DFI of India (DFII) is entering this new decade with optimism. Since a 2011 conference in Hyderabad, we have conducted 9 annual conferences and 20 one-day seminars/workshops at important cities across India. As shared in recent Regional Reports, we have taken up several new initiatives. Here I report on two conferences and developments in the Continuous Flight Auger (CFA) Pile Technology Implementation Initiative.

The conference will benefit owners, designers, contractors and other professionals interested in ensuring timely implementation of major projects, which is key to project success. Also key is deployment of appropriate foundation and geotechnologies, the use of the latest foundation equipment and tools, and the development of skilled manpower and good work practices. Learn more at www.dfi.org/India2020.

As noted in the Jan/Feb issue of Deep Foundations, the DFI-India 2019 Conference was conducted successfully at the National Academy of Construction (NAC) in Hyderabad on November 15-16, 2019. Dr. Sunil S. Basarkar, of Afcons Infrastructure, coordinator of DFII’s first technology implementation initiative on CFA piles, conducted a pre-conference workshop that was attended by 88 delegates and included 10 lectures and in-depth deliberations led by international experts.

The workshop concluded with an absorbing interactive discussion on the ways forward for CFA pile technology in India.

The two-day conference was inaugurated by Dr. Shri Shailendra Kumar Joshi, chief secretary of the state of Telangana, where it was held. He noted appreciation of the new joint initiative of the NAC and DFII of India to conduct training programs for geotechnical laboratory technicians. He also emphasized the need for the latest technologies to assist faster development of India’s infrastructure.

The conference, attended by 198 delegates, then focused on the keynotes, 15 technical presentations and 7 poster presentations. The keynote speakers and presenters came from Austria, Germany, Hong Kong, Malaysia, Singapore, the U.A.E. and the U.S. Their eight keynotes covered everything from worldwide advances in deep foundation construction, to developing optimal foundation solutions for overcoming geotechnical challenges in infrastructure projects, to risk

Upcoming, Recent Conferences

DFII is organizing the 10th Anniversary Conference on Deep Foundation Technologies for Infrastructure Development in India (DFI-India 2020) from November 19-21, 2020. The event is being held in collaboration with the Indian Geotechnical Society Chennai Chapter and IIT Madras, Chennai.

Expert presenters will cover current research in advanced foundation design and implementation at the conference being held at IIT Madras, Chennai, Tamil Nadu. Presenters will use case studies and other material on foundation planning and construction related to success stories and failures to inform geotechnical industry delegates, covering areas such as optimal use of skilled manpower, productivity, safety and quality standards.

The conference themes are: Piling and Deep Foundation Techniques; Earth Retention and Deep Excavation Support; Ground Improvement Techniques; Safe and Efficient Geo-Construction; Geotechnical Investigation, Testing, Instrumentation, Monitoring and Quality Management; and Research, Experimental and Numerical Methods in Deep Excavation Techniques.
During the second day, the keynotes included one by Kumar Allady, P.E., CEO, of the Smart Infrastructure Group in the U.S. He noted the importance of adopting sensor technology for deep foundations and superstructures that allow monitoring of the life cycle variations that contribute to structural capacity and integrity, and allow for quick retrofitting of damaged elements of infrastructure after disasters.

Seventy-plus delegates shared their views on the conference, with 80 to 90 percent confirming satisfaction with presenters and other factors. See full conference details at www.dfi.org/India2019.

CFA Pile Trial

An ambitious technology initiative of DFII has involved installing and testing continuous flight auger (CFA) piles to popularize this globally established approach in India that could address its growing fast track piling needs. Two trial piles and six test piles of 600 mm (23.6 in) diameter were installed to a depth of 11.0 m (36 ft) last May at a site in the state of Haryana.

A Soilmec SR40 rig was fitted with CFAs and required ancillary equipment. DFII used Jean Lutz software to record the piling profile throughout the depth, the volume of concrete consumed, auger lifting rate and other data. M35 grade concrete was used from a site batching plant and gave a slump spread in excess of 800 mm (31 in). A rigid reinforcement cage ensured adequate rigidity for pushing in wet concrete.

Last November, static load testing was completed on the CFA piles, and involved two piles being tested for vertical compression, two for vertical pull-out and two for lateral loading. All load tests conformed to Bureau of Indian Standards (IS: 2911 (Part 4), 2013), and involved a maintained load application on an incremental basis up to a computed ultimate pile load. The goal was to assess pile ultimate load capacities and confirm safe working loads. All tests revealed that ultimate capacities are 15 to 20 percent higher than the estimated capacities. While this is a very positive outcome of our trials, an upward revision of design input parameters may be recommended only after more pile load tests in the future.

The DFII CFA Technology Implementation Committee is preparing a manual about the design, installation and testing of CFA piles to share with Indian geotechnical professionals through seminars and workshops. DFI of India expresses immense gratitude to implementation trial partners and sponsors in India and the U.S.