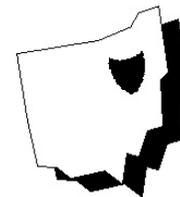




UNIT OPERATIONS

OFFICIAL NEWSLETTER OF THE AKRON SECTION AIChE



January 2002

FEBRUARY MEETING

NATIONAL ENGINEERS WEEK BANQUET

"Fuel Cell Technology and Applications"

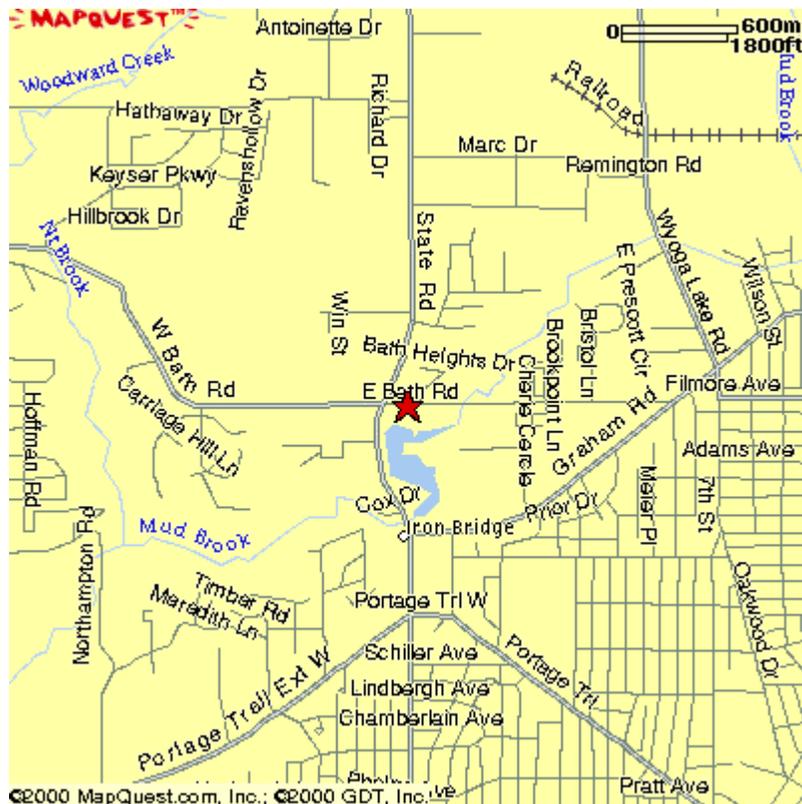
DATE	Thursday, February 21, 2002
LOCATION	Emidio's Party Center (See map below) 48 E. Bath Road at State Road Cuyahoga Falls, OH
SPEAKER	William Schweizer Manager, Solid Oxide Fuel Cell Development McDermott Technology, Inc.
SCHEDULE	5:30 Social 6:30 Dinner and Program
COST	Regular \$25; Students \$20
RSVP	Call or Fax Jan Ruthenburg at 330-836-5397 or ab2887204@aol.com by Friday, February 8th

Please Note: The Akron AIChE Section is seeking volunteers to serve as officers for this year. If interested, contact Tom Flynn by email tom.j.flynn@mcdermott.com or phone 330-829-7622.

NEWSLETTER GOES ELECTRONIC In the interest of saving postage and streamlining the distribution process, the Akron Section of AIChE will be distributing its monthly newsletter electronically to its members. For a while we will distribute the newsletter in both electronic and paper form. The Newsletter will be sent as a Microsoft Word document and in PDF format. We have email addresses for most of the members through the AIChE National registration. Please do your part and notify us when your email address changes. Send changes of addresses to the Newsletter Editor tom.j.flynn@mcdermott.com or call at 330-829-7622.

FEBRUARY MEETING

**Emidios Banquet Center
48 E. Bath Road
Cuyahoga Falls**



LOCAL SECTION SCHEDULE FOR 2002

<i>DATE</i>	<i>TOPIC</i>	<i>LOCATION</i>	<i>SPEAKER</i>
February 21, 2002	Engineers' Week Banquet – Fuel Cells	Emidios Party Center	Bill Schweizer McDermott Technology, Inc.
March 10-15, 2002	2002 Spring National Meeting	New Orleans	
March Local Meeting	TBD	TBD	TBD
April 2002	Student Night	TBD	University of Akron Seniors
July 2002	Cleveland Indians Game	Jacobs Field	
August 2002	Cleveland Indians Game	Jacobs Field	

Job Opportunity:

RSR Corporation is seeking a **Plant Engineer** for their facility in Middletown, New York. RSR recycles batteries. Plastics, lead and chemicals are recovered from car batteries. The Plant Engineer will be responsible for all aspects of maintenance and preventative maintenance.

