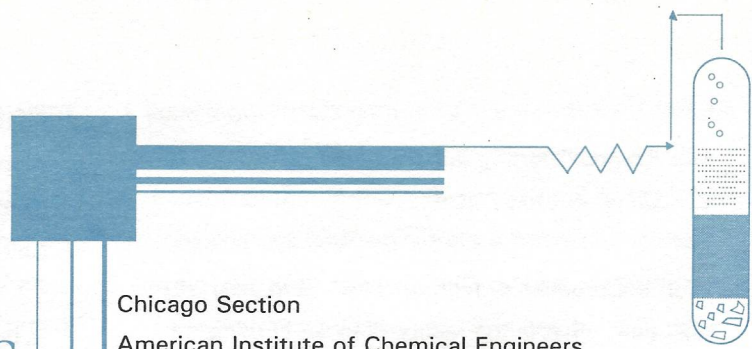


# AIChE<sup>SM</sup>

section

## Chicago Columns



Chicago Section  
American Institute of Chemical Engineers  
[www.aiche-chicago.org](http://www.aiche-chicago.org)

### November Meeting Notice

Wednesday November 13, 2002

William Tell  
6201 Joliet Road  
Countryside, IL 60525  
708-352-1101

#### Agenda

Cocktails.....5:30 - 6:30 pm  
Dinner.....6:30 - 7:30 pm  
Presentation.....7:30 pm -

#### Cost

\$30 for members  
\$35 for non-members  
No charge for AIChE student chapter members  
(see your advisor).

#### Menu

Choice of Roast Sirloin of Beef or Vegetable Lasagna. Meal comes with Soup, House Salad w/Ranch or Italian Dressing, Custard Herb Potatoes (with Beef) and Green Beans Almondine. Rainbow sherbet for dessert.

#### Reservations

*Make your reservations by calling the AIChE Reservation Hotline at 847-588-3323 or emailing [evalopez@teianalytical.com](mailto:evalopez@teianalytical.com). Or register online at [www.aiche-chicago.org](http://www.aiche-chicago.org). Deadline is noon November 6, 2002.*

### An Evening of Air Quality

#### Social Hour Speaker:

*Consider Industrial Air Emission Control Devices*  
Mr. Jim Lopata of Lopata Technical Service Corporation, will be available with a table top display of information about Emission Control Devices specified and installed by Lopata Technical Service Corporation. He can answer questions about your specific application, or about the equipment shown in the display. Call (312) 280-1574 for more information.

#### After Dinner Speakers:

*Update on the Toxic Release Inventory Regulation*  
Frank Gabrielow, U.S. EPA Region 5

The Toxic Release Inventory (TRI) is a federal reporting program established under the Emergency Planning and Community Right-to-Know Act (EPCRA, or Title III of the Superfund Amendments and Reauthorization Act) of 1986 that was further expanded by the Pollution Prevention Act of 1990. This program has expanded considerably since its inception in 1987; it includes over 650 chemicals and chemical categories. Most recently, the EPA has issued new Rules and has reduced the report thresholds for certain persistent, bioaccumulative, and toxic chemicals. Frank will outline the reporting requirements, and will discuss the assistance and training offered by EPA to firms that must comply with this regulation.

*continued on page 2*

from page 1

### *Fuel Trends: Sorting out the Facts*

William H. Keesom, UOP

With the promise of high efficiency and zero pollution, what is the reality of clean-burning hydrogen based fuel cells for transportation? Is hydrogen really the fuel for the future? If so, how soon can we expect it? How should we look at fuels and the fuel cycle? Bill will put into perspective the issue of vehicle efficiency and fuel reformulation. Which fuels dominate, what are the growth trends, and what are the implications of these trends?

#### **Directions**

##### *From Chicago or Joliet:*

Take the I-55 Stevenson Expressway (west from Chicago, east from Joliet). Exit LaGrange Road North. Turn left at 2nd stop light onto Joliet Road westbound. Proceed  $\frac{1}{4}$  mile, William Tell is on the right next to the Holiday Inn.

