



**CLEARWATERBAY
TECHNOLOGY, INC.**
The Process Development Company

**CLEARWATERBAY
TECHNOLOGY**

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HAPPY NEW YEAR!

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SPECIAL POINTS OF INTEREST:

- Happy New Year!
- Training Courses: Process Development, Crystallization and Energy
- Other Events

Dear Friends,

All of us here at ClearWaterBay Technology would like to thank you for your support and participation to make this a successful and eventful year for us. We promise to continue with our efforts to bring you new products and technologies.

2009 marked an exciting year for our training courses. We now offer public and private courses in *Process Development, Energy, Crystallization and Separations*. In this issue we talk about some of our recent courses.

2009 was also a very promising year for our software division; we launched two new software products in the energy sector this year: *Pinch Analysis* and *Total Site Energy Management*. You can download the brochures on our website www.cwbtech.com or email us at info@cwbtech.com.

CWB TECH PRODUCT SHOWCASE



Our focus for the coming year 2010 is on Energy Sector. We will be conducting various seminars/training courses on those topics. The following are announced:

- *Energy Challenges for Process Development* – Process Development Symposium at Lake Ozark, MO on June 27-30, 2010. See <http://www.aiche.org/conferences/Specialty/ProcessDevelopment2010.aspx> for details
- *Energy Efficiency of Process Development in Hi-Tech Industry* – Seminar in Hong Kong, October 2010

We are also continuing with the TECH TIP feature in our newsletter. Every issue we bring you some knowledge from our experts along with happenings on our end – tradeshow, training courses, publications, etc. Your suggestions and feedback are always welcome!

For more information on our latest courses and products visit our website.

We thank you all for your continued support and wish you a very Happy and Prosperous New Year!

*With Regards,
The CWB Tech Team*

AICHE DAY AT 2009 CHEMSHOW, NY / AICHE ANNUAL MEETING, TN

CHEMSHOW, NY

Integrative Approach to Crystallization Process Development

A comprehensive line-up of conference sessions designed to help CPI professionals enhance key aspects of their business operations were featured during AIChE Day at The NEW CHEM SHOW, Nov. 17, 2009 in New York.

Read more on AIChE Day and ChemShow at <http://chemshow.com/newpress/newsitems/aicheday.php>

AICHE Annual Meeting, TN

Crystallization Process Development: From Lab to Plant

This course provides an in-depth overview of an integrative approach for crystallization development. Recently, this course was presented at the AIChE Annual Meeting in Nash-

ville, TN on Nov. 8, 2009.

Read more on AIChE Annual Meeting at www.aiche.org



Dr. Chris Wibowo, Group Manager Principal Engineer and Dr. Lionel O'Young, CWB Tech President were the instructors of the AIChE Course, whereas Dr. Wibowo was the instructor of the ChemShow course.

These course presented an integrative approach for crystallization process development – using models to analyze the SLE behavior of the system, validating the model using experimental data, and systematically synthesizing a crystallization process based

on the SLE behavior.

Highlights of the course:

- How to analyze solubility and SLE phase behavior for the purpose of conceptual design of crystallization processes
- How to use the knowledge of SLE phase behavior in synthesizing crystallization processes and defining the optimum processing conditions
- How to apply fundamental understanding and integrate synthesis, analysis, and experimental effort in developing crystallization processes
- How to solve practical industrial problems in the chemical, fine chemical, and pharmaceutical industries using the integrative approach

AICHE-UCLA ENERGY PRESENTATION



Dr. Joseph Schroer, Group Manager Principal Engineer at CWB Tech recently presented at the AIChE Joint

UCLA Student Chapter and Southern California Local Section Meeting (Nov. 18, 2009). The topic was: **Site-wide modeling and analysis for energy saving and CO₂ reduction.**

The discussion was on one approach in plant analysis for identifying energy savings in petrochemical plants. One of the topics covered was on how to combine some traditional approaches like Pinch Analysis and Total Site

Analysis with a process development slant to further identify saving opportunities. Pinch Analysis identifies thermodynamically feasible process heat transfer applications, while Total Site analysis relates to the energy distribution (i.e. steam) system and can identify optimal distribution modes, marginal costs, etc. Additional explanation was provided by means of practical examples from a petrochemicals complex. The addition of the CO₂ accounting can give some interesting and non-intuitive results.

For more information about the Process Development Division of AIChE and their recent offerings, visit www.pd-aiche.com.

ASME COURSE – PROCESS DEVELOPMENT

CWB Tech is conducting a training course in conjunction with ASME in Atlanta, GA on Dec. 10-11. The topic is: **Multi-disciplinary Process Development: From Lab to Plant.** Dr. Vaibhav Kelkar, Group Manager Principal Engineer and Dr. Lionel O'Young, CWB Tech President are the course instructors. The course provides an overview of process development starting from the

time a process chemistry is invented in the lab to the development of a commercial scale process. **A repeat of this course will be held in Las Vegas, NV on March 18-19, 2010.**

For details, visit http://catalog.asme.org/Education/ShortCourse/MULTIDISCIPLINARY_PROCESS.cfm

INCHEM – TOKYO



CWB Tech exhibited at booth 2G-06 with our partner I.T. Solutions at InChem Tokyo 2009, held on Nov. 18-20 in Tokyo, Japan. The InChem Tokyo trade-show consisted of the following two shows (1) Chemical Plant Engineering Show and (2) Advanced Materials Show. One of our highlights was our software and experimental measurement package - SLEEK-EX.

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