Ultra-lightweight foamed glass aggregate (UL-FGA) is a closed-cell material made from 100% recycled glass using a dry foaming process with a silicon carbide foaming agent. UL-FGA has a bulk dry unit weight of approximately 15 pcf and a typical compacted dry unit weight of 20 pcf. The high intra-particle porosity of UL-FGA and high particle surface roughness contribute to a material behavior that is distinct from conventional fill materials. Dr. Michael McGuire (Lafayette College) and Dr. Daniel VandenBerge (Tennessee Tech) are currently conducting research with the support of AeroAggregates, LLC, to improve the understanding of the compressibility, in-place density, and shear strength of UL-FGA. This presentation focuses on two works-in-progress: 1) field-scale compaction experiments using terrestrial LiDAR to observe changes in fill volume in response to compactor passes, and 2) incremental one-dimensional compression tests using 12-inch diameter specimens with pre- and post-test particle size analysis. Preliminary findings from these experiments will be shared and discussed during the presentation as well as plans for additional testing.

Dr. Mike McGuire is an Assistant Professor in the Department of Civil and Environmental Engineering at Lafayette College. He teaches courses in geotechnical engineering covering introductory topics, foundation design, wall design, slope stability, and ground improvement. He also teaches courses on sustainability and engineering design. His research interests include column-supported embankments, shear strength characterization, and remote sensing. Mike is originally from Media, Pennsylvania; receiving his BS degree in civil engineering from the University of Pennsylvania, and his MS and Ph.D. degrees from Virginia Tech. Mike is a registered Professional Engineer in Virginia and is active in service to the Geo-Institute through participation in the Geosynthetics Technical Committee and Student Participation Committee.

We anticipate 1 PDH will be awarded for attendance.
Karl Terzaghi is clearly the Father of Geotechnical Engineering beginning with his 1925 book titled Erdbaumechanik (Soil Mechanics) which contained numerous original breakthroughs. One of these is certainly consolidation theory. This presentation began with Terzaghi’s consolidation theory (extended by Barron) leading directly to consolidation of saturated soils using the technique of sand drains. It then described a case history failure resulting in a $6M judgment against the design consultant. This project (and greater economic efficiency) led directly to the development of wick drains: also called prefabricated vertical drains or simply PVDs. The requisite research design (extended by Hansbo) was numerically illustrated to arrive at a satisfactory flow value. The added dimension of using PVDs is that by virtue of their tensile strength (unlike columns of sand) they have a reinforcement potential. This was numerically illustrated using the previous case history failure as an example via the ReSSA computer code.

ABOUT THE SPEAKER:

Robert Koerner is Professor Emeritus at Drexel University and is Founder, Director, and now Director Emeritus at the Geosynthetic Institute in Folsom, Pennsylvania. Bob has published widely (~850 books, book chapters, papers in journals, conferences, symposia, magazines and major research reports). His most widely used publication is the sixth edition of his textbook Designing with Geosynthetics. It has sold over 40,000 copies and has been translated into several languages.

Bob is a member of the National Academy of Engineering and is a Diplomate in the Academy of GeoProfessionals in its inaugural class of 2009. Symposia in his honor are from Drexel in 2003, ASCE’s Mechanics Section in 2005, and GeoInstitute’s Geoenvironmental Engineering Division in 2015. He was awarded the Geosynthetic Materials Association’s Robert M. Koerner Biennial Lectureship and the annual GeoMiddle East Conference Lectureship: both in 2017.
ANNOUNCEMENTS

Upcoming Dates for 2019 Dinner Meetings and events are as follows:

- **September 17 Dinner Meeting**: Michael McGuire, Ph.D., P.E., Dept. of Civil & Environmental Eng., Lafayette College: Compressibility, In-Place Density, and Shear Strength of UL-FGA
- **October 15 Dinner Meeting**: Martin McDermott, Moretrench: Riverwalk Philadelphia Drilled Shafts Load Testing
- **October 17 GeoForum 2019**: Geosynthetics short-course in King of Prussia, PA, see announcement for details.
- **November 19 Dinner Meeting**: Brandon Buschmeier, Menard: Route 295 Ground Improvement

