

NOVEMBER 2013 MEETING

Wednesday, November 13, 2013 (1.0 PDH)

TECHNICAL PROGRAM

Forensics - Detective Engineering

Speaker:

[David W. Fowler, Ph.D., P.E.](#) with the [University of Texas, Austin](#), Austin, TX., Tel: 512-232-2575

Dr. Fowler has earned B.S. and M.S. degrees in Architectural Engineering at The University of Texas at Austin, and a Ph.D. in Civil Engineering at the University of Colorado at Boulder. Since 1964 he has been a professor at University of Texas at Austin in the Department of Civil, Architectural and Environmental Engineering. He teaches courses in construction materials, forensic engineering, repair of concrete, and concrete structures. His research has been in polymer concrete and other special concretes for repair, repair of cracks, use of aggregates in concrete, and repair requirements for concrete bridge decks and pavements.

PRESENTATION SUMMARY

To an audience of about 65 at the HESS Club, Dr. Fowler gave a slide presentation titled, "Forensics – Detective Engineering". Dr. Fowler noted that forensic engineering is a well-established field, and many professional engineers now practice it as part of a firm or as a sole practitioner. The area of foundation construction and engineering has provided many opportunities for forensics engineers and many students are now opting to pursue forensic engineering as a profession.

Dr. Fowler reinforced the idea that although most people and in particular engineers may think of a failure in terms of a structural collapse, a failure may be defined as the inability of a component, structure, or facility to perform its intended function. This definition could include something as simple as the cosmetics of a surface or a parking lot that permits water to pond during a rain. Dr. Fowler then went on to discuss the importance of using scientific methods of determining the cause of failures. He stressed that many of the causes are determined by observations and proven by analysis.

Dr. Fowler noted that concrete is the most common failure material although many types of failures occur. He presented a number of case studies relative to concrete and construction failures. He proceeded step by step through his process for these cases and then presented the final results.

Slides were shown to illustrate the principals of each topic.

To download a copy of Dr. Fowler's slides, click [here](#).

To read previous FPA presentations by David W. Fowler, please click:

[November 2011](#) - Failures: What can we learn?

[November 2010](#) - What caused it to fail?

[November 2009](#) - Detective Engineering: Causes of Distress in Concrete

[November 2008](#) - Causes and Cures of Cracking in Concrete

