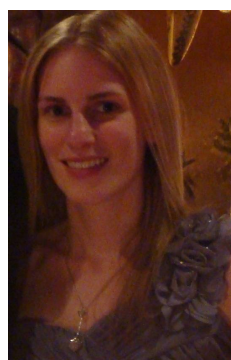## NOVEMBER MEETING: UNWRAPPED: TALKING ABOUT SCIENCE THROUGH OUR STOMACHS

[WEBEX MEETING NUMBER 635 888 409](#) (further directions on page 9)

THURSDAY, 17 NOVEMBER 2016

9:00 pm EST, 8:00 pm CST, 7:00 pm MST, 6:00 pm PST;

UTC/GMT 0200 28 October 2016

Join us as Amanda Scalza, VLS Past Chair, shares further adventures in her hobby of food production tourism. Her talk elaborates on her experiences mentioned in her column in July 2016 VLS Newsletter. Since everybody eats, and since many food processes use standard chemical engineering unit operations in converting raw food materials into safe, nutritious, and tasty comestibles, touring food factories is a great way to make chemical engineering accessible to students and the general public, as well as to sample the fruits of the chemical engineering in the tasting rooms! Nestled between Canada's Thanksgiving and America's Thanksgiving Feast, this seminar is a great way to kick off the holiday seasons.

IN THIS ISSUE

Happy November! The AIChE Annual Meeting is in full swing in San Francisco. Americans are looking forward to our annual feast Thanksgiving feast. Snow is finally showing up at the lower elevations.

This issue, of course, is the announcement of **the November webinar**, which is the third Thursday this month.

Also, we have two articles about job hunting – one from our past chair about her successful and unsuccessful adventures in job hunting. The other is by Nicholas Meyler, who holds degrees in philosophy and in chemical engineering, and is now a professional recruiter. He gives us great insight into dealing with the bane of the job seeker – the resume robots. Other articles planned for this issue on job hunting were unfortunately OBE (British for either an honour bestowed by the monarch, or "overtaken by events").

Neil Yeoman writes an interesting engineering education article that he first contemplated writing as an undergraduate. His updates on his ongoing AIChE Engage experiment on C4 -- the proposed amendment to the AIChE constitution changing the requirements for petition candidacies --reflect the realistic rates of response of our membership.

Speaking of rates of response, is there no VLS member who wants to write an article for the next issue? (No more OBE's, please.)

---- Jennifer I. Brand

FROM THE PAST CHAIR: THE MILLENIAL'S WAY OF JOBHUNTING
Amanda Scalza
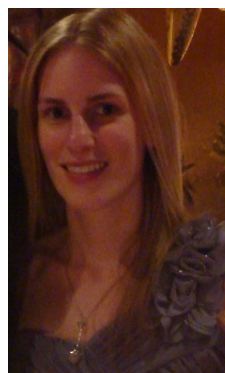
Job hunting is more convenient than ever! There are hundreds of websites that have job boards, including the AIChE Careers Website. LinkedIn helps recruiters connect with potential employees. Yet, with all these tools, and conveniences, it seems that job hunting really hasn't become any easier.

I have never gotten employment using anything except my own network. While this can be frustrating for many, it is simple to understand if you are the one seeking new employees. We spend so much of our time with our co-workers, it is important we can get along. Hiring managers therefore must be equally confident you can do the work as well as be a team player. It is only natural they would tend to choose candidates that have been recommended, over the remainder of the faces in the crowd.

Even using my own network, though, not all of my interviews have been successful. Nonetheless, each interview provides a very valuable lesson. Here are some lessons from my failures I would like to highlight for you.

First, you must be your own advocate! It does not matter how many people write you great letters of recommendation, if you are not confident, your body language and demeanor will give you away! After one interview, I received feedback that while I seemed knowledgeable and capable, my own lack of self-confidence had led them choose a different candidate.

Second, an interview is a two-way street. I was on a phone interview once with a company who had been acquired six years previously. When I asked questions about the facility, the interviewer complained about how terrible the new company was, and how he wished the merger had never happened. There is no way I would be interested in working at a place with such a negative employee culture!

In the end, remember that finding your next career move is much more important than getting a new job, or the biggest paycheck. It will take patience and many questions, but the best job is one that challenges you, one that helps you grow, and one that you enjoy. Good Luck!

