings, University of Utah*
- **Session 17 - Palm Room - Chemical Looping II – Process and Reactor Design and Testing**  
*Thomas Flynn, Babcock and Wilcox, and Dr. Luke Neal, North Carolina State University*
- **Session 18 - Bay Room - Biomass To Fuel**  
*Prof. Viktor Scherer, Ruhr-Universität Bochum, Germany*

**10:00 a.m. Break in the Exhibit Center**

**10:30 a.m. Four Concurrent Technical Sessions**

- **Session 19 - Beach Room - Supercritical CO<sub>2</sub> II**  
*Dr. Joshua Stanislawski, UNDEERC and Bhupesh Dhungel, Air Liquide*
- **Session 20 - Gulf Room - Carbon Capture Utilization & Sequestration III, Dr. David Hopkinson, National Energy Technology Laboratory, U.S. Department of Energy, and Dr. Sankhar Bhattacharaya, Monash University, Australia**
- **Session 21 - Palm Room - Modeling I**  
*Dr. Edmundo Vasquez, Consultant, Boiler Combustion and Emission Controls*
- **Session 22 - Beach Room - Recovery of Rare Earth Elements II**  
*Eric Eddings, University of Utah*

**12:10 p.m. – Lunch in the Exhibit Center**

**1:30 p.m. – Panel: Adaptive Mining Chains**

*Moderator: Dr. Dave Osborne, Somerset International Australia Pty Ltd., AUSTRALIA*

- *Michael O'Brien, Team Leader, Enhanced Coal Processing, Mining and Processing Technologies /Coal Mining Program, Queensland Centre for Advanced Technologies (QCAT), CSIRO, AUSTRALIA*

- *Peter Bethell, Senior Principal: Mineral Processing, Marshall Miller and Associates, USA*

**3:30 p.m. – Break in the Exhibit Center**

**4:00 p.m. – Exhibit Center Closes**

**4:00 p.m. – Four Technical Sessions**

- **Session 23 - Beach Room - Innovative Power Applications**  
*David Tucker, National Energy Technology Laboratory, U.S. Department of Energy and Dalia El Tawy, Siemens*
- **Session 24 - Gulf Room - Chemical Looping III – Process and Component Analysis**  
*Dr. Andrew Tong, Ohio State University, and Vasudev Pralhad Haribal, North Carolina State University*
- **Session 25 - Palm Room - Modeling II**  
*Dr. Edmundo Vasquez, Consultant, Boiler Combustion and Emission Controls*
- **Session 26 - Bay Room - Upgrading/ Beneficiation**  
*Dr. Dave Osborne, Somerset International Australia Pty Ltd., Australia*

**5:40 p.m. – Conclusion of the Technical Program**

**THURSDAY MORNING – June 7, 2018**

**7:30 a.m. Continental Breakfast – Island Ballroom**

**8:00 a.m. – Panel: Gasification Technology – A Path Forward to Overcome Current Challenges**

*Moderator: Massood Ramezan, KeyLogic*

- *Dave Lyons, Technology Manager, National Energy Technology Laboratory, U.S. Department of Energy;*
- *Francis Lau, Chief Technology Officer, Synthesis Energy Systems*
- *Dr. Joshua Stanislawski, Energy & Environmental Research Center, University of North Dakota*

**10:00 a.m. – Break in the Island Ballroom**

**10:30 a.m. – Three Concurrent Technical Sessions**

- **Session 27 - Beach Room - Load Following Issues & Turbines**  
*Yogesh Patel, TECO*
- **Session 28 - Gulf Room - Emerging Analytical Approaches**  
*Dr. Dave Osborne, Somerset International Australia Pty Ltd., Australia*
- **Session 29 - Palm Room - - Carbon Capture Utilization & Sequestration IV**  
*Dr. Erik Meuleman, ION Engineering, and Prof. Dr. Jochen Lauterbach, University of South Carolina, USA*

**12:10 p.m. – Lunch in the Island Ballroom – Presentation of the Best Student Paper Award – Roundtable/Wrap-up Discussion**

**FRIDAY MORNING – June 8, 2018**

**6:30 a.m. – Continental Breakfast – Lobby 2**

**7:00 a.m. – Departure of the Covanta/Hillsborough and Polk Power Plant Tours**