

UCT 2023 Report

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28th Annual
Underground Construction Technology
International Conference & Exhibition
February 7-9, 2023 | Orange County Convention Center | Orlando, FL



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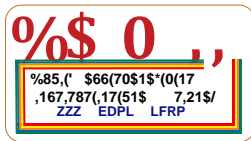


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FUTURE UNDERGROUND CONSTRUCTION LEADERS (FUCL) DEVELOPMENT PROGRAM

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**NORTH AMERICAN SOCIETY FOR
TRENCHLESS TECHNOLOGY**
Purdue University Student Chapter



DR. TOM ISELEY

Professor of Engineering Practice

Faculty Advisor



DR. DULCY ABRAHAM

Professor, Civil Engineering

Faculty Advisor

Purdue UCA of SME Chapter Officers for the 2023-2024:

President: Yashu Singh

Vice-president: Matthew R Blount

Treasurer: Bhanusarathy Lankapalli

Secretary: Piyush Patil / Samarth Srinivas joshi
Outreach: Ashutosh Suhas Mangle

Purdue NASTT Chapter Officers for the 2023-2024:

President: Vishaal Sundar Raj

Vice-president: Shubhang Gaur

Treasurer: Paul Nikhilesh Chintala

Secretary: Alejandra Lopez Diaz

Outreach: Rishitha Reddy Kasarla

DEVELOPING UNDERGROUND CONSTRUCTION LEADERS

Purdue University – College of Engineering Construction Engineering and Management (CEM) Division

Coordinated by the CEM UIT (Underground Infrastructure Team)

During the past few years, Purdue CEM has made a dedicated effort to get engineering students more aware, excited and committed to careers related to underground construction. This is done at the undergraduate and graduate level. This is accomplished through our internship program for undergraduate students which require 3 – 12week internships before they can graduate.

Purdue is blessed by having both a NASTT and a UCA Student Chapter which work jointly to provide undergraduate and graduate students with maximum opportunity to developed leadership skills and to get them actively involved in all aspects of developing underground space from utilities to large tunnels. Professor Dulcy Abraham is the faculty advisor for our NASTT chapter, and professor Tom Iseley is the faculty advisor for our UCA chapter.

Our major accomplishment during the Fall semester was to take 22 students to Fort Wayne, IN to visit the 3RPORT CSO tunnel. Please contact us for our project report if you are interested. We are very thankful for the financial support provided by UCA of SME.

Our programs at Purdue cannot adequately prepare UC leaders without industry partners. We can do the academic component but that is not enough. Our students are encouraged during their university experience to

- Getting 30 students to the Underground Construction Technology (UCT) conference on Feb 7-9, 2023 in Orlando, Florida (<https://uctonline.com/tag/underground-construction-technology/>). Last year our delegation was 25. Please contact us for our trip report if you are interested.
- Getting 30 students to visit the CSI precast concrete manufacturing facility in Macedonia, Ohio and also visit one of the Northeast Ohio Regional Sewer District (NEORS) tunnel projects in Cleveland on March 3, 2023.



Left to right: John Bollier, Tom Iseley, and Dave Woods – Purdue University

Beavers & UCA Provide Support to Purdue Construction Engineering and Management (CEM)

The Beavers is a heavy engineering construction association. It is a social, honorary organization formed in 1955. It was organized and continues to be managed by construction companies and individuals who are or have engaged in heavy engineering construction. The Beavers encourages students to be involved with the heavy engineering construction industry. On October 3 and 4, Dave Woods (Executive Director Beavers, Inc. & Beavers Charitable Trust) and John Bollier (President of the Board of Directors for the Beavers & Stacy & Witbeck, Inc.) visited the

On October 22, twenty UCA of SME, NASTT, and ASCE G-I Student Chapter members at Purdue University along with 3 CEM faculty members visited the Three Rivers Protection & Overflow Reduction Tunnel (3RPORT) project in Fort Wayne, Indiana. Special thanks to Lance Waddell (Lane Construction) and Sara Doran (Schnabel Engineering) for hosting Purdue University group and providing the tunnel tour. The tunnel depth is about 220 feet below the ground surface. The 3RPORT project is a segmentally lined tunnel with 19foot bore diameter and 16-foot finished diameter. There are seven connections to the tunnel (drop shafts). The project will reduce the number of



accomplish the following 3 things:

- Do the best job they can academically to get the best grades,
- Developed leadership skills by being involved in student chapters, and
- Get maximum exposure to the UC industry.

The last bullet is where we need your help.