HOW TO BEAT THE 'BOTS – ADVICE ON APPLYING FOR JOBS ONLINE

Nicholas Meyler

GM/President, Technology Wingate Dunross, Inc.

Ever since the first online job application process was used, several decades ago, the practice of automation of the process has continued, and even accelerated at a dizzying rate. Today, it is very customary for most larger companies (and even small startups) to use candidate tracking software which tries to make life easy for those that are doing the hiring, but which often (according to candidates) screens inappropriately or too rigorously based on key-word search, producing inconsistent results.

This problem is substantial, because unless using the exact keywords sought after by the hiring manager, presumably picked specifically for each individual job, then one's resume goes into the pile of the rejected. Candidates might argue that their resume clearly indicates experience in a specific skill, but that the use of the keyword was unnecessary — because any knowledgeable human reader would tacitly assume that skill.

There is a solution to this, which is somewhat more time-consuming, but which really is highly advisable for any job applicant who seriously wants to get the job.

PHASE ONE

To begin to beat the 'bots, the job applicant who seriously wants to get the job will read the job description carefully, and focus on the key "buzz words" that the job description's author has chosen to list. These words, realistically, NEED to be in your resume for you to pass the screening process of the computer program. So, without lying or exaggerating, you need to individually "tailor" your resume for each specific position, and make sure that you use those keywords appropriately within the text of your resume.

As a recruiter, I have seen dozens of thousands of resumes, and I have actually seen a number with a tag-like list of keywords, perhaps a paragraph long, at the end of the resume. This will not work, since screening programs are designed to also reject this approach. Your best bet to getting your resume seen is to organically include the appropriate words within the text of your resume, selectively and in such a manner that it doesn't look artificial or contrived. It is not wrong to even insert phrases used in the job description into your resume, if done sparingly and accurately.

For example, if a job description calls for experience with HPLC, organic synthesis, colloidal separations, and characterizations using cyclic voltammetry, your resume will be rejected unless you legitimately use those words in the text. Of course, if you choose to use the words without having the experience, you will end up with a lot of explaining to do and probably a very short phone interview which will probably be the last time that company will ever contact you.

So, never lie, but do make sure that your resume directly responds to the details of the job description, unequivocally using the words that are most easily recognized by the automated process. Do not use non-standard type fonts or formats in your resume, either, because these will simply be confusing and once again lead to peremptory rejection.

Do not include photos or illustrations, either, unless you are certain that a human being will review the resume. Personally, I love resumes with great photos of experimental data, etc., but I am a human, not a machine. If you are working with a recruiter, the rules are different, but you should still try to use the appropriate keywords as much as possible.

PHASE TWO

This brings us to the second prong of the attack. All too often, candidates assume that there is nothing to do once the resume has been submitted but wait for rejection or the much smaller chance of getting a request for an interview. This is too passive and will generally not yield the best results. My suggestion is to follow up appropriately with the HR department, for one, and even more importantly, with whoever is actually the hiring manager, if you can find that out.

LinkedIn often provides information (though not always) about who actually placed the job description, and who the position reports to. It is, therefore, worth taking some extra time to research any position you are applying to, using LinkedIn, Google, Spoke or other tools which can give you the name of a human contact – this is key because humans can think, whereas computer programs cannot.

It is quite OK to call the front desk of the company and ask specifically "Do you know who is the manager in charge of hiring the chemical engineer to do scale-up and pilot line design?" (for instance). The worst that can happen is that they won't tell you... But, if you can get the name, you have an edge.

It is an ancient belief (think of the story of "Rumpelstiltskin") that if you have a person's name, you have power over them – this is certainly true, because it enables you to at least address and communicate with them. Use this information wisely to potentially start a conversation – and don't be shy of sending a resume to the actual human who is really recruiting for the position, instead of just relying on the 'bot. If you can, go ahead and send a resume to this human, as well. Many times, email addresses can be searched, and certainly, even if exact emails can't be found, you can still try the old-fashioned snail-mail hardcopy of a resume, too! Try calling and contacting this actual human and stating that you are strongly interested in the position, and at least leave a message discussing your qualifications (30 seconds to a minute, but not longer) ... As long as it's

truthful, just dropping the buzzwords on a phone message to the right decision-maker can help push your resume to the top of the pile... and don't forget to leave your number! Make sure it's clear and audible. Don't speak too fast.

