



## Former public utilities director Martin McIntyre to speak at September 15 ICWT Industry Meeting

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Martin McIntyre, former public utilities director for the City of Fresno will be the guest speaker at the September 15, 2005 ICWT Industry Meeting. The topic will be “Ground Zero-Water Issues...a real world look at the California water situation.”

Martin McIntyre, will discuss current and future water issues impacting the state, the valley and the Fresno metropolitan area. Currently providing consulting services to water districts, Mr. McIntyre has been both water system manager and utility director for the City of Fresno. With over 25 years experience managing water resources, he presents today’s compelling water issues in both a local and a regional context.

### Sexual harassment training September 8, 2005

Sexual harassment prevention training is now mandatory for California employers. Assembly Bill 1825 requires employers with 50 or more employees to provide two hours of interactive sexual harassment training to all supervisors every two years.

Don’t miss this training it will cover all regulation requirements in a fun and effective workshop. September 8, 2005, 8:00 a.m. – 10:00 a.m. (continental breakfast provided) Smittcamp Alumni House at Fresno State, 2625 E. Matoon Way, Fresno, CA 93740.

FLG Consulting will provide the training. FLG has certified HR professionals that have over 20 years of training and compliance experience. Cost is \$10 per person (make check payable to California State University, Fresno Foundation).

For more information contact the Office of Community and Economic Development at 559-294-6021.

### Free trade agreements and intellectual property rights symposium

The symposium took place on August 18, 2005 and was a great success! About 40 people attended the event held at the UC of California Center in Fresno.

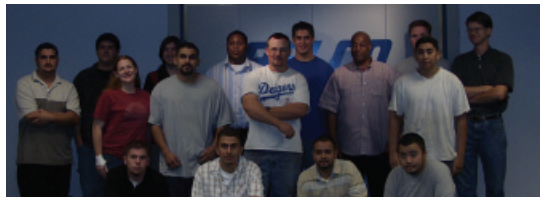
An Impressive group of speakers attended to discuss the following topics:

- Finding the right business partners overseas
- Intellectual property rights protection in China
- CAFTA “Market Opportunities Ahead”
- NAFTA 10 years later

A summary of each of the presentations is available at [www.icwt.net](http://www.icwt.net) for more information on any of the above topics contact Dan Clawson at (559) 278-2066.

*San Joaquin Valley International Trade Association; International Center for Water Technology; Craig School of Business, International Business Program, California State University, Fresno; Fresno Area Hispanic Chamber of Commerce; Wells Fargo Bank Business Banking; Central California Hispanic Chamber of Commerce; Global Partnership for International Trade Development; Center for International and Trade Development State Center Community College Districts sponsored the event.*

## Careers in Manufacturing Technology (CIMT) offers summer job training



This summer, eighteen students were selected as interns for ten different manufacturing and water technology cluster companies through the Careers in Manufacturing Technology program. The purpose of CIMT is to help ensure that students in the applied technology programs at Fresno City College and Reedley College finish the full training program before entering the full-time workforce. CIMT provides hands-on learning opportunities and interaction with potential employers.

Part of the Summer Internship Program is the CIMT Training Academy, a series of half-day workshops on topics important to manufacturing and water technology

clusters, such as workplace safety, manufacturing flow processes, basic shop math, teamwork and diversity, and basic job skills and character. These workshops help prepare students for their future by providing them with these unique training opportunities.

CIMT would like to thank each of the companies for participating this summer with a special thanks to the following companies for hosting a Training Academy session and a plant tour: Fresno Valves and Casting, Grundfos, Guardian, Pelco, and Rand Machine Works. Students will complete their internships on August 12<sup>th</sup> and begin fall semester classes the following week. Look for student and host company feedback in the next newsletter.

For more information about the program contact the Office of Community and Economic Development at 559-294-6024.

## The ICWT web site has been updated

The International Center for Water Technology web site has been going through some major renovations over the past few months. When you have some time, check out [www.icwt.net](http://www.icwt.net). Your comments on navigating through the site will be very helpful to us. Feedback would be appreciated especially if you see something that could be added to the site to benefit your business.

Please send comments to Laura at [lramos@csufresno.edu](mailto:lramos@csufresno.edu).

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## Industry News

### Mazzei AirJection® System Solves Wastewater Handling Capacity & Cold Weather Operation Problems for a Midwest Corn Milling Plant

**The Problem:** Although the existing WWTP aeration system was capable of meeting effluent BOD requirements for disposal to a municipal sewer during warm weather, the cooling effect of the surface aerators (due to heat losses from evaporation) adversely impacted performance during winter operation. In addition, the existing aeration system did not have enough capacity to handle the increased load from the planned expansion of the facility.