*One PDH will be awarded for most dinner meetings that you attend.*

*If you are interested in presenting at one of our monthly meetings or have ideas about potential speakers, please get in touch with a DVGI board member.*

---

**DVGI PROJECT OF THE YEAR**

Inaugural DVGI Geotechnical Project of the Year Competition

Project of the Year to be selected in May 2020

Selected projects to be profiled in Newsletters

Stay tuned for more info on how to submit your project!
ANNOUNCEMENTS

GeoForum
October 17 – 18, 2019 - Philadelphia, PA

Opening the Tool Box, Beyond the Traditional
HUESKER and DVGI are delighted to invite you to join us for GeoForum. GeoForum is a highly technical geosynthetic short course, where you will hear from subject-matter experts about case studies of high profile projects which utilized geosynthetics, as well as cutting edge applications for geosynthetics. In addition to the talks, during the first day, we will present a series of short hands-on conceptual demonstrations. Attendance on the second day is not required but is highly recommended as we will be visiting the Geosynthetic Institute.

This year marks the third occurrence of this HUESKER organized event, and for the first time, GeoForum is taking place away from our headquarters in Charlotte, NC. In coming years we will take GeoForum around the country, and likely will not be back to the Philadelphia region again soon, so do not miss your opportunity to attend GeoForum this October.

Confirmed Presenters:
Dr. Robert Koerner
Geosynthetic Institute

Dr. Jorge Zornberg
The University of Texas at Austin

John Volk, PE
AECOM

Dr. Oliver Detert
HUESKER Synthetic GmbH

Dr. Danny Reible
Texas Tech University

Agenda:
October 17th 8:30 am - 5:00 pm
Main Event Day

October 18th 9:00 am – 11:00 am
Tour of Geosynthetic Institute in Folsom, PA

Venue:
Hyatt House of King of Prussia
240 Mall Blvd., King of Prussia, PA

Questions? HUESKER@geoforum.us

Register at GeoForum.us
Registration Cost is $90
7 PDHs will be awarded to participants

**Register Online at dvgi.org**
ANNOUNCEMENTS

2019-2020 Board of Directors

Chair
Russ Preuss, P.E.
(rpreuss@gfnet.com)

Past Chair
Archie Filshill, Ph.D.
(archie@aeroaggregates.com)

Vice-Chair
Theresa Loux, Ph.D., P.E.
(tloux@aeroaggregates.com)

Treasurer
James M. Beideman, P.E.
(jbeideman@kleinfelder.com)

Secretary
Eric Backlund, P.E.
(ebacklund@kleinfelder.com)

Newsletter Director
Jeremy Brown, P.E.
(jbrown@schnabel-eng.com)

Web Advisor
Robert Crawford, P.E.
(bobc@jjaconstruction.com)

Academic Liaison
Joseph Coe, Ph.D.
(joseph.coe@temple.edu)

ASCE Liaison
James A. McKelvey III, P.E.
(jaym@earthengineering.com)

At-Large Directors
Jerry (Tse-Wei) Chen
(Jerry.Chen@wsp.com)

Conrad Cho, P.E.
(ccho@langan.com)

Board Advisors
William K. Petersen, P.E.
(bpetersen@rimkus.com)

Craig Calabria, Ph.D., P.E.
(crcalabria@msn.com)

Robert M. Sabanas, P.E.
(bsabanas@gmail.com)

Top Row (L—R): J. McKelvey, R. Crawford, R. Preuss, E. Backlund, R. Sabanas, C. Calabria,
ANNOUNCEMENTS

Upcoming GSI Webinars for 2019
(1.5 PDH each / upon completion of exam)

11:30 AM—1:00 PM (Eastern Time)