The solution to the process of anonymization, compartmentalization, and sequestration that accompanies automation of the job-application process is to be a Human and persist in your efforts. Since attitude is so critical in hiring, the mere fact that you distinguish yourself by taking extra steps (phone call, getting names, sending resumes directly to the human involved) can only work to your advantage – you have absolutely nothing to lose. Just don't come across as an "odd-ball", though. Call once or twice, not fifty times, etc. Don't show up at the job location without an appointment, unless you can really pull off Will Smith's trick from "The Pursuit of Happyness"! But, if you can, anything you do to distinguish yourself from other candidates can work to your advantage – so long as you make a good impression.

The fact is, most resumes are sent to HR, and not to the hiring manager him/herself. HR people are not technical people (generally) and they are also overworked, looking for ways to save time, so they rely on 'bots, whereas a hiring manager will have more likelihood of knowing when a buzzword has been tacitly expressed without actually using it. You can also send your resume to more than one hiring manager, if you are clever. All too often,

resumes go to HR with perfectly-qualified applicants who never see the light of day, because the HR manager is too busy, or because the hiring manager may not have communicated fully with the HR department.

Woody Allen once said, "90% of success is just showing up." This means if you can get your resume in front of a real human, you have dramatically increased your odds. Take this message to heart!

THE WORLD OUT THERE: EDUCATION AND PETITION SIGNATURE UPDATES
Neil Yeoman

What is Education?

In an earlier column I noted that there was, and maybe still is, a move to have engineering education be like law and medicine, that is, that admission to professional training requires a bachelors degree. The argument for doing so was that only in that way would engineering have the prestige of medicine or law, and that a general BA or BS would make engineers "educated" in addition to being trained. This is a subject about which I have been thinking, but not very actively, for a long time. Are engineers educated or merely trained? Is there a real difference between the two? Does a general BA provide more education than a BChE? What, exactly, is education (in this sense) and does that BA alone provide it?

In my last year of undergraduate schooling I was invited to a social gathering by a neighbor. The others there would be people I did not know but who I was assured were interesting people. There were six other people there all of whom knew each other and, as I would learn, were studying English literature as either a major or minor, all at the same school. After the introduction the discussion moved to the works of William Shakespeare and the group stayed with that subject the entire evening. The only thing I said after the introductions was "Good night" a couple of hours later.

I didn't expect the topic of discussion to be William Shakespeare all night. When it became clear that it would be, I was at first annoyed, then bored, and finally amused. I thought about the young woman who had invited me and the ribbing she would take the next time these people met in school because of the dunce she had brought to the gathering. Very early on I tuned the discussion out and started to draft in my head an editorial or essay I would write for the weekly newspaper of the school I was attending, a newspaper on which I was then serving as editor-in-chief. I never did write that editorial or essay but it would have started with some of those questions I ask in the opening paragraph above. Now, more than a half century later, I will offer my answers.

Being "educated" is not easy to define, at least not for me. Formal schooling is only part of what makes one "educated," and maybe only a small part. Life experience is a much larger part and the life experiences different people have, and how they react to them, vary greatly. Obviously, all things being equal, the more life experience a person has the more educated that person can be, should be, and often is. But attitude is another factor.

When I retired I started taking advantage of New York State's "Senior Observer Program," a program that permits NYS residents over 60 to audit one or two course per semester at the SUNY (State University of New York) school serving the resident's area. For me it was Nassau Community College, a two year liberal arts school a large fraction of whose students intend to eventually get baccalaureate degrees from another school. It was my intent to study all those subjects that I would have liked to take earlier if I hadn't had to support myself and my family. To date I have audited 40 different courses, some of them more than once. I have audited courses in Anthropology, Art History, Astronomy, Biology, Criminal Law, Economics, Environmental Science, Geology, History (ten different courses), International Global Studies, Latin America, Meteorology, Oceanology, Philosophy, Political Science, Psychology, and Sociology. As a senior observer I didn't have to take tests or prepare reports or even do the homework, although I always did at least the reading assignment because it was

needed to enjoy the course and really get something from it. I had some pretty good teachers and I enjoyed all the courses. Except when I was out-of-town I never missed a class. After doing this for about 15 years I have pretty much run out of courses I want to audit, because I have become very selective about the courses, the teachers, and the times the courses are given, and some system restrictions have made what I might want hard to get.

