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## CE 591 Environmental Engineering Seminar

# Geothermal: A Resource for Energy Efficiency and Carbon Footprint

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### Description

The number one contributor to carbon emissions in the atmosphere is not exhaust from automobiles, or even emissions from industry or manufacturing. The largest contributor of carbon emissions is from heating and cooling our “built space” – our homes, our offices, and other buildings that we live and work in. Learn how ground source geothermal energy, located right below our feet, can be used to dramatically increase the efficiency associated with built space heating and cooling energy consumption. Learn the basics about this rapidly growing and evolving practice area, which combines a diverse range of science and engineering disciplines to provide cost effective, innovative energy solutions that will help address global warming and energy security and independence.

### Who Should Attend

Graduate students registered for CE591 (All Disciplines), outside professionals seeking information and PDH credit, and the general public with interest in how engineers are meeting the challenge of sustainable design.

### Format of Course

6:30 p.m. – 7: 30 p.m. *Lecture and Q/A Session*

7:30 p.m. – 8:30 p.m. *Class Project* – students work individually or in groups on in-class assignment

8:30 p.m.-9:30 p.m. *Review* previous week assignment and provide current week assignment

### Date and Location

March 12, 2009  
Salisbury Lab – RM 305 WPI Campus

### Registration Information

Professional Development Registration:  
\$50 *Lecture Only* CRN 27971 CESUS08  
\$150 *Lecture and Class Project* CRN 27985  
CESUS08 -- 2 Hrs PDH's Awarded  
Graduate Course Registration:  
CRN 27162 – 3 Credits Awarded

### About the Speaker



**Paul Ormond** is a registered Professional Engineer with over 11 years of experience in planning, design, and construction of institutional and commercial real estate development projects, specializing in projects located in denser urban settings having complex underground geotechnical, environmental, and

regulatory issues. Paul is a 1993 graduate of Worcester Polytechnic Institute with a Bachelor's degree in Civil Engineering as well as a 1995 graduate of the University of Massachusetts at Amherst where he earned a Master's degree in Geotechnical Engineering with a heavy focus on integration of geotechnical and environmental engineering and sciences. Prior to embarking on his professional career, Paul spent 2 years in Tanzania, East Africa working as a high school mathematics teacher in the United States Peace Corps. About 5 years ago, Paul began a Geothermal Engineering practice area at his firm, Haley & Aldrich, Inc., assembling a diverse team of engineering professionals and scientists to create new ways to utilize ground energy resources to reduce the energy consumption and carbon footprint of our built space. Since then Paul and his team have created many new technical “firsts” and other innovations to increase the reliability and value of ground energy geothermal systems, as well as spearheaded regulatory changes in several states, including Massachusetts, to promote ground energy use.

*For more information or to register call 508-831-5517. Graduate students may register at: <http://www.wpi.edu/Admin/Registrar/course056.html>; others may register through <http://cpe.wpi.edu/Individual/Workshops/regform.html>*