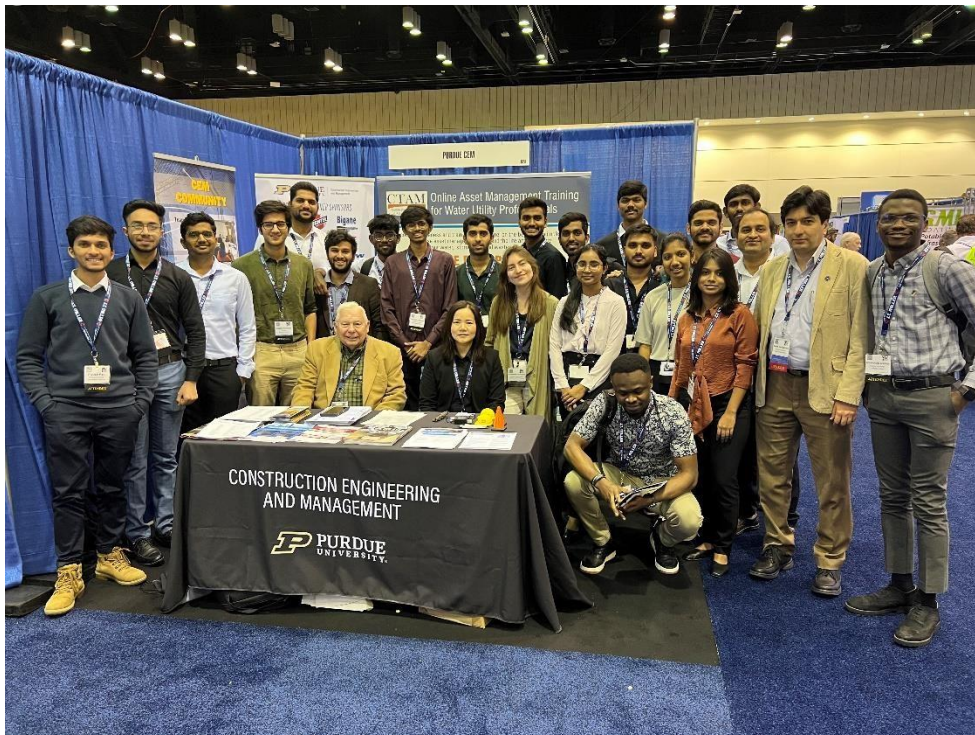
We plan to accomplish 2 major opportunities to expose students to the UC industry:

division of Construction Engineering and Management (CEM) at Purdue University and met with CEM students and faculty members. The CEM at Purdue University started in 1979. Dr. Tom Iseley joined the CEM in 2020 and his position at Purdue (Beavers Heavy Construction Distinguished Fellow) is funded in part by the Beavers.

CSOs into the rivers by 90% (it can convey about 800 million gallons per day). Also, thanks to Everett Litton (WSP) for making the trip arrangement. Purdue CEM would like to express sincere appreciation to UCA and all the affiliated “Down For That” societies (UCA of SME, ASCE, DFI, Beavers, Moles, and NASTT) for providing the financial support for this trip.

UCT 2023 REPORT

The Underground Construction Technology International Conference & Exhibition (UCT) was held at the Orange County Convention Center in Orlando, Florida from February 7th to 9th, 2023. The conference was attended by 32 students from Purdue University, who were representing the UCA and NASTT joint chapters. This report aims to provide a detailed account of the conference, including the various workshops and sessions, the attendees, and the outcomes and actions resulting from the conference.



Conference Details

The UCT is an annual event that brings together industry professionals and experts from around the world to discuss the latest trends and developments in underground utility infrastructure, including water, sewer, gas, telecom, and electric. The conference featured a three-day program with over 200 exhibitors, live equipment demonstrations, educational sessions, and networking events.



The conference kicked off on Tuesday, February 7th, with a range of workshops and sessions covering emerging technology, asset management, and electric/fiber. The students from Purdue attended a number of these sessions, including "Pressure Pipe Management: You Have Options" by Jimmy Stewart and Eric Driessen, "Keeping Workers, Environment Safe from Styrene in CIPP" by Kaleel Rahaim, and "Cost-Effective Pipeline Condition Assessment for Asset Management Programs" by Wei Liao and Tom Iseley.

The second day of the conference featured sessions on HDD technologies, pipeline inspection, and pipeline rehabilitation, among others. One of the sessions attended by the Purdue students was "Pressure Pipe Inspections: Planning & Technologies" by Chris MacDonald. The session provided an overview of the planning aspects and technologies available for pressure pipe inspections, including general overview or survey level type inspections and deep dive comprehensive high-resolution data collection and analysis.

The final day of the conference focused on topics such as risk management, trenchless technologies, and pipeline construction. The students from Purdue attended the session "Sustainable Grid Expansion: Trenchless Installation Technologies for Underground Cables" by Simon Herrenknecht. The session provided an overview of the latest "smart" technologies for installing underground cables, including HDD, Direct Pipe, and E-Power Pipe.