I learned a lot of things from those 40 different courses, roughly the equivalent of a liberal arts BA, but I do not think myself much more educated than I was when I started except that I am 15 years older and have 15 years more life experience, all in retirement during which I devoted a lot of time to community activities and professional non-profits, AIChE included. In the course of those community activities, I met a lot of new people and did a lot of things I didn't do before because earning a living took so much of my time. The biggest intellectual deficiency I found among the many people with whom I interacted was what somebody has labeled "scientific illiteracy," a weakness few engineers have. "Scientific illiteracy" is not just a lack of knowledge of technical information; it is also a basic inability to process technical information the way we engineers do. With so much of the modern world driven by technology "scientific illiteracy" is a far greater defect than not knowing anything about William Shakespeare other than that he was medieval area playwright.

Comments are invited.

Petition Candidacy

In my October column I discussed a proposed amendment to the AIChE constitution, Amendment C4, that I feel will effectively eliminate the petition candidate option for getting a name on the ballot for election to the AIChE Board of Directors. I oppose that amendment and have been urging people to vote against it. Those who support the amendment claim that getting ~600 signatures is a reasonable requirement.

Based on my personal experience as one of only four people who have been petition candidates in the last half century I know that getting even 100 signatures, the current requirement, can be a real challenge. Those who support the amendment claim that the electronic media make getting the larger number relatively easy, so I tried a test. Using AIChE Engage, which reaches all AIChE members who have valid e-mail addresses in the AIChE database, I asked readers to respond in one of three ways: 1) that they agreed with me, 2) that they disagreed with me, or 3) that they were undecided. I did that on the day my column in the VLS newsletter was published, about October 10. If those who support the proposed amendment were correct by the time of the draft of this column (November 11th) there would long since have been much more than 600 responses supporting one of the first two options I offered the readers. So far there have been only 65 total responses, seven from members of the BOD who authorized that the proposed amendment get on the ballot and 58 others, a tiny fraction of what those who support amendment C4 tell us they would have expected. Of the 58 others, 54 agree that amendment C4 was a bad idea, two were undecided, and two responded in a way that I could not tell how they would vote, so I carry them as undecided. I carry as disagreeing with me the four BOD members who did no more than explain why the amendment got on the ballot and the one who by some interpretation might have been challenging my logic. The two who acknowledge that the BOD could have done better I carry as undecided.

The claim that the electronic media makes getting 600 signatures reasonable is based the number of people a potential candidate can reach through social media like Facebook. AIChE Engage goes to about 26,000 AIChE members and it only drew 65 responses in over a month. How many AIChE members can reach even ten percent as many other AIChE members (i.e., 2,600) through Facebook or similar media?

With more complete data than I had when I started my campaign to have proposed amendment C4 defeated it is even more clear that 600 signatures is an insurmountable barrier and that even the Herculean effort that it would require to reach every AIChE member would produce no more than about 1/3 of the signatures this very poorly thought out proposed amendment C4 would require.

ATTENDING A VLS MEETING

- **Join by internet:**
  - https://aiche.webex.com/mw3000/mywebex/default.do?siteurl=aiche
  - Search for VLS or by meeting number 635 888 409
- **Join by phone:** Access code: 634 167 017
  - 1-866-469-3239 Call-in toll-free number (US/Canada)
  - 1-650-429-3300 Call-in toll number (US/Canada)
  - Global Call-in numbers
  - Toll-free calling restrictions

Attendance at a Virtual Local Section Meeting is open to AIChE Virtual Local Section Members, AIChE members, and other interested people.

The statements and opinions in this newsletter reflect the views of the contributors, not of the AIChE or the VLS, neither of which assume responsibility for them.

PDH CREDIT FOR VLS MEETINGS
LAURA J. GIMPELSON, P. E.

Attendees of the Virtual Local Section Meetings can receive up to 1 hour of professional development credit that meets the continuing education requirements of most state professional engineering registrations. To receive the certificate documenting your attendance, send an email to the VLS secretary, Laura Gimpelson, at virtualaiche@gmail.com.

Include the following information in your email:

1. Name of the Presentation and Speaker
2. Attendee's name as listed on the registration certificate
2. Attendee's registration number and state/providence of issuance

The certificate, in pdf format, will be issued within 30 days of the receipt of the request.