



The Chemical Consultant

Association of Consulting Chemists and Chemical Engineers, Inc.

Scientific, Engineering, Business & Management Consultants

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January - April, 2009

FUTURE MEETINGS

JUNE 6

Picnic at the home of
John Bonacci
2—6 pm
Contact Linda Townsend
for details

(There will be a Council meeting before the picnic.)

SEPT 21

Joint Meeting with AIChE
NY Metro Section
Pfizer Building—NYC
(details to be announced)

Dr. John C. Bonacci
A Consulting Business—“Then and Now”

ABOUT THE ASSOCIATION

The Association of Consulting Chemists & Chemical Engineers (ACC&CE) is a network of senior-level consultants with a broad range of functional expertise and many years of experience in the chemical and allied industries.

The purposes of the organization are:

To furnish support to its members as they conduct their consulting practices.

To offer prospective clients a “clearing house” which they can use to find the most qualified consultants or team of consultants whatever their particular problem may be.

This newsletter is intended to support those purposes as well as to educate prospective new members and prospective client organizations about ACC&CE, and how we can be most helpful to them.

The ACC&CE has an interactive website – www.chemconsult.org, that allows prospective clients either to input their problem or to search for those consultants most skilled in their area of concern.

IN THIS ISSUE

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In this issue, the President’s Note is an update on the progress of the Association since the start of 2009. We have one new member since the last newsletter, and his information is included.

We have continued presenting articles by our members describing their experiences as consultants. Your editor has contributed a third piece on the dynamic crude oil/energy situation. We have not heard from any of our readers: we are very interested to know if our concerns regarding the issues of energy security, alternative fuels and feedstocks, climate change, etc. are shared by you or not.

Bill Hoffman has contributed a short piece on a new mathematical development he has made. In a follow up to the articles in the last two issues regarding how we might make better use of the internet in promoting our consulting practices, your editor has written a short item on his first experiences utilizing the business-oriented social website called LinkedIn.

President's Note

By Dr. John C. Bonacci—April 28, 2009

We are proceeding in 2009 at about the expected rate. In the first 4 months we have been fortunate to have great speakers. The Board continues to work on a Clean Coal initiative to advertise our capabilities for expert review of private and government projects.

In addition we have started to videotape our speakers and are trying to find out how to get these onto our website. In essence this approach makes our organization more of a "virtual one". The idea comes about reflecting on the low meeting turnout, which exists for a variety of reasons. The membership although lower and more geographically displaced compared to our history of 6 or 7 years ago can now benefit from these excellent speakers and their views. We hope that this extra service is a benefit and also helps us continue to get great speakers. Once the website has these talks or slides, please let us know what you think and cite any benefits you see. In fact, recognizing that we may not get the website working for a month or so watch for a day when 3 or 4 presentations show up at one time. We have videotaped two so far this year.

Please let me know if you have other ideas, satisfactions or dissatisfactions with our current operation (FibonacciJ@aol.com)

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Helping the Customer to Reach a Sound Business Decision

ChemCon Inc applies chemical expertise, knowledge of and contacts in industry to analyze your chemical projects, to provide you viable alternatives. We provide the necessary; often indispensable information required for assessing how your chemical idea will stack up against the competition.

In-depth Technical and Business Expertise

More specifically, ChemCon Inc may do a cost or production analysis of a technical project, where the customer is provided the tools to make constructive investment assessment. In a typical case, we will assemble equipment cost data analysis, investigate utility rates, weigh up competitors' production processes, then evaluate how these compare to our client's process.

Experiences of our Member Consultants

In October, we received a letter from David M. Manuta, Certificate #882, along with two articles written about his activities. This is the second article.

Help for atomic veterans should be a priority

Chillicothe *Gazette* August 12, 2008, by David Manuta

Sir Isaac Newton often has been quoted as stating in paraphrase, "The scientific achievements credited to me are based on standing on the shoulders of the giants who came before me." We can extend this thought to the many atomic veterans employed at the Piketon uranium enrichment plant from the 1950s to the present.

Keep in mind, it has always been the promise of good-paying jobs over the past half century that induced our family and friends in the region to seek employment at the A-plant. This fact had more to do with doing an honest day's work on something important than whose nameplate was over the front door.

In discussions I have had over the years with people whom I refer to as "The Originals," the activities in the early days were part of the "college of knowledge." Some of this information was classified in the "need to know" sense and other information was based on learning as you went along. I know I encountered many unique scientific challenges and I am certain my experiences are the tip of iceberg when compared to those of The Originals.

