The Ground Improvement Committee continues to serve as a resource for industry practitioners; federal, state and local agencies; academia; and contractors. One common committee contribution is to facilitate, coordinate and conduct reviews prior to public release of specifications, guidelines and manuals by industry experts. In 2016, members of the committee provided feedback for the updated version of FHWA’s Geotechnical Engineering Circular (GEC) No. 13 – Ground Modification Techniques, originally scheduled for publication in 2017. In February, a subcommittee led by Brian Metcalfe of Geopier Foundation Company reviewed NAVFAC’s Densified Aggregate Pier Specifications, which is being updated by a contracted consulting engineering firm. The subcommittee consisted of committee members representing academia, consulting, contracting and government. The comments provided by the subcommittee during the review process were well received and integrated into the final specification.

In concert with DFI’s and ASCE Geo-Institute’s (ASCE/GI’s) recent efforts to increase cooperation, the committee is working to enhance collaboration with the ASCE/GI’s Soil Improvement Committee. Both committees will have at least one representative attend and participate in the other’s meetings to relay information about any initiatives or deliverables that would be relevant to both groups. In addition, the leadership of both committees will conduct a brief semi-annual conference call to discuss current and upcoming initiatives, seminars, workshops and publications.

Another committee initiative is being led by Lyle Simonton of Subsurface Constructors to develop, populate and maintain a speaker database. The database, which will be maintained by the committee leadership, contains contact information for a potential presenter and information about the presentation (abstract and past conferences presented). Upon request to DFI, the database will be provided to local geotechnical organizations and groups who are seeking ground improvement speakers for upcoming seminars and

MARY ELLEN BRUCE LARGE, P.E., D.GE, DIRECTOR OF TECHNICAL ACTIVITIES

Technical Activities Update

Find Common Ground — Join a DFI Group

As a member of DFI you can participate in one of our many DFI Technical Committees or Working Groups and collaborate with your peers, influence the profession, build consensus, develop leadership skills and extend your network.

COMMITTEE CHAIR TANNER BLACKBURN, PH.D., P.E.

Ground Improvement Committee

TECHNICAL ACTIVITIES
workshops. If you would like to be added to the web-based form provided on the DFI Ground Improvement Technical Committee webpage. If you are interested in searching the database as you plan a seminar or workshop, please contact Mary Ellen Large, DFI director of technical activities, at melarge@dfi.org.

Lastly, the committee is always seeking ideas for new initiatives and projects, including research eligible for DFI Committee Project Funds. Please feel free to contact me directly at jtblackburn@haywardbaker.com to discuss your ideas and proposals.

**COMMITTEE CHAIR MORGAN NESMITH, P.E.**

**Augered Cast-in-Place Pile Committee**

In conjunction with the Pittsburgh Chapter of the ASCE/GI, the committee held a one-day seminar in April on ACIP and drilled displacement (DD) piles. The seminar topics included equipment development; current installation, testing and quality monitoring techniques; design considerations and performance-test evaluation techniques; nondestructive testing and evaluation methods; grout/concrete mix design considerations; and case histories of the performance of the various pile types discussed. The committee is currently being processed by the committee and USF, and will be published during the coming year.

In December 2016, the committee completed an ACIP pile installation, monitoring, testing and extraction program in conjunction with the Florida DOT and University of South Florida (USF). Funding and in-kind contributions were provided by the DFI Committee Project Fund. The goal is to initiate the development of guidance for the safe installation of DD piles near existing structures such as tunnels, retaining walls and utilities. Dr. Antonio (Tony) Marinucci, M.B.A., P.E., of V2C Strategists is leading this project for the committee in partnership with Dr. Anne Lemnitzer, P.E., of the University of California, Irvine.

Lastly, the committee is always seeking ideas for new initiatives and projects, including research eligible for DFI Committee Project Funds. Please feel free to contact me directly at jtblackburn@haywardbaker.com to discuss your ideas and proposals.
The committee continues to be active, working on several projects directed toward advancing the practice and understanding of helical piles and tiebacks (HPTs).

The next HPT specialty seminar will be held in Montreal, Quebec, Canada on September 18-19, 2017. Topics include axial, lateral, uplift, seismic, cyclic and dynamic loading; settlement analyses; materials; construction; and testing procedures for projects using HPTs. Dr. Hesham El Naggar of University of Western Ontario and Dr. Amy Cerato of the University of Oklahoma are the seminar’s keynote speakers. Dr. Yasser Abdelghany of the British Columbia Ministry of Transportation and Infrastructure is the chair for this event.

Dr. Amy Cerato has completed the Phase I literature review and compilation of the DFI funded research project investigating the seismic behavior of helical piles. Publication of the literature study may be included in a DFI Journal article, a magazine article and a posting on the HPTC webpage. The data reduction for the Phase II shake table testing is expected to be completed in summer 2017.

In late February 2017, Dr. Ramin Motamed, assistant professor, Department of Civil Environmental Engineering, University of Nevada, Reno, was awarded funding for his DFI Committee Project Fund research proposal to conduct scaled liquefaction tests on helical piles and driven piles. DFI member Ram Jack has also contributed $14,000 to this important research. The main objective of this research is to evaluate experimentally the performance of helical piles and driven piles as alternative solutions in mitigating the settlement of shallow foundations in liquefiable soils.

In addition, a draft of the committee’s Helical Pile Design Guide is available for review. The goal for 2017 is to have the Design Guide completed by September – just in time for the Helical Piles and Tiebacks specialty seminar. The HPT certification course is taking shape, and a first draft of the course material is ready for review. Course delivery options being considered include classroom sessions, multisession one-hour webinars, and half-day training courses at future conferences and symposia.

Special thanks to committee members Mark Bryant, Maclean Power Systems Civil Products Group; Matt Conte, Conte Company; and Mike Perlow, Engineering Knowledge Management; who reviewed and provided comments on the NAVFAC Helical Pile Specifications. This review was performed in conjunction with DFI’s efforts to review and comment on multiple NAVFAC specifications pertaining to deep foundations.

The committee recently provided comments on the NAVFAC standard specification Soil and Rock Anchors, and I appreciate the time and hard work the committee members contributed. In addition, this committee, in partnership with the Deep Foundations for Landslides and Slope Stabilization Committee, was awarded funding for a research proposal via the DFI Committee Project Fund to offer guidance on when and how Load and Resistance Factored Design (LRFD) should be applied to slope stability problems.

The committee has been working on the preparations for the upcoming seminar, SSI: Stabilize, Support and Improve, taking place in Washington, D.C. on August 28-30, 2017. Multiple DFI technical committees and cooperating organizations are teaming up to present this event (see page 39). Similar to committee’s specialty seminar in Denver in 2016, a software symposium will also occur during the SSI seminar, where software providers will solve a problem and discuss the nuances of using the various software packages.

Stay Informed
Visit the Technical Committee pages on the DFI website to stay up to date on the latest information and news. Go to www.dfi.org and select Groups and then Technical Committees.