**The Solution:** Unlike surface aerators, the Mazzei AirJection® System does not induce cooling of wastewater aeration basins. Even during cold weather operation, the natural heat of compression resulting from forcing the air aspirated by the High Efficiency Mazzei Injector to the bottom of the basin negates any cooling effects of injection of cold air. In addition, the energy introduced by the pumping and circulating of the wastewater through the injectors and nozzles actually introduces heat into the basin. Heat balance calculations indicate that the AirJection® System installed at this facility adds enough energy to increase the temperature of the basin contents by about 0.5 °C/day.

The AirJection® System was sized to meet the aeration requirements for the planned expansion of the milling plant, which is to be completed in 2005 with the addition of more milling capacity.

**The System:** In order to meet the aeration, mixing and air distribution requirements of the 267' x 170' x 22' SWD basin, a system utilizing four Model 12050 12" Mazzei® Injectors was installed. Each injector operates ten Mazzei® N60 6" Mass Transfer Multiplier Nozzles on four manifolds submerged in the basin. The 12050 injectors flow about 2500 GPM each when operated at the design inlet pressure of 15 PSIG. Each injector naturally aspirates about 200 SCFM of air without the need for blowers or compressors. The N60 nozzles are designed to provide an exit velocity of about 16-18 ft/s resulting in thorough dispersion and mixing of the aspirated air with the bulk of the basin contents. Two dry sump centrifugal pumps are used to supply water to the four Model 12050 venturi injectors.

**The Result:** The aeration system has been in operation for two months with excellent results, in spite of the fact that the partition curtain, which separates the clarifier zone from the aerated zone, has not yet been repaired. In addition, solids that have accumulated in the bottom of the basin are being stirred up and are adding to the loading of the system. In spite of these problems, effluent BOD levels lower than those produced by the surface aerators are being achieved. In addition, the overall appearance and operation of the basin has improved significantly. Operators report a significant reduction in solids loading since the switch to the AirJection® System.

Most significantly, the operating water temperature has improved significantly in comparison to the surface aerator operation. Historically the basin water temperature during September and October has averaged 60-70 °F with the floating aerators in operation. With the AirJection® System in operation the water temperature is averaging about 95 °F. Because of this, plans to cover the aeration basin in order to maintain adequate water temperature during winter operation are being reconsidered.

For more information, please contact:  
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Email: [mike@mazzei.net](mailto:mike@mazzei.net)



Basin Mixing and Air Distribution  
(Note: surface aerators are not in use)

## Quarterly update

### June Meeting Wrap Up

#### Presentation by Andrew Stone from the American Groundwater Trust

Growing competition for the world's fresh water: The challenge of educating citizens, communities and decision-makers to achieve science-based policy for sustainable water use.

A copy of this presentation is available at [www.waterflowtech.com](http://www.waterflowtech.com).

### SBIR Workshop update

The annual Small Business Innovative Research seminar took place May 25 - 26, 2005. On May 25th, 20 individuals attended and received information on Phase I proposal preparation. The seminar included an overview of the SBIR program, proposal strategies, reviews and debriefing as well as a group critique of a Phase I proposal. May 26th, was followed by a "Train the Trainer" seminar. The Greenwood Consulting Group, Inc. out of Florida was in Fresno for this two day seminar. The Greenwoods provided 10 individuals from Fresno the tools necessary to provide one-on-one assistance to the participating companies in order to prepare their proposal.

**To submit articles or for more information contact Laura at 559-278-2066  
or by email at [Iramos@csufresno.edu](mailto:Iramos@csufresno.edu)**

## **WATER CLUSTER MEETING**

**September 15, 2005  
9 – 11 A.M.**

*Central Valley Business Incubator  
2555 Clovis Ave.  
Clovis, CA 93612*

***Please RSVP to [Iramos@csufresno.edu](mailto:Iramos@csufresno.edu)  
or (559)278-2066***

From the North: Take Freeway 99 South to Freeway 41 North/41 South. Stay on 41 North/41 South to 180 East (Kings Canyon). Take 180 East to 168 East (Clovis/Huntington Lake). Continue on Freeway 168 East to Shaw Avenue Exit. Turn right onto Shaw Avenue. Follow Shaw to Clovis Avenue and turn right onto Clovis Avenue. Turn left onto Santa Ana (just south of Sierra Vista Mall), and turn into the first driveway on the right. The building will be on your left. There is a sign that reads Central Valley Business Incubator.

From the South: Take Freeway 99 North to Freeway 41 North (Yosemite). Take Freeway 41 North and follow until Freeway 180 East (Kings Canyon). Get on Freeway 180 East (it is helpful to stay in the right lane after merging onto 180 from 41) and follow to Freeway 168 East (Clovis/Huntington Lake). Take Freeway 168 East to Shaw Avenue Exit. Turn right onto Shaw Avenue. Follow Shaw to Clovis Avenue and turn right onto Clovis Avenue. Turn left onto Santa Ana (just south of Sierra Vista Mall), and turn into the first driveway on the right. The building will be on your left. There is a sign that reads Central Valley Business Incubator.