

The Geosynthetic Institute

GSI's philosophy on centers

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director of GSI

The Geosynthetic Institute (GSI) began in 1986 and had its first home at Drexel University as the Geosynthetic Research Institute (GRI). At that time, and for about seven years thereafter, the focus was completely on graduate student-related research. We were heavily funded by the Environmental Protection Agency with two and three projects ongoing simultaneously. Funding was also provided by major transportation agencies (AASHTO and NCHRP). All of the projects included graduate research assistants, and 20–30 students obtained their masters or doctoral degrees under grant sponsorship.

Early in the 1990s the consortium members suggested various outreach programs, such as developing test methods and guides and presenting seminar/briefings in their offices. We, of course, responded, but the effect was less student oriented and involved more time on the road. By the late 1990s this trend continued (accelerated by the desire/need for generic specifications), and the need for GSI became obvious and was implemented accordingly. Today, GSI is a stand-alone, off-campus, tax-exempt institute chartered in the State of Delaware. As described in each of these newsletters/reports, the focus is now research, education, information, accreditation and certification. The five sub-institutes are all separately incorporated or trademark registered. Furthermore, if one reviews the type of activities being conducted at GSI, it can be seen that they are all being applied with results immediately capable of being implemented. Stated somewhat differently, one could come to the conclusion that our current research activity is completely mission-oriented and relatively short-term in its focus.

This observation was brought to my attention about 18 months ago by George Koerner who said (in effect), "The current research and activities are different than in the old days." A few months later he repeated similar thoughts. On neither occasion did I respond; I simply didn't know

what to say, except "He is right!" However, to ask George or Grace Hsuan to do more is absurd; both are working extremely hard and with great intensity—but, George's comment made an impact.

The answer to George's observations began to gel when I had the opportunity to co-teach a course on retaining walls and slope reinforcement with Dov Leshchinsky of the University of Delaware. My thought was to somehow co-opt him (and other smart and energetic faculty) into some type of direct interaction. The idea of a "center," focusing on an area where the external faculty member was proficient, seemed to be natural, under the caveat that the center is geosynthetics related. Additionally, students are to be involved, thus (in some way) replicating activities of the 1980s. Since students need financial support, the faculty involved will need some financial support from GSI and, fortunately, our endowment is available for such funding. Two centers are currently operative.

CPReS

The Center for Polymeric Reinforced Structures (CPReS) was formed on 27 December 2002 for the purpose of enabling proper use of geosynthetics in walls, slopes and foundation reinforcement. Dov Leshchinsky of Delaware, Grace Hsuan of Drexel and George Koerner of GSI are co-directors. The mission statement and goals are available on the GSI Web site at www.geosynthetic-institute.org.

Initial projects are as follows:

- Dov Leshchinsky will modify and incorporate two important aspects of reinforced walls into his widely-used computer program "MSEWall." They are how to accommodate short reinforcement lengths when space is unavailable and the incorporation of drainage geocomposites in accommodating low permeability backfill soils.
- Grace Hsuan will set up and utilize the Stepped Isothermal Method (SIM) at GSI for the purposes of accelerated creep stud-

ies on a variety of geosynthetic reinforcement products.

- George Koerner will monitor a segmental retaining wall at GSI for the purpose of long-term investigation of the pH-values between three different types of masonry blocks.

CPHyS

The Center for Polymers in Hydraulic Structures (CPHyS) was formed on 19 June 2003 for the purpose of proper use of geosynthetics in dams, canals, reservoirs, tunnels, pipes and related hydraulic systems. Jorge Zornberg of the University of Texas at Austin, Grace Hsuan of Drexel and George Koerner of GSI are co-directors. The mission statement and goals are also available on the GSI Web site. Initial projects are being decided upon, but one is certain; Grace Hsuan will focus on exposed geomembrane durability and lifetime. This issue is critically important to gain the confidence of polymer lifetime in the minds of owners, regulators, designers and specifiers in the focused application areas.

Quality assurance

In both CPReS and CPHyS, Bob Koerner will act in an advisory manner, if you will, as quality assurance! In both centers (and perhaps others), existing GSI members and associate members are fully entitled to the information that is developed, and their interaction is encouraged. No additional funding is expected. We will keep the membership advised as to progress in this regard. We sincerely hope that the industry is supportive of these initiatives, and your comments/suggestions are always solicited. ■

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