Topics, Dates and Registration at www.geosynthetic-institute.org/webinar.htm

Cost: GSI Members $200; Nonmembers $250

<table>
<thead>
<tr>
<th>October 9</th>
<th>W-15</th>
<th>In-Situ Stabilization of Soil Slopes Using Nailed (or Anchored) Geosynthetics</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 23</td>
<td>W-27</td>
<td>Stability Design of Landfill Cover Soils</td>
</tr>
<tr>
<td>November 13</td>
<td>W-24</td>
<td>Disposal of Coal Combustion Residuals (CCRs)</td>
</tr>
<tr>
<td>November 27</td>
<td>W-25</td>
<td>Soil Consolidation using Wick Drains, aka PVDs</td>
</tr>
<tr>
<td>December 11</td>
<td>W-22</td>
<td>Geosynthetic Reinforced MSE Walls: Overview, Failures and Items for Improvement</td>
</tr>
</tbody>
</table>

HAVE DVGI PUBLISH YOUR ARTICLE, ADVERTISEMENT, OR JOB POSTING

- Do you have an interesting article on a project or individual in your organization that you would like to have published in the DVGI newsletter?
- Would you like to get the word out about a job opening, new venture, etc. to our membership via the newsletter?

Please submit your articles or news items for consideration in the next edition of the newsletter or get in touch about our reasonably priced advertising by contacting Theresa Loux (tloux@aeroaggregates.com).

DVGI Merchandise Available for Purchase

Coffee mugs ($8) and lapel pins with the DVGI logo ($5) are available for purchase. See Russ Preuss if you are interested in purchasing either of these items.

ASCE/G-I Members:
Read past and present issues of Geo-Strata magazine online at www.asce.org
You are invited to participate in RamJack’s L&L seminar. The presentation includes discussion of principles and the underlying assumptions, and explanations of the theories behind geotechnical analyses of helical (Screw) piles/anchors. References to sources of uncertainties in geotechnical analyses will be made to avoid a false sense of accuracy. The application of engineering principles to practical problems will be illustrated using Case Histories. The presentation touches on the use of computer software.

For more information, please contact Taylor Rizzotte – taylor@ramjacktri.com or Cindy MacKay – cindy@ramjacktri.com to schedule your L&L seminar.
6th Annual DVGI Golf Outing

On June 21st, 57 Delaware Valley Geo-Institute (DVGI) members and friends participated in the 6th Annual DVGI Golf Outing at Jeffersonville Golf Club in Jeffersonville, Pennsylvania, outside of Philadelphia. Engineers, Contractors, and vendors from the Philadelphia Metro area took a half day on the first day of summer to support the DVGI scholarship fund. The weather was perfect, and the refreshments were cold as the first team teed off at 12:30 that day. The outing was a scramble format inviting all levels of golf skill.

The Wagman Heavy Civil/Terry Foundation/TRC team took home the overall best team score prize, while the Earth Engineering and Axis Stabilization team had the dubious honor of the worst or “most honest” team score. Jim Evans of Uni-Tech Drilling and Russ Preuss of Gannett Fleming won the longest drive holes while Matt Klanica of Case Foundation won the closest to the pin prize. After the round of golf, participants gathered for dinner and drinks. It was a great event to get to socialize with DVGI members and friends at a more informal gathering. Special thanks to our 21 corporate sponsors who made the event a huge success, providing funding for the DVGI Scholarship fund given out to students during the annual March Student Night dinner meeting. Looking forward to next year’s outing!

We raised $3,900 for the DVGI Scholarship fund!
EVENTS AND CONFERENCES

99th Annual Meeting > January 12–16, 2020 > Washington, DC

Geo-Congress 2020
Minneapolis, Minnesota | February 25–28, 2020

GEO-STRUCTURAL ASPECTS OF PAVEMENTS, RAILWAYS, & AIRFIELDS 2019
Building Infrastructure from the Ground Up
November 4–7, 2019 | Colorado Springs, Colorado | The Antlers