Attendees

The UCT is attended by a wide range of industry professionals, including contractors, owners, operators, and engineers. The Purdue students attending the conference had the opportunity to connect with these industry professionals and learn about the work they are doing and emerging new technologies. In addition, the conference provided the students with an opportunity to showcase Purdue's underground and trenchless technology programs and initiatives.

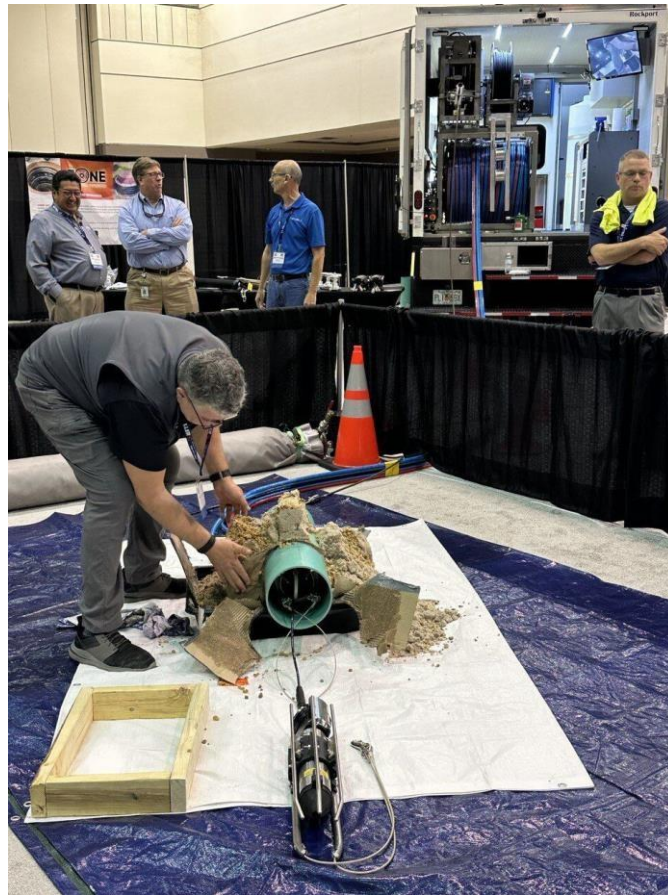
Outcomes and Actions

The Purdue students who attended the conference gained a valuable experience and knowledge of the latest trends and developments in the underground utility infrastructure industry. The students had the opportunity to network with industry professionals, connect with potential employers, and gain insights into new technologies and practices.

The students also had the chance to interview companies and learn about their work, which provided them with a better understanding of the industry and the various career opportunities available.

The conference also provided the students with an opportunity to learn about the best educational opportunities in the underground utility pipe industry. The Purdue students

were able to attend workshops and sessions that covered a wide range of topics, including emerging technology, asset management, and electric/fiber.



One of the highlights of the conference was the exhibit hall where various companies showcased their latest products and technologies. The students had a chance to interact with industry professionals and see first-hand the latest advancements in the field. The exhibit hall was divided into several sections, including trenchless technology, horizontal directional drilling, pipe lining, and more.

The Purdue booth at the conference was another major attraction for the students. It provided an opportunity for them to represent their university and talk about their programs and initiatives related to underground and trenchless technology. The students also had the chance to network with other attendees and exchange ideas and insights.



Conclusion

UCT provided Purdue students with a unique opportunity to learn about the latest trends and developments in the underground utility infrastructure industry. The conference provided the students with a chance to network with industry professionals, connect with potential employers, and gain insights into new technologies and practices.

The conference provided an excellent opportunity for the students to gain valuable insights into the latest trends and innovations in the underground construction industry. They were able to attend informative workshops, hear from experts in the field, and interact with industry professionals. This exposure to the industry will undoubtedly help them in their future careers and make them more knowledgeable and well-rounded professionals.

In conclusion, the Underground Construction Technology International Conference & Exhibition was an extremely valuable experience for the students from Purdue University. They gained valuable insights into the latest advancements in the underground construction industry, had the opportunity to attend informative workshops, and interacted with industry professionals. The conference also provided a platform for the students to showcase their university and their programs and initiatives related to underground and trenchless technology. Overall, the conference was an

excellent opportunity for the students to gain valuable knowledge and experiences that will help them in their future careers.

(report author: Rishitha Reddy Kasarla & Wei Liao)

Acknowledgments:

Thanks to our amazing sponsors, the BAMI-I team and Purdue UIT are able to lead 32 Purdue University students to the UCT conference again! The 2023 UCT student trip sponsors list is as follows:

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