

Interview with ASHRAE Fellow, Dr. Jeffrey D. Spitler

Chapter members are encouraged to conduct interviews of influential people in our industry and provide a written copy to the chapter historical committee. Back in the early 1990's, I had the privilege of having Dr. Jeffrey D. Spitler as my professor at OSU for Thermo II, Indoor Environmental Systems, and my senior Design Projects class. Having been a long time since then, I thought it would be great to catch up with him, find out what's been going on and possibly learn a thing or two that I never knew about Dr. Spitler.

DS: You earned your Bachelor's, Master's, and PhD in Mechanical Engineering at the University of Illinois. Are you originally from that area?

Dr. Spitler: Yes, I was born in the Chicago suburbs and lived there until I was 17. I did live in Pennsylvania for a few years, but pretty much, I'm from the Chicago area. I then spent the entire decade of the 1980's earning my degrees from the University of Illinois.

DS: How did you end up at OSU?

Dr. Spitler: When I was done at the University of Illinois, I was looking for a job. I had several interviews and received two good offers: One from the University of Arkansas, and one from Oklahoma State University. Having to choose between the two, I chose OSU primarily because of Faye McQuiston, the research he was involved with, plus his textbook, along with Dr. Bose and the work on ground-source heat pumps. Faye was close to retirement at that time. The work going on at OSU just seemed to fit better with my background and interests. The trout fishing is probably better in Arkansas, but we're closer to pheasant hunting here in Oklahoma!

DS: Professors often have titles and distinctions that the general public may not be familiar with. Currently, you are listed as "Regents Professor and OG&E Energy Technology Chair." In the past, you were listed as "C.M. Leonard Professor." What is the meaning and significance of these titles?

Dr. Spitler: It's funny; one time I had a news person call asking for me, and they said that if I wasn't available, they could just speak with C.M. Leonard! But, to answer the question, chairs and professorships are honorary titles. They're usually awarded for outstanding research performance. They are endowed and come with funding to be used at the professor's discretion. For example, the funding could go toward buying equipment, computers, and be used to pay graduate students, especially in the case where the research project's funds run out before the research is finished. Likewise, if students start working prior to a project's funding coming available.

DS: I know that, for some time now, you have been co-author of the widely distributed HVAC book Heating, Ventilating, and Air Conditioning Analysis and Design. How did you originally get involved with that textbook?

Dr. Spitler: When I came to OSU, Dr. McQuiston and Dr. Parker were working on the 4th edition. They asked me to provide input on a few parts. When it came time to write the 5th edition, they asked me to join them as co-author and write my own chapter. In the 6th edition, I took on a few more chapters.

DS: Is that textbook still being used in the Indoor Environmental Systems class?

Dr. Spitler: Yes it is, both in the undergraduate class and the graduate level class.

DS: What other publications, whether books, software or websites, have you worked on?

Dr. Spitler: At last count, I've written around 130 technical articles including journal and transaction articles, conference papers and magazine articles. I've written or co-written a number of books on load calculation published by ASHRAE; the 2nd edition of the Load Calculation Applications Manual came out earlier this year. I've written several book chapters including three on ground-source heat pump systems for a book to be published this summer.

DS: I understand that you were on sabbatical recently at Chalmers University in Sweden and that you have had extended visits to other countries in the past as well. How was your recent trip to Sweden?

Dr. Spitler: I spent a year on sabbatical in Gothenburg, Sweden working at Chalmers University. It was a fantastic experience! Swedish researchers have made quite a few contributions in the ground-source heat pump area since the 1970's and I was able to work with several researchers there. I spent most of the time working on research related to ground-source heat pump systems, with some teaching and guest lecturing. Several papers and book chapters have come out of that work. When I go on sabbatical, I do the research myself, as opposed to supervising graduate students. That really gives me the opportunity to renew my expertise. Two other highlights were: 1) Serving as a Fulbright Distinguished Chair, I was invited to the Nobel Prize Award Ceremony, and 2) Moose hunting (successfully) in the Swedish mountains!

DS: What other Universities have you taught at?

Dr. Spitler: If you mean taught in the sense of teaching a full semester-long course, I've only done that at OSU. If you include giving guest lectures and seminars, the list is pretty long. In the last couple of years, I've given lectures at universities in Sweden, Ireland, and China.

DS: I attended the ASHRAE Winter Conference in New York in 2014. While watching the main program, I was pleasantly surprised to see you walk across the stage and receive the E. K. Campbell Award. What was that award for and what does it mean to you?

