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## **Biography**

I am currently licensed as a professional engineer in Texas and Ohio and am a Texas licensed Master Electrician. I am an American Society of Civil Engineers (ASCE) Life Member and an IEEE Life Senior Member, having joined both in college. In the IEEE Central Texas Section, my duties include Sr. Member Upgrade Coordinator, and now Treasurer. I am also a Past-Chair of the IEEE joint chapter (PI) (PES/PELS/IES/IAS/PSSES).

In 2020, I was awarded the George F. McClure Citation of Honor recipient for dedication to IEEE and my Chapter.

I have an eclectic employment history. After serving 4-years in the Air Force, I worked in a factory for 3 years, and afterwards served a four-year Apprenticeship with the International Brotherhood of Electrical Workers becoming a Journeyman Wireman in 1999. My training specialized in industrial and commercial wiring.

In 1986, I graduated from the University of Cincinnati with a BS in Civil Engineering and worked as an Environmental Engineer in the private sector. In 1994, I was hired into the Texas Department of Transportation (TxDOT) to work in the Roadway Illumination and Traffic Signals Sections where I specialized in grounding practices, inspecting installations for code and contract compliance, improving design practices, and improving lightning protection.

In 2001, I transferred to the TxDOT Bridge Division Hydraulics to specialize in river and stream flows through culverts and bridges. I used my multiple and varied electrical experiences to design a collapse detection and motorist warning system for bridge in south Texas. The bridge had been damaged at night by an errant barge and several people died when they unknowingly drove off the broken bridge.

I retired from TxDOT in 2015 and concentrate on serving IEEE. In the Austin Gem and Mineral Society, I am currently an active member and an officer as well as being a past President.

## Lecture Topics

### **1. PRACTICAL INSTRUCTION ON UFER GROUNDS**

Concrete encased electrodes for grounding electrical power systems, also called Ufer grounds, are highly effective grounding systems when installed correctly. James will explain what constitutes a Ufer ground and how one can be easily constructed in accordance with IEEE Standard 142-2007 (the Green Book) and the National Electrical Code (NEC). He will also explain what common errors and myths surround Ufer grounds. James will also explain how Ufer grounds are essential to effective lightning protection systems and show evidence that they do work.

### **2. WHAT'S IT LIKE WORKING IN THE PROFESSIONAL WORLD?**

For Engineering Students, have you wondered:

What's it really like working in an engineering office?

What do I need to know to be an effective engineer?

How much of my college really applies?

Will the office engineers respect me when I'm new?

James's information comes from having worked in a number of different settings around the US and even another country. This will be a free-wheeling, open to questions discussion aimed at opening the minds for a new scenario.

### **3. BRIDGES: ACTUALLY, THEY ARE VERY SAFE (IN THIS COUNTRY)**

This overview presentation is designed for average motorists who are not Civil Engineers. James will explain why, in spite of publicity and some accidents, United States bridges are not as bad off as some claim but are actually extremely good! He will also explain "what is a bridge" and classifications such as "functionally obsolete" and "structurally deficient" terms which confuse people but don't mean what they sound like. This presentation, although mildly technical, is suitable for a mixed audience of Engineers and non-Engineers such as at a Section social event with spouses.

### **4. THE QUEEN ISABELA CAUSEWAY BRIDGE COLLAPSE DETECTION AND MOTORIST WARNING SYSTEM**

On September 14, 2001, an errant barge damaged the bridge between Port Isabel and Padre Island in south Texas. Five people died when they drove off the opened bridge in the dark. After the structure was repaired and reopened, James, because of his electrical background, was tasked with designing and installing a way of warning drivers that the bridge had been damaged. The system restored local confidence in the repaired structure. James will explain both the Electrical and the Traffic Engineering involved to make this project functional.