

**Department of Structural Engineering  
University of California, San Diego  
SE 290 Seminar**



Dr. Howard A. Perko  
Director of Engineering  
Magnum Piering, Inc.

**“Introduction to the Helical Pile or Screw Pile”**

Monday, May 21, 2018

12:00 pm - 12:50 pm, Center Hall, Room 214

<https://structures.ucsd.edu/seminars>

**Abstract**

Dr. Perko will introduce a popular modern deep foundation known as the helical pile or screw pile. This manufactured foundation is rotated into the ground to support structures from residential to commercial and heavy industrial structures. What makes the product so popular is the speed of installation, quality control of a manufactured product, field quality assurance of the torque to capacity ratio, and the versatility and low mobilization cost of installation equipment. Invented in 1836 and used to support lighthouses throughout the world, its popularity has escalated in past 30 years due to advances in hydraulic torque motors. Today they are used to support pipelines, high-rise construction, industrial facilities, bridges, commercial buildings, and more. Appearing for the first time

in the 2009 building code, their use has been growing exponentially in recent years. UCSD professor John McCartney has teamed with Dr. Perko and Dr. Jie Huang at the University of Texas and are doing research into the use of helical piles as energy foundations. With slender shaft and large bearing elements, helical piles represent an ultra-efficient use of raw materials. This combined with the fact that they can be unscrewed and re-used makes them the sustainable deep foundation choice of the future. Join us to learn more about this exciting new area of deep foundation engineering.

## **Biography**

Howard Perko, Ph.D., P.E. is the Director of Engineering for Magnum Piering, Inc., a leading manufacturer of specialty foundation and anchoring products. Dr. Perko is a licensed engineer in 18 states, holds 7 US patents, and is author of over 40 technical publications including the engineering text book, "Helical Piles", published by Wiley, 2009. Dr. Perko is an inductee in the Civil Engineering Academy at Michigan Technological University and an adjunct faculty member at Colorado State University. Clients affectionately know him as "Howie"; he has been consulting on soil and foundation projects throughout the USA for 24 years.

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*Sponsored by Professor John McCartney  
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