The plant, prior to shutdown in 2001, was in many respects a large chemical facility. While one cannot make uranium non-radioactive, there were inherent dangers now well documented associated with some of the chemical processes used at the plant. The gaseous diffusion process for uranium enrichment was scarcely a dozen years old when the Piketon site opened for business in 1954. As time marched on, men and women employed at the site became ill with maladies often unknown to the medical community in our region. Many of these men and women eventually died of cancers and other diseases that have now been linked to their employment in Piketon. After many false starts, the federal government recognized that Department of Energy, plus contractor employees (and their surviving families) ought to be compensated, through the Department of Labor, in the event of an occupational exposure that ultimately disabled or killed them.

The barrier to collecting compensation from the Labor Department is high. A Denver, Colo.-area newspaper, the *Rocky Mountain News*, recently ran a series on the difficulty atomic veterans from the Rocky Flats facility were having regarding collection from the Labor Department program. The rules were seemingly being changed in mid-stream and Labor Department examination of relevant documents - to determine eligibility and to validate claims - were taking years to complete. I have had the opportunity to work with a local family through the Labor Department program. A review of a deceased gent's medical records indicated an occupational exposure to a toxic chemical. Today, an exposure to this chemical would be handled differently than it was back in the day. I recommended a medical doctor board certified in occupational medicine be hired to review the medical records. This highly specialized professional submitted an expert report to the Labor Department linking the alleged workplace exposure to the cause of death noted on the gent's death certificate. I supplemented the physician's report with a second report on chemical safety and industrial hygiene issues. The current regulations would have protected this gent against the exposure that likely killed him.

(Continued on next page)

Experiences of our Member Consultants—Cont'd

Help for atomic veterans should be a priority (Continued)

The net results were the Labor Department found the two expert reports credible and the family was awarded compensation in accord with the rules. While the deceased gent could not be brought back, the family received the next best thing.

The bottom line is that our atomic veterans did not go to work at Energy Department facilities throughout our nation to get sick. These men and women - plus their families - have earned many times over the Labor Department restitution funds. This is precisely why it was a great honor for me to contribute to the positive outcome for the local family.

As an atomic veteran, I honor the sacrifices of these colleagues, and I am proud to say these men and women are the giants upon whose shoulders I stand.

Shri Thanedar, Certificate #775, submitted two issues of the newsletter published by his firm, Chemir Analytical Services.

You may click on his website, www.chemir.com, to get onto his electronic mailing list. "Teasers", or summaries of two of the items from the current issue appear below. See the website to be able to read the articles or other articles of possible interest to you.

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The Fragrance of Flowers: A Chemist's Quest for Love

It's spring again and the flowers are blooming. As the sweet smells of spring fill the air, Darren, a love-sick Chemir chemist wondered what makes up those beguiling scents? Seeking to impress that special someone, he uses GC/MS analysis to unlock the secrets of spring flowers.

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FUTURE PRESENTATIONS

Joint Dinner Meeting with AIChE on Tuesday, April 28, 2009 Snuffy's Restaurant, Park & Mountain Ave, Scotch Plains, NJ

Title: "Using Standards to Drive Quality Improvements at Dow Jones Newspaper Manufacturing Facilities"

Speaker: Paul L. Cousineau, Dow Jones & Company, Inc.

Dow Jones manufactures the Wall Street Journal and Barron's at 14 company owned and 8 contract printing plants. Print and procedural standards have been developed and implemented over the past eight years to achieve a consistent national result from this infrastructure.

Mr. Cousineau is Director of National Production for The Wall Street Journal (Dow Jones) and has been in this role since January 2006. He was recently appointed to the Graphic Communications advisory board at California Polytechnic State University in San Luis Obispo, is currently on the board of directors for the Technical Association of the Graphic Arts (TAGA), is chairperson of the recently formed Printing Technology Committee (a select group of newspaper industry leaders).

Mr. Cousineau has developed several unique technologies that are currently employed in the daily production of the Wall Street Journal and Barron's. He is recognized as one of the leading production and printing experts in the newspaper industry.

This meeting has already taken place as of the issuance of the newsletter. The presentation was well-received by the attendees from ACC&E and the New Jersey AIChE Local Section, and we learned a lot about what goes into producing a high-quality publication.

