This NEW webinar series will present the background, resources, applications, construction work flow and management considerations required to design and construct effective energy foundations. Results from recently conducted research will answer commonly asked questions about system design and effectiveness. Industry accepted design guidance and strategies for introducing energy foundation systems into project work processes will be highlighted.

Information will also be provided on long term management and operations of energy foundation systems to ensure the designed heating and/or cooling demands can be optimized to enhance return on investment.

Some highlights:
- Research results
- Use of Ground Source Heat Pump Association (GSHP) document for design
- Energy foundations applications
- Bridge deck deicing opportunities
- GSHP mechanical systems
- Good working practice
- Work flow considerations

Who should attend?
- Local developers
- Facility managers of hospitals
- Educational facilities
- Local government representatives
- Architects
- Consultants (geotechnical, structural, mechanical and electrical)
Webinar Series and DFI Energy Foundations Committee Co-Chairs

Tony Amis  
GI Energy

C. Guney Olgun, Ph.D.  
Missouri University of Science and Technology

ENERGY FOUNDATIONS | 2020 Webinar 1

Wednesday | July 8, 2020
11:00 a.m.-12:30 p.m. EDT | 3:00 p.m.-4:30 p.m. GMT

11:00 a.m. - 11:25 a.m.
Introduction and Overview of Energy Foundations, Applications and Market Opportunities
Tony Amis, M.Sc. | GI Energy
Guney Olgun, Ph.D. | Missouri University of Science and Technology
Definition of energy foundations, benefits and energy outputs, brief project examples, and estimated cost savings.

11:25 a.m. - 11:50 a.m.
Current Research Conclusions on Energy Foundations
Peter Bourne-Webb, Ph.D., M.Sc., DIC | CERIS, Instituto Superior Técnico, Lisboa
Current research conclusions on common questions about energy foundation system efficiency and reliability.

11:50 a.m. - 12:15 p.m.
Research Results for Tunnel and Slurry Wall Projects
Alessandro Rotta Loria, Ph.D., PE. | Northwestern University
Analysis and design of energy walls and tunnels, including modeling, behavior and performance.

12:15 p.m. - 12:30 p.m.
Q&A and Closing Remarks
Wednesday | July 15, 2020
11:00 a.m.-12:30 p.m. EDT | 3:00 p.m.-4:30 p.m. GMT

11:00 a.m. - 11:20 a.m.
Introduction and Design Guidance, Standards and Contractual Procedures/Work Flow
Tony Amis, M.Sc. | GI Energy
Overview of generally accepted design guidance, defining design parameters and thermal loading, and considerations for long term management and optimization.

11:20 a.m. - 11:40 a.m.
Plastic Piping Materials and Equipment
Lance MacNevin, P.Eng. | Plastic Pipe Institute
Descriptions of geothermal pipe materials and associated standards, tools and resources.

11:40 a.m. - 12:00 p.m.
Ground Loop Design
Ed Lohrenz, B.E.S., CGD | GEOptimize
Input parameters and design processes for sizing ground source heat pump components to meet heating and cooling demands.

12:00 p.m. - 12:20 p.m.
Thermal Conductivity Testing of Energy Foundations
Fleur Loveridge, B.A., M.Sc., Ph.D., C.Eng., MICE, FGS, Cgeol | University of Leeds
Definition, procedures and recommendations for thermal response and thermal conductivity testing of soils.

12:20 p.m. - 12:30 p.m.
Q&A and Closing Remarks

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Wednesday | July 22, 2020
11:00 a.m.-12:30 p.m. EDT | 3:00 p.m.-4:30 p.m. GMT

11:00 a.m. - 11:40 a.m.
Introduction and Good Construction Practice and Successful Case Histories

Tony Amis, M.Sc. | GI Energy

Recommendations, roles and responsibilities and lessons learned related to installation, QC/QA, and laboratory and field testing of energy foundation solutions.

11:40 a.m. - 12:00 p.m.
Geothermal Heat Exchanger Piles: First Installation in New York City

Jason Hertz, P.E. | GeoStructures, Inc.

Overview of the design, construction, research and instrumentation program for the geothermal heat transfer system at the Trevor Day School.

12:00 p.m. - 12:20 p.m.
Use of Geothermal Solutions for Bridge Deck De-icing

Guney Olgun, Ph.D. | Missouri University of Science and Technology

Modeling, research results and performance of geothermal energy foundation systems used to melt snow and ice accumulation.

12:20 p.m. - 12:30 p.m.
Q&A and Closing Remarks

Thank You to Our Cooperating Organizations:

GSHPA
GROUND SOURCE HEAT PUMP ASSOCIATION

ISM

U.S. Department of Transportation
Federal Highway Administration
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