Dr. Spitler: The award is given for contributions in University teaching and research in ASHRAE-related fields. There are quite a few things considered including ASHRAE involvement, publications, teaching, etc. I was quite happy to be in the company of other E.K. Campbell Award recipients like Michel Bernier from Polytechnique Montreal, Eckhard Groll and Jim Braun from Purdue, Dave Claridge from Texas A&M and our own Faye McQuiston in 1986.

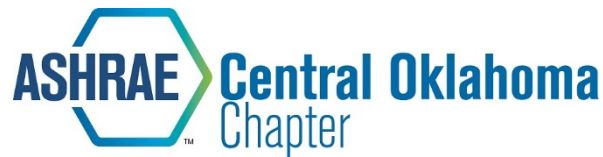
DS: You've been an ASHRAE member for over 30 years now and served the Society at many different levels. Can you summarize your service and contributions to ASHRAE and possibly talk about how the Society has benefited you?

Dr. Spitler: I've made a lot of connections through ASHRAE over the years. Getting to know people from different places has been very beneficial. I've also benefited from the ASHRAE Research Program. Research funds are obviously very important to the business of running a research university. I've probably received over a million dollars of ASHRAE research funds over the past 25-plus years.

DS: Has OSU recently received any money for research from ASHRAE?

Dr. Spitler: Right now, we're in between projects. I have a project that's really been finished for about a year-and-a-half, but the committee still has one last thing they want me to do. Dr. Christian Bach has a new project getting ready to start on office equipment heat gain measurements.

DS: Outside of ASHRAE, what other associations have you been involved with?



Dr. Spitler: I've served as President of the International Building Performance Simulation Association (IBPSA). I'm also a Fellow of that society. The president of that society serves a 2-year term and I served two terms from 2002 to 2006. I've served in various roles in the International Ground Source Heat Pump Association (IGSHPA). I'm also a member of ASME, and a member of *Energi- och Miljötekniska Föreningen* (EMTF) which is kind-of the Swedish equivalent to ASHRAE!

DS: *You were my professor for a number of classes back in the early 1990's. I graduated from OSU in 1995. What have you seen that has changed in academia over the past 20 years?*

Dr. Spitler: We've had a huge shift in technology. When you were in school, most of the professor's notes were handwritten and there was probably some use of overhead projectors. We did a lot more of what I would consider, solid lecturing, where you come into class and the professor lectures for 50 minutes and the students take notes as quickly as they can. As technology advanced, PowerPoint became the norm; for instance, in my thermal systems class, I have about 950 PowerPoint slides that I teach from. Those slides are often printed to PDF and given to the students. From the student side, in my own view, I think it's harder and harder, today, for students to pay attention for 50 minutes. This has caused me to have a lot more in-class activities, including short quizzes.

DS: *Where do you see the HVAC industry headed in the future and how will your research play into it?*

Dr. Spitler: You've probably heard of the phrase "the internet of everything" meaning that all kinds of devices and systems are being connected to the internet. I believe that when it comes to HVAC, the ability to measure and analyze system performance is going to become much more readily available. I'm interested in research related to low cost sensors and the methods for gathering and analyzing the data, in real time, to optimize the control of equipment and the building. Today, for example, you can measure a building's overall energy performance, and you could determine that, say, you have a mediocre building. But that's a mixed measure of equipment and envelope performance, plus the activities going on in the building. You may have a really good envelope and your loads aren't that heavy but you've got very poorly performing equipment. I can imagine that the ability to measure and identify that is going to become more common in the coming years. At OSU, we're hoping to get research funding to help move this along.

DS: *On the ASHRAE Central Oklahoma Chapter Roster, I've seen the name "Rachel Spitler." I suspect she's related to you. Do we have a 2nd generation Professor Spitler coming up?*

Dr. Spitler: She's my daughter and she's actually already working in the industry in Tulsa at Cyntergy. The Central Oklahoma Chapter's loss is the Northeastern Oklahoma Chapter's gain! She's been there a little over a year now. So, I really don't think we have a 2nd generation professor coming along. She really enjoys doing MEP system design. Actually, I have five daughters. One is an Agricultural Engineer working for the Natural Resources Conservation Service. One still in high school and the other two work in other areas. I doubt the one in high school is going to go into the HVAC industry, but you never know!

Dusty Stoabs, PE

ASHRAE Central Oklahoma Chapter Historian