

**GSI W-17 Webinar Entitled:
“Geosynthetics in Erosion Control”**

Webinar Overview

The estimated societal cost of landslides in the U.S. is estimated at \$2-5B and worldwide might even approach \$10B. The percentage triggered by surface erosion is certainly a major contributor. While the mechanisms of soil erosion (consisting of detachment, transportation and deposition) its control is largely empirical. This webinar will present the various approaches using;

- temporary biodegradables (natural materials)
- long-term polymeric (geosynthetics)
- hard armor systems (stone, concrete, etc.)

Full-scale field tests in Cincinnati will substantiate the positive influence of turf reinforcement mats and product testing including ASTM (small scale), TRI (large scale) and field test sites will be illustrated.

Two design approaches will be shown with numeric examples. They are the USLE method for slopes, and velocity/shear stress methods for channels and ditches. They will be critiqued accordingly.

A summary of the webinar and recommendations will be offered including an appeal for instrumented field monitoring research and subsequent analytic modeling.

Learning Objectives

Participants will become familiar with the classification methodology for this enormous group of products used under the general term of erosion control and mitigation. The status of testing will be described and illustrated for both index and performance testing. Full scale field acceptance evaluation will be mentioned. Lastly, design for the two quite different scenarios, slopes versus channel/ditches will be illustrated with numeric examples. Conclusions and recommendations will be offered accordingly.

Webinar Benefits

1. Understand the wide range of available products
2. Learn how to classify them in logical categories
3. Learn how they can and do provide erosion control
4. Learn the different types of available tests
5. Understand the different large-scale performance tests
6. Learn available design methods for slopes versus channels/ditches

Intended Audiences

Public and private owners of housing, industrial, recreational and related projects in terrain where slopes are natural or constructed; consultants and designers in the private sector; regulators and agency personnel at the federal, state and local levels; geosynthetic manufacturers and their representatives; geotechnical and geosynthetic testing organization personnel; contractors and installers of erosion control systems; academic and research groups; and others desiring technically related information on this important aspect of our constructed environment.

Specific Topics Covered

1. Concerns, Mechanisms and Products
2. Test Plots in Cincinnati
3. Large-Scale Laboratory Tests
4. Full-Scale Field Test Sites
5. Design Guidance
6. Summary and Recommendations

Webinar Instructor

Dr. Robert M. Koerner's (Professor Emeritus of Civil Engineering at Drexel University and Director Emeritus of the Geosynthetic Institute) interest in geosynthetics spans over thirty years of teaching, research, writing and advising. He holds his Ph.D. in Geotechnical Engineering from Duke University. He is a registered Professional Engineer in Pennsylvania, a Distinguished Member of ASCE, a Diplomate of the GeoInstitute and a member of the National Academy of Engineering. Bob has authored and co-authored about 700 papers on geosynthetics and geotechnical topics in journals and at national and international conferences. His most widely used publication is the sixth edition of the textbook entitled "*Designing with Geosynthetics*". He is the founding director of the Geosynthetic Institute which is a nonprofit research and development organization dedicated to the proper use of geosynthetics in its myriad applications. The institute also provides laboratory accreditation and inspection certification programs.