



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

CLEARWATERBAY  
TECHNOLOGY

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# THE CWB INSIDER

A CLEARWATERBAY TECHNOLOGY INC. QUARTERLY

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## CWB TECH GOING GLOBAL WITH NEW OFFICES IN ASIA

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ClearWaterBay Technology is going global, most recently with the opening of our new office in **Beijing**. With great pleasure we

introduce our new family – **ClearWaterBay Technology Beijing (CWBCN)**. The goal is to introduce the latest process technologies into the Chinese market. In addition to the office space, the facility consists of a built-in seminar room with multiple-computer access to conduct seminars and lectures efficiently. Another important objective is to conduct technology lecture series for engineers. The built-in seminar room is one of the unique features serving this purpose.



The first event at the new office is a Technology Series on

Simulation for the Chinese National Petroleum Corporation (CNPC). This is a five-year series with the objective of advancing the simulation technology ability of CNPC engi-

neers. It is our pleasure to have Dr. Bing Tjoa, President of Optience Corporation, Campbell, California as our first speaker. The topic is "Current Trends in Optimization Technologies", to be held on Sept. 6, 2011. To attend this lecture, as well as to visit this facility, please contact Ms. Jia Tian at [jia\\_tian@cwbttech.cn](mailto:jia_tian@cwbttech.cn).

Our second new venture is **ClearWaterBay Technology, Ltd**, our sister company in **Hong Kong SAR**. The new facility is in the final stretch of the site construction, expected to open shortly. This facility is equipped with experimental capabilities, both pilot and lab-scale. For more details, watch our upcoming newsletters.



CWB Tech's goal has always been to provide the total solution to the clients' process R&D needs. Our new Asia offices further that goal along with our main office in Southern California.

### SPECIAL POINTS OF INTEREST:

- New BEIJING Office
- Upcoming tutorials at Chem Show NY, Nov. 2-3, 2011
- New Simulation Technology Course

### CHEM SHOW TUTORIALS

This year's Chem Show NY consists of traditional trade show exhibits well as chemical engineering tutorials. ClearWaterBay Technology's Principal Engineer, Dr. Wibowo, will be conducting two lectures on :

- Crystallization (Wednesday, Nov. 2, 8.30-11.30am)
- Energy Management (Thursday, Nov. 3, 8.30-11.30am)

Read "Update" in the latest issue (September 2011) of CEP Magazine for details.

For more information, visit our website at [www.cwbttech.com/short\\_courses.html](http://www.cwbttech.com/short_courses.html)

shield washer fluid, chemical engineers must determine the sometimes-unknown physical properties of chemicals, and constraints on time and investment often prohibit experimentation to determine these properties. "This is where physical property estimation techniques can help give chemical engineers the values they need," Joback says.

For example, Joback is applying physical property estimation techniques to help another customer develop new solvents and processes for absorbing CO<sub>2</sub> from fluegases. "As novel solvents are proposed, their chemical and physical properties must be estimated since no experimental data are available," Joback says. Thus, it is necessary to estimate the Gibbs free energy of reaction to evaluate chemical equilib-

#### Managing energy consumption

With the rising cost of energy and increased government oversight of greenhouse gas emissions, chemical companies have good reason to manage energy usage, says Christianto Wibowo of ClearWaterBay Technology.

Energy management involves looking at individual processes within a chemical plant to optimize energy efficiency. Another aspect of energy management is identifying processes or sections of processes that consume energy (heating, for example) and others that release energy (e.g., cooling), and combining these in a way that reduces overall energy consumption.

"We have to plan for a better way to utilize the energies

AICHE tutorial sessions will be held Nov. 1-3 alongside the Chem Show exhibit hall.

Topic*	Instructor	Affiliation
Filtration	Scott Yaeger	President, Filtration & Separations Technology LLC, and Instructor, American Filtration and Separation Society
Solid-Liquid Separations Valves, Actuators, and Controls	Ray Collins	Senior Specialist, Dow Chemical Co.
	Greg Johnson	President, United Valve
	Leon Brooks	Director of International Sales, Cameron Valves and Measurement
	Ed Holtgraver	CEO, QTRCO, Inc.
Vacuum Pumps	Paul Souza	Quality Assurance Manager, AUMA Actuators, Inc.
	Jeff Luby	Edwards Vacuum
	Don Collins Mark Nichols	
Physical Properties for Product and Process Development	Kevin Joback	President, Molecular Knowledge Systems
Mixing	Tom Post	Consultant, Post Mixing
Powder Flow Technology	Eric Maynard	Senior Consultant, Jenike & Johanson
Pumps	Tom Dabbs	Gould Pumps
Crystallization Energy Management	Christianto Wibowo	Principal Engineer and Training Course Coordinator, ClearWaterBay Technology, Inc.