Joint Dinner Meeting with New York Metro AIChE Section on Monday, September 2009 Pfizer Building, 685 Third Avenue (at 44th Street) NYC

Title: "A (Chemical) Consulting Business—'Then and Now'"

Speaker: Dr. John C. Bonacci, (Certificant #821), Fibonacci Inc.

John will describe the startup of his business, the decisions he had to make along the way, and how consulting has changed over the years.

The World Economy and the “Perfect Storm”

By Joe Porcelli

Where are we now?

In the last two issues, I discussed the causes, impacts, and possibly remedies for the large run up in crude oil prices, which peaked in about August 2008 and the subsequent collapse in prices which at the time of the last issue in December appeared to be stabilizing. In December, the added dimension of the financial crisis was very evident, although as it turns out, the seeds of that crisis were sown years ago, and the first indications of trouble emerged when real estate prices peaked and began to decline, several years ago. Since then, we have had a change in administration in the US, with different ideas on dealing with our problems, but having to deal with how to stabilize the financial system and to save (or not) key US industries such as the automotive industry.

How did we get here?

We are beginning to see articles asking what role the oil price bubble played in the global economic crisis, and it is my opinion that it was more responsible than most people believe. The gradual and later accelerating price of fuel was an increasing “tax” on the American public, who had gotten used to large, gas-guzzlers and driving back and forth to weekend and vacation homes.

The reversal in real estate prices started with the sudden reduction in the number of people who could afford to buy second homes, which had been built on speculation, or to spend money driving to and renting vacation properties. Also, towards the end of the crude oil price bubble, people began to recognize that they could not afford to fuel up their SUVs, resulting in them remaining unsold and the dealers, and the trade-ins became a glut on the used car market as well.

The losses in real estate values led to increasing numbers of defaults by owners with reduced levels of cash flow and whose properties were “under water” - worth less than what they owed. This positive feedback loop further lowered market prices for homes, and the trend continued. Related to this was the results of the invention some years earlier of the adjustable rate mortgage, which involved a below-market interest rate for a number of years following but a sudden jump up to market rates. As part of the perfect storm, the first of these began to hit their jump-up point as the real estate market began to decline, again reinforcing the downward forces.

Where does the chemical industry stand?

Going back to the oil price cycle, it obviously drove the cost up of oil-derived chemical feedstocks, which drove up the price of downstream products, pushing prices to historical highs. When the crude price broke, the downstream chemical producers had a few months of prosperity, as their product prices came down with a time lag against feedstock prices. However, final customers expected prices to fall and deferred purchasing product, and so the producers began to cut back. This spiral also accelerated toward the end of 2008, and it was not clear where the bottom would be. There is some evidence of things leveling off as this goes to print.

The World Economy and the “Perfect Storm” (Continued)

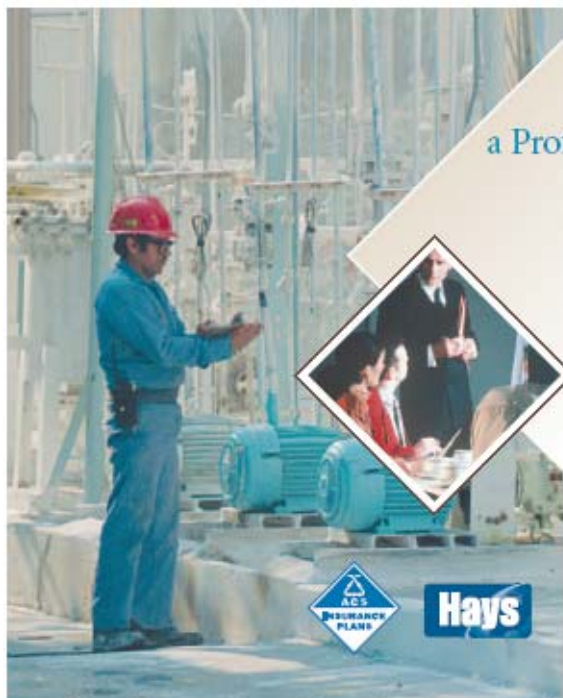
Where do we go from here?