Contact:

Bob Von Gyurcsy
A. T. Kearney Executive Search
Plano, Texas
972-543-7627
vong@atkearney.com

LOCAL AREA NEWS/EVENTS

DECEMBER MEETING

"HURRICANE FORECASTING AT THE NATIONAL WEATHER SERVICE"

by Tom Flynn

The December meeting was a joint meeting of the Akron American Chemical Society (ACS) and the Akron AIChE Section. John Guiney of the National Weather Service presented both a historical perspective and the latest in hurricane forecasting technology. John provided an overview of hurricanes covering such topics as definitions, hazards, observing and tracking and forecasting.

The West and North Pacific is the most active hurricane area on earth. The Pacific averages 26 named storms per year compared to 10 in the Atlantic and 16 in Mexico. The hurricane season is between June 1st and November 30th. A tropical depression is defined as a storm with sustained winds of less than 39 mph. A tropical storm has winds between 39 and 73 miles per hour. A hurricane has sustained winds above 74 mph.

Caribbean hurricanes originate off the coast of Africa. Of approximately 100 storm systems, approximately 10 develop into hurricanes. The water temperature needs to be at least 80F to enable a hurricane to form. September 10 is the most likely day for a hurricane. The Saffir-Simpson Scale is used to rate hurricanes.

Category	Central Pressure, mbar	Wind Speed, mph	Storm Surge, ft
1	>980	74-95	4-5
2	<980	<110	6-8
3 (Major)	<975	<130	9-12
4	<965	<155	13-18
5	<920	>155	>18

The flow in a hurricane is up around the eye and down into the eye. The eye is approximately 100 miles across. The total diameter of a typical hurricane is 300 miles.

The No. 1 hazard of a hurricane is the storm surge. Nine out of ten hurricane victims are storm surge fatalities. The surge is worse where the ocean is shallow, such as in the Gulf. The surge is also worse at the North and East quadrant of the storm. Other significant hazards of hurricanes include high winds, rainfall and flooding and tornadoes. Rainfall can be as high as 40" in a 12 to 24 hour period. During the period from 1970-1999, 59% of

fatalities were caused by freshwater flooding. The tornadoes are most prevalent on the rain bands east of the center when the rain band hits land.

Camille in 1969 was a Category 5 hurricane and was instrumental in the government launching a major program to improve the National Weather Services' forecasting capability. There are 164 radar stations spread across the country. The closest local station is in Cleveland. The radar is limited to a 250 mile radius. The most difficult task of hurricane forecasting is making accurate predictions of wind speed at ground level. Dropsondes (\$500 each) are dropped from planes to measure wind velocity as a function of elevation. Maximum wind speeds are typically measured at 500-1000 meters elevation. Balloons are launched twice a day from each radar station to measure upper atmosphere air movement. The 72-hour forecast has improved the most over the last 30 years.

Proper forecasting not only saves lives but can save millions of dollars in avoided evacuation costs. The cost to evacuate one mile of US coast line is approximately 1 million dollars. Current forecasting techniques can predict hurricane position within 100 miles for the next 24-hour period. Hurricane forecasts are made 4 times a day.

The presentation was enjoyed by all as indicated by the many questions that were asked both during and after the presentation. It was obviously a popular topic.

Congratulations and thanks to ACS for coordinating a very enjoyable meeting.

NEWS FROM NATIONAL

The Research and New Technology Committee (RANTC) is soliciting suggestions on subjects that could be developed into technical conferences. The RANTC would then assist local sections and the national programming committees to develop the subjects into conferences locally, regionally, and nationally. Submit suggestions on a survey form through the following link:

<http://www.jordan-webb.net/clients/aich1029>

AICHE LOCAL SECTION EXECUTIVE COMMITTEE

<i>Position</i>	<i>Name</i>	<i>Phone</i>	<i>E-mail</i>
Chair	Dan Jones	(330) 338-8029	djones1@neo.rr.com
Vice-Chair	Gia Hudak	(330) 588-2711	gia.hudak@colaik.com
Secretary & Newsletter	Tom Flynn	(330) 829-7622	tom.j.flynn@mcdermott.com
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ACCESS Representative	Joe Feil	(330) 796-6613	jnfeil@aol.com
ACCESS Representative	Walt Ruthenburg	(330) 796-7385	walt_ruthenburg@goodyear.com

AIChE Web Sites

Local: <http://members.core.com/~aiche/>

National: <http://www.aiche.org>

Cleveland: <http://ctsc.org/aichecle>



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ADDRESS CORRECTION REQUESTED