##### *From O'Hare and North:*

Take Interstate I-294 South. Exit right to I-55 Stevenson Expressway to the toll booth. Pay toll and take exit ramp to Joliet Road. Proceed eastbound past 4 lights. William Tell is on the left next to the Holiday Inn.

##### *From the Indiana and East:*

Take Interstate I-294 North, past the 83rd Street toll booth. Exit Wolf Road to stop sign and make a right turn. At first traffic light turn right onto Joliet Road eastbound. Proceed east on Joliet Road past 3 lights. William Tell is on the left next to the Holiday Inn.

### **Chair's Corner**

Alan Levine, Law Engineering

Chair 2002-03

Chicago Section AIChE

In late September of this year I spent 7 days in a small town in Minnesota sampling wastewater. The town is located within an hour and a half of St. Paul, and has approximately 2,100 people. As I made my travel arrangements I learned that the town had no hotels, no rental car agencies, and only two restaurants (if you stretch the meaning of the word). I had to stay in a hotel in a neighboring town, which had two hotels and one car rental agency. Before I left, I told everyone I would be working in exile and would see them when I returned.

Upon my arrival at the rental car agency I discovered it was actually the car dealership in town (selling almost every brand of American made cars) and their hours were 8:00 am to 7:00 pm Monday through Saturday. I planned to finish my work and leave town on a Sunday so I had to return my car a day early and go to a town even further away from where I was working and rent a second car that I could return on Sunday. This agency was not open on Sunday, but did have a drop box to accept keys.

On the first two days of sampling, I worked 22 hours and 18 hours straight due to technical difficulties with the equipment. During this time, I discovered that in the town I was working, no one delivers food, every store except the gas station closes by 5:30 p.m. and the town looks like a ghost town in an old western by 6:00 pm. In keeping with this theme, my technical contact at the plant leaves everyday at 4:00 pm sharp! After several days of more technical difficulties and more long

hours I had an opportunity to meet and talk to many of the people at the plant and some of those operating the hand full of businesses that existed in the town. After several days I took a few minutes to look at a local newspaper while I waited for my dinner to be ready (from the "pizza parlor" attached to the gas station). On that particular day the back page of the main section ran the following headline: "Look Before you Shoot! We don't want to over harvest these ducks. They are not the brightest ducks in the world". I had to stop myself from laughing out loud; you would certainly never see that in the Chicago Tribune or the Sun Times.

Up until that point I had been very frustrated with the lack of resources available to me in this particular town. Every time I needed something, I had to work twice as hard to find it as I would at home, and then it was usually located several towns over. After the frustration of not being able to get whatever you want nearly whenever you want it wore off, I realized that these people live a much simpler life than I do. It appears they have organized their lives in such a way as to enjoy their family and friends without the expectation of service on demand and many of the material things we have come to insist on in larger towns. While I am sure that my technical contact probably leaves work after her designated quitting time on occasion, in her 8.5 hours per day she appears to dutifully fulfill her responsibilities and then spends the rest of her time enjoying her life. The same goes for the only hardware store in town that closes at 5:30 pm, and the rental car agency that takes Sundays off.

As I left town, I realized that I had not actually spent the week in exile, but rather in a town with a different perspective. Based on what I saw, I convinced myself (right or wrong) that in this small town with no food delivery or fast food, that these

families probably sit around the dinner table and eat together most of the days in the week. I am also convinced that in this town and neighboring surroundings with limited store hours during the week and nothing open on Sunday that people have time to enjoy their families and hobbies more so than in larger towns where the stores are always open.

Like many of us, I find myself overwhelmed with the amount of work I have to do and the time in which I have to do it. I do my best to make time for 3-year-old son and 4-month-old daughter, because I know that you can never get back the time you miss. However, after this experience, I plan to take some extra time each day to enjoy my family and friends. As I learned from my technical contact and the others in town, work will always be there, whether you work 8 hours a day or 12 hours a day. I hope everyone who reads this will take some time and make sure they are happy with the priorities they have established in their lives as I did after this trip.

With Thanksgiving and the holidays around the corner, I wish you all a healthy and happy rest of the year.