## PROCESS SIMULATION COURSE

This course is about **Simulation Technology** – What it is, how to setup, how to use, and so on. Interactive workshops make the course adaptable to the user.

This practical, hands-on course focuses on methods, strategies and workflow involved to set up simulations for chemical processes, starting from selection of components, thermodynamic properties, and unit operations to create a stable and correct representation of the actual process. Workshop sessions illustrate the concepts by teaching “building block” lessons that highlight a broad range of simulator functionality, as well as, advise of potential pitfalls and difficulties that can occur. Lectures provide a combination of fundamental background and case studies that impart a solid knowledge base from experience the user will retain as a foundation to his/her simulation applications.



The first course was held in Beijing, China on August 17, 2011.

The topic of the course was: **Simulation Technology**

### What Can You Expect to Learn:

- Physical Properties
  - How to access the models and parameters, and how they affect your results
  - Why to select a particular model for a simulation case
  - Regression of experimental data
  - Properties estimation
- Basic unit operations modeling

- Flash
- Heaters
- Pressure changers
- Distillation modeling
- Reaction modeling
  - Reactor modeling techniques
  - Reaction model features in the simulator
- Steady State Flowsheet simulation
  - Recycle
  - Design specifications, variable accessing & calculations, etc.
  - Convergence, and algorithms
  - Sequential modular and Equation Oriented modeling uses and features



**Instructor:** Dr. Joseph Schroer, principal engineer at CWBTECH



If you are interested in this course, or any of other short courses (on Crystallization, Energy, Process Development), please contact us at [shortcourse@cwbttech.com](mailto:shortcourse@cwbttech.com)

## UPCOMING TRAINING COURSES

Date	Venue	Title	Registration
Oct. 16, 2011	Minneapolis, MN, USA	2011 AIChE Annual Meeting: <b>Integrative Approach to Crystallization Process Development</b>	<a href="http://www.aiche.org/Conferences/AnnualMeeting/index.aspx">www.aiche.org/Conferences/AnnualMeeting/index.aspx</a>
Oct. 23-26, 2011	Bahrain	1st Middle East Process Engineering Conference and Exhibition (MEPEC 2011): <b>Practical Strategies for Energy Issues of Chemical Plant Complexes</b>	<a href="http://mepec.org/introduction.html">mepec.org/introduction.html</a>
Nov. 2, 2011	New York, NY, USA	2011 Chem Show: <ul style="list-style-type: none"> <li>• <b>Integrative Approach to Crystallization Process Development</b></li> <li>• <b>Energy Management</b></li> </ul>	<a href="http://www.chemshow.com/">www.chemshow.com/</a>
Dec. 5-6, 2011	Atlanta, GA	ASME Course: <b>Multi-Disciplinary Process Development: From Lab to Plant</b>	<a href="http://www.asme.org/products/courses/multi-disciplinary-process-development--from-lab-t">www.asme.org/products/courses/multi-disciplinary-process-development--from-lab-t</a>

For detailed information on our upcoming training courses, contact us at [shortcourse@cwbttech.com](mailto:shortcourse@cwbttech.com), or Gary Koehler of Garlind Associates at [garlind2@verizon.net](mailto:garlind2@verizon.net), or Hideo Iketani of I.T. Solutions at [iketani@its-ykh.co.jp](mailto:iketani@its-ykh.co.jp) or Abdul Rahman Hariri of Winmore Engineering Sdn Bhd at [rahman.hariri@winmore-engineering.com](mailto:rahman.hariri@winmore-engineering.com)

## COURSE REVIEW

Evaluation of content	Average Rating
	1 = needs improvement, 2 = normal, 3 = good, 4 = very good, 5 = excellent
Material (slides, handouts) overall quality	4.6
The instructor's level of knowledge of course content	4.9
Practice sessions (Workshops)	4.4
Overall clarity of teaching	4.3

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