At this time, there is the expectation of an “L”-shaped recession; that we’ve hit bottom but recovery will be slow. However, there is the danger that, particularly with the attempts of OPEC to reduce crude oil supply to more closely match demand, that crude oil prices, which have also bottomed out, may begin to increase again. There are many factors that could cause a new upward price spiral in crude oil, which would damage the fragile recovery. In the US, due to the short memory of the public, people are beginning to buy those cheaper SUVs, and driving more, due to the relatively low gasoline prices. Growth in China and India, while greatly reduced from past years, is still positive, and with this, the demand for crude oil from those areas should continue to increase. The current period has also taken the pressure and the incentive away from some alternative fuel projects, that need higher crude oil prices to be competitive. There is an increase in “green” alternative sources of electric power, particularly wind and solar, but these are growing from a very small base and cannot make any appreciable impact in crude oil demand for the short term. They both require massive investments in power transmission infrastructure and “smart controls”, due to their intermittent power generation characteristics.

There are a few sources of information on scenarios for the future that I found informative and sobering. One is a webinar presented by Prof. John Chen for AIChE—members can view it without charge, and non-members are charged a modest fee. See <http://www.aiche.org/apps/cod/default.aspx>

The second source is the 2008 edition of “ExxonMobil – The Outlook for Energy - A View to 2030”. This can be found by using Google and downloaded. The conclusions may be tilted in the interest of the source, but the basic data on where the various alternative energy sources stand today, and the authors’ view of their futures, is informative, and can be used to come to your own conclusions.

I feel that the issue of having adequate, secure, “relatively” inexpensive energy is too important for our readers, who should understand the issues, to ignore. We have an obligation to future generations to come to our own informed opinions and educate the nation’s decision makers.



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**Why Don't You Try
"LinkedIn"**

By Joe Porcelli

Last issue, I discussed the Association website and thoughts on how we might make better use of the internet in marketing our consulting practices. This time, I want to report on my early experiences using one of the social networking sites, "LinkedIn".

Some time last year, and I don't remember how I heard about it, but I "joined" LinkedIn. It is free, but I understand there is a premium service level for a fee, which very few people have recommended.

Once you join, it is suggested that you use your "address book" to automatically find those people you know who are already on LinkedIn. There is a protocol to ask your contacts to "connect" with you, and they can choose to do so or not. You are allowed to send messages to any of those you are directly connected to, AND those each of your direct connections is directly connected to - 2 degrees of separation. This safeguards your being "cold-called" by any of the many thousands of other members.

There is the opportunity to set up your personal profile, and you can have "public" and "private" versions, depending upon your objectives.

Where I see some of the value is in the existence of Groups, formed by members with common interests or affiliations. You ask to join a particular group and they decide whether to accept you or not.

(Continued on next page)

Why Don't You Try "LinkedIn" (Cont'd)

Among the groups I have joined are those for members of AIChE, ACS and CCN, Columbia alumni and Ivy League alumni, for instance. But I've also joined other based on areas of interest, such as "Front End of Innovation", "Renewable Energy Network", Worldwide Management Consultants, etc. As a member of a group, you can post questions to the group and you can respond to questions posed by others. I've asked for information on things I'm looking for and received responses (which can be either private to public within the group). This process can increase the recognition of your expertise with those involved in areas of mutual interest. I have added new people from some of these groups as connections, once having set up a dialogue on Linked In. You can search on people and companies (and probably a lot more), and once you identify contacts you'd like to make, you can identify a trail of connections that could lead you to them.

I attended several presentations on LinkedIn, at the NJ Group of Small Chemical Businesses, at CCN and on-line. We had a presentation at ACC&CE but I was not able to attend that one. There is a lot of help available on the LinkedIn website.

At this moment, I cannot point to any new business as a result of belonging to LinkedIn, but my impression is that by appropriately making use of the features of the site, success will follow. I'd be very interested in hearing any experiences of our readers, and would like to be able to include comments in future issues of Chemical Consultant.

JVP

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New Development by ACC&CE Member

W.A. Hoffman (Certificate 908) has developed a novel number generator he calls a synthetic multiplier. It creates large numbers from an initial integer and a factor, in multiple bases, and may find utility in pseudo-random number generation used for security encoding, where its long period makes it stand out from related schemes called linear congruent generators. The Online Encyclopedia of Integer Sequences, edited by NJA Sloane of ATT Research, has published several of the sequences created by the algorithm. A159863 is one of these and contains a reference to the algorithm and a BASIC implementation.

Here is a link to

<a href=<http://www.research.att.com/~njas/sequences/?q=a159863&sort=0&language=english&go=Search>>A159863

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