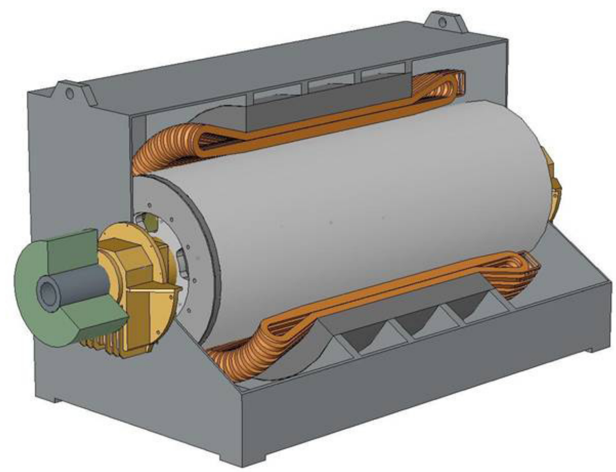
IEEE Madison Section Newsletter

Volume 9, Number 7 | Serving IEEE Members of South Central Wisconsin | October 2006

Super-conducting Voltage Support - Meet the SuperVAR



Date/Time: Thursday, October 19, 2006, 11:45 AM - 1:00 PM
Speaker: Mike Ross, P.E., Principal T&D Planning Engineer, American Superconductor
Location: Rocky Rococo's Pizza, 7952 Tree Lane (Madison Beltline Hwy. at Mineral Pt. Rd.), 608.829.1444
Menu: Pizza buffet, salad and soft drinks (cost $10.00, free for student members)
RSVP: by October 16th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.444.9144

Non-member guests are always welcome!

This presentation will be an introduction of the high temperature superconducting dynamic synchronous condenser or "SuperVAR." There will be a brief update on today's high temperature superconducting industry and a detailed description of the SuperVAR device including the topology, performance, and applications. A Synchronous Condenser is a synchronous machine with no prime mover that is connected to the electric grid to provide VAR support during disturbances. We will discuss the aspect of the device that makes it better than a conventional synchronous condenser and will explore the lessons AMSC learned in the first installation of a SuperVAR at a steel mill in Tennessee. Questions will be fielded regarding the SuperVAR and superconducting technologies in general.

Michael Ross is a Principal Transmission and Distribution Engineer with American Superconductor of Middleton, WI and has been with the company for 6 years. Previously Mike worked for Northern States Power (now Xcel Energy) of Minneapolis in the Planning Department. Mike has a Bachelors Degree in Electrical Engineering from North Dakota State University. Mike is a registered Professional Engineer in the State of Wisconsin and an IEEE member.

New Nuclear Generation

Date/Time: Thursday, November 9, 2006, 11:45 AM - 1:00 PM (NOTE: 2nd Thursday of the month!)
Speaker: Professor Paul Wilson, PhD, University of Wisconsin Energy Institute
Location: Rocky Rococo's Pizza, 7952 Tree Lane (Madison Beltline Hwy. at Mineral Pt. Rd.), 608.829.1444
Menu: Pizza buffet, salad and soft drinks (cost $10.00, free for student members)
RSVP: by November 6th to Les Schroeder via e-mail (l.schroeder@ieee.org) or call 608.444.9144

Non-member guests are always welcome!

A renaissance in nuclear energy appears to be taking hold - over 30 new reactors are currently being considered for license applications and construction in the next 10-15 years. If completed, this would represent a 30% increase in the number of reactors and closer to 40% increase in installed capacity. But just 10 years ago, the nuclear industry was planning for its own demise. What has changed to put nuclear energy back on course? What of the lingering technical and political issues? This presentation will highlight the major operational gains made by nuclear energy in the last decade, discuss the global issues supporting new nuclear energy and present a number of research areas being pursued to further improve the prospects for the global deployment nuclear energy.

Paul Wilson joined the University of Wisconsin-Madison's Engineering Physics department in 2001, and is a founding member of the University's Energy Institute. His research interests bring together technical and policy issues surrounding energy needs and the role that nuclear has to play. Born in Edinburgh, Scotland, and raised in Fort Saskatchewan, Alberta, Canada, Paul specialized in the Nuclear Power option of the Engineering Science program at the University of Toronto. After receiving his Bachelor of Applied Science in Engineering Science, he began his graduate schooling in nuclear engineering at the University of Wisconsin-Madison. After three years, he moved to Karlsruhe, Germany, where he studied in the Institute for Neutron Physics and Reactor Engineering, earning his Dr.-Ing. degree in Mechanical Engineering in 1998. Returning to Madison, Paul completed his Ph.D. in Nuclear Engineering in 1999.

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Published 9 times per year (Jan. - May & Sep. - Dec.) by the Madison, Wisconsin Section of the Institute of Electrical and Electronic Engineers (IEEE), as a service to its members in south-central Wisconsin.

Printing and mailing by: SprintPrint
2790 S. Fish Hatchery Rd.
Madison, WI 53711

Mailed at Madison, Wisconsin as 3rd Class, Non-Profit postage. Permit No. 953.