## So You Want To Be A Consultant? (Part 2)

J. Peter Clark

Oak Park, IL

Jpc3@worldnet.att.net

In my first column on this topic, based on an invited talk for the AIChE Career Event in April 2002, I discussed why someone might become a private consultant and what I thought some of the requirements are. Here I offer some more detailed opinions and advice for those considering such a career move.

Private consulting is probably not a young person's game, except in information technology. This is because it depends heavily on experience and specialized knowledge, both of which take time to develop. Information technology, on the other hand, develops so rapidly that it is all one can do to stay current.

If you are a private consultant in engineering or management, know your strengths and weaknesses. You need not be too modest - if you can not express your merits, who will? On the other hand, do not over promise, but do try to over deliver. Clients generally have unreasonable expectations anyway.

Stay current technically. This can be difficult, but is critical. You are being paid for expertise, but our field changes constantly. You cannot rest on what you learned in college or years ago on the job. A good way to stay current is to teach if you can find the opportunity. Many colleges and universities welcome engineers with experience to help in certain courses, such as plant design or freshman engineering. Reading journals and texts can help, dry as that may sound. Doing literature research to

prepare talks and papers is another good way to refresh your knowledge base.

Do not burn bridges. No matter the circumstances of your leaving an employer, try to retain good relationships. You may need references, you can certainly use recommendations, and your previous employer may well become your first client. No sooner are people gone in a downsizing than their loss is recognized and, often, they are hired back as consultants at a good rate.

Stay in touch - make sure people know where you are and what you are doing. Get business cards made promptly with all your contact information and spread them around. Think about publishing a newsletter or sending out an occasional letter. Every time I do this, I get some positive responses and I learn from the returns that my mailing list needs changing. Cultivate younger contacts.

I learned this lesson from my father. If you limit yourself to your own cohort, you will find them retiring while you are still active.

Know your market value and charge accordingly. One approach is to set a goal for an annual income then divide by 2000 hours in a year and apply a utilization factor to account for the fact that you will have some un-billed time. This gives an hourly rate that you can then compare to what others doing similar work are charging. It is reasonable to aim at making your previous income, more or less. Keep in mind that you now have some expenses you did not have before, such as both parts of payroll tax and your own health insurance. On the other hand, you have more flexibility - you can charge time on weekends and evenings, and you may have more leisure. In any event, if you used to earn about \$100,000 and you think you can bill

about 1000 hours a year (about 50% utilization), then you need to charge about \$100 per hour. This is about right for a typical experienced engineering consultant - some charge more and some charge less. You may have to calibrate your rate to balance your workload - if you charge too little, you will be so busy you will wonder why you chose this path. Charge too much, and you will have a lot of time on your hands.

Budget conservatively for costs. You will have expenses unique to being on your own. Health insurance is a major cost. You probably had true group insurance at an employer. When you leave, you can continue that coverage for a while under COBRA, but it is wise to convert to another plan as soon as you can. AIChE offers group health insurance, but it is fairly expensive and has experienced significant price increases. If you qualify for Blue Cross/Blue Shield, it can be quite affordable, but if you have even minor conditions such as high blood pressure, you may be rejected. The state offers a pool program of health insurance for high risk people, but it is limited and you must show that you were declined by a commercial carrier to get accepted. If a spouse is employed, you are probably covered under a family plan, or could be.

Compared to health insurance, other costs are relatively minor, but you should have a budget. You need stationery, a decent computer, a fax, possibly another phone line or a higher speed internet connection, some supplies and maybe some tools, depending on your services. You should continue membership in professional societies and maybe join some new ones. You should consider attending some meetings and shows, even if they involve travel. Chicago is a good location because

many useful shows are here, for some industries, but if your special area is petroleum or petrochemicals, you need to go to the Gulf Coast. Finally, budget for self-development, such as continuing education, text books, and subscriptions. Even one-day seminars such as AIChE offers each year are worth attending for the mental stimulation and contacts.

Do not forget to give something back to the profession and society. This means being active and generous with your time. The rewards far exceed the effort involved. Whether it be your church, community, alumni association, professional society or some other organization, get involved, contribute your skills and learn. You will find that such involvement contributes to your professional success by helping to make you a more complete person, improving your communication skills, and growing your confidence.