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Interview Your Next Boss

by Elizabeth Lions

The dreaded waiting room. Every engineer is familiar with the feelings that can creep in during the few moments before you are called into a job interview. Your hands are clammy as you fill out the application. You're running through your responses in your mind, in anticipation of the questions the engineering manager will ask. The receptionist smiles tightly as she takes your paperwork.

This is a place that will provide job stability, you think to yourself, with opportunities for advancement and good pay. You realize that you want this job. Badly. From your perspective, this job was made with you in mind.

Or was it?

Instead of being overly concerned with the notion that the employer would want your skill set, why not try something different and interview your prospective next boss?

Many people forget that the interview process is a two-way street, and feel it might be disrespectful to conduct some in-depth probing during the face-to-face meeting. However, with a little research and some tactful questions, you can use the interview to figure out if a prospective employer's culture is a good fit for you.

The majority of the 'bad hires' within corporations are not due to skill sets mismatches, but rather personality mismatches. Every company has its own distinct culture, its own particular flavor. There are norms and unspoken rules that surround the water cooler. These quirks will not become fully apparent to you until you become an employee and are assimilated into a particular company's culture. But you can use the interview to gain valuable insight into what those values might be.

While most hiring managers are on their best behavior during the interview, you can pick up on subtle signs and hints as to whether it is a good place for you to spend your eight- to ten-hour work days.

When evaluating a prospective employer, look to three key elements to figure out if it is a good match for you. The first is to get a feel for the company's culture. The second is to gauge the manager's leadership style and to determine if you connect professionally. The third is to evaluate the work itself — are you qualified to do it, and, just as importantly, do you want to do it?

The easiest and most superficial way to peg a company's culture is to look at the office's physical surroundings. Start with the lobby or waiting room. Before you are called in, take those precious few minutes to look around. Is the office neat and orderly? Does is reek of affluence? Is it a simple room or is it elaborately decorated? Is there a mission statement visible? If so, read it thoroughly (if you haven't already done so during your preparation). The waiting room provides an important first impression to visitors and vendors, and it can reveal a lot about a company.

As you walk through the main portion of the office for your interview, look around again. What do you see? Is the lobby congruent with the inner office, or is there a disconnect? Are there rows of cubicles or private offices? Is management in upstairs offices or isolated in a far corner of the building? The physical layout can tell you the about an organization's standards of hierarchy and what they think is appropriate. Figure out where you'd be in the mix. If you took that job, where would you sit?

During the interview, continue to observe what is going on around you. Don't let your desire to get the job cloud your overall goal of finding a good match. Answer interview questions directly and succinctly, while allowing your keen eye to take in the vibe in the room.

It's a good idea to bring a notebook so that you can capture answers to questions you may have regarding the company. It also helps to have a couple of notes in front of you to remember high points about yourself and your career that you'd like to convey. Most employers are impressed when an interviewee takes notes. Jotting down a few notes during the meeting creates the impression that you care enough to remember what was discussed.

While it's not polite to bombard the interviewer with endless questions, it is appropriate to ask for details on what you'd be doing in the job. Too often, the ad that appears online or in the newspaper doesn't match the actual job description. And, oddly enough, the job description often doesn't match what is in the hiring manager's mind.

Following are a few sample questions you might consider posing to a hiring manager:

- Why is this position open? Why did the last person leave?
- If a project is not on schedule, what does the company do to make the deadlines?
- How does the review process work? How often does it occur?
- How big is the engineering team?
- How does the manager share credit/recognition for joint ideas?
- How long has the manager worked there?
- Is it possible to get a patent while you work there, or does all intellectual property belong to the company?
- Can you tell me about your best employees and how you like to work with them?
- Can you tell me about your least favorite employees?

These questions are designed to flush out what is really going on in a business. They are fair questions to ask any prospective employer, and, if delivered tactfully, no one will be offended.

After you've observed the environment, the co-workers and the leadership, you should focus on whether the work is interesting and challenging. Will this be a stepping stone to something greater? What can you learn here? What can you contribute to the company that another candidate could not? Inquire about the work you would be doing. Try to figure out what value you would bring to the company and be sure to mention it in the interview.

After the meeting concludes, go home and review what you observed before, during and after the interview. Often, valuable information will unfold as you think back on the meeting. Did you see anything that concerned you? Did you see things that made you want to be there? Is it the right place for you?

Always remember that the interview process is a two-way street. And even a bad interview was well worth your time.

Elizabeth Lions is a technical recruiter at APCON, Inc., in Wilsonville, Ore. Comments may be submitted to todaysengineer@ieee.org.

For Immediate Release:

New Approach to EMC Learning

Textbook teaching has its place in learning EMC fundamentals. But real-life experience relating these fundamentals to actual situations is essential. Donald L. Sweeney and Roger Swanberg, with over 75 combined years of experience in the field of EMC, now bring these fundamentals to life through hands-on, practical application to real life products.

EMC Practical Applications
Seminar/Workshop
October 19-20 & 23-24, 2006
Hilton Hotel, Northbrook, IL

To register call Carol at 847-537-6400 or email her at cgorowski@dlsemc.com. For more information visit www.dlsemc.com/class301.htm. If you cannot attend this class, the next one will be April 2007.

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