Private consulting can be a great life. You had better like your new boss, because you are it. It helps if you have strong support at home because you will face some challenging times. Above all, have fun - life is too short not to do so.

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The objectives of the AIChE are to advance chemical engineering in theory and practice, to maintain a high professional standard among its members and to serve society, particularly where chemical engineering can contribute to the public interest. If you have any questions, comments or snide remarks regarding the newsletter, please contact the Ozzytor at polarbear4x@yahoo.com.

Chicago Section Columns is published eight times a year by the Chicago Section AIChE. Opinions expressed herein are those of the authors and are not necessarily those of the officers of the Chicago Section. Articles for inclusion in the next Chicago Section Columns must be received no later than November 29, 2002.

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## Job Postings

The Job Posting service is still available for AIChE Chicago section members. Please submit your resumes or available positions to Jerry Bard at gerald@genevaonline.com, or contact Jerry at 262-279-6394. Don't miss out on this opportunity to reach your target audience.

You can also submit your resume or position on our website, aiche-chicago.org in the Professional Development section.

### Jobs Available

4 positions for process development engineer in consumer product company in San Francisco Bay Area. Work in team environment to take product from bench to manufacturing. Various exp. levels for each positions, but minimum of 3 years experience in household, personal care, or pharmaceutical industry. If interested, please email resume to paul@ethicalsearch.com or call Paul at (815) 732-4773.

### Seeking Positions

S-0026 ENGINEERING MANAGER Licensed Professional Engineer with 25 years of extensive experience in the management of plant design and project engineering for major firms in the Food, Chemical, Pharmaceutical and Power Generation industries. B.S & M.S in Chemical Engineering Self-motivated with excellent communication, organization and coordination skills. Willing to travel and relocate. For further information contact: Karim S. Sollman @ (630) 351 - 6748

S 0027 INNOVATIVE PROCESS ENGINEER Experienced Engineering Specialist with over 12 years in petroleum, petrochemical and chemical industries. Major technical skills include process

simulation capabilities, equipment selection, project management, and computer applications on worldwide large scale process projects Dynamic problem solver, highly motivated, possess good leadership and management skills. For resume and further information, Contact: John Philip @ (847) 706- 9288

S 0028 SUMMER INTERN Third year student seeks summer internship in Chemical Industry in North America or Europe. Email: abhishek@che.iitm.ac.in

S 0029 CHEMICAL ENGINEER Process Engineer with 2 years experience including co-opting in chemical industry. Seeking position in Chicago area. Experience includes technical support to plant operations, cost estimation and efficiency calculations. Contact: Dan Altenau at daltenau@yahoo.com

Chemical Engineer with 4 years looking for Project Engineering/Management position in manufacturing or services company. . Professional experience in simulation, advanced control and optimization of chemical/petrochemical/refining processes. Worked extensively with software tools from Invensys (Simulation Sciences) - PRO-II, ROMeO, Connoisseur; and various control systems (PLCs, Foxboro I/A, Triconex, Honeywell). Participated and managed various operator training simulator and optimization projects. Extensive experience in programming and development of software utilities. Self-starter and team player. Good communication skills. Advanced degree (Masters). Need work visa sponsorship. Call 713 503 9560 to discuss resume.

**Nominations Requested For  
The Ernest W. Thiele Award**

The Ernest W. Thiele award is sponsored by BP and recognizes the outstanding contributions to our profession by a Midwest region chemical engineer. This award was established by the AIChE Chicago Section and is presented annually to a Midwest region AIChE member. This internationally recognized award consists of an engraved plaque and \$1000 honorarium presented at our sectional meeting.

Nomination forms and additional information can be obtained from the Thiele Committee Chair. Completed nominations are due to the committee chair no later than March 01, 2003.

One of the highest honors a distinguished chemical engineer can receive is our Chicago Section Thiele award. Please consider nominating a deserving engineer for this prestigious award.

Jim Simnick  
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American Institute of Chemical Engineers

Chicago  
Columns

s e c t i o n

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