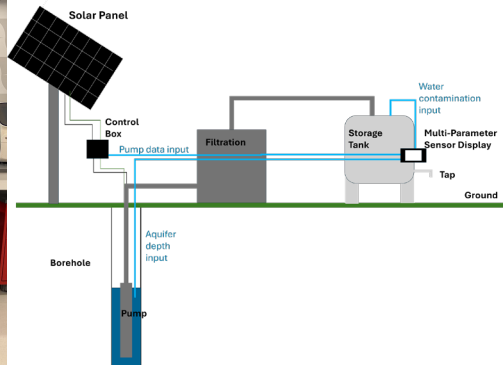


BTEC PROJECT HIGHLIGHT

Multicomponent Borehole Well System



Chaney Finkeldei, Abeeha Bhatti, Shakaani Nasankar, Deshawn Wallen, and Jonathan Sim (BME '26)

Together with the Engineers Without Borders Club at BU, we are working to provide clean and sustainable water for a school in rural Kenya by creating a multi-component borehole well system. Last summer, the club drilled a borehole well and they are currently in the process of designing a pumping and filtration system for the well. Our senior design group is designing an additional in-situ sensor to measure water quality and aquifer health with a real-time display system. It will be attached to the well in order to help the community monitor their water. The borehole well system, including the power, pump, filtration, and sensor, will bring clean water to the school for years to come, allowing students to focus on their education and decreasing disease spread in the community. We will be integrating sensors into the device and testing performance this semester. **This project is funded by the Engineering Student Innovation Fund.**

BTEC Advisory Board Members:



upcoming events

BTEC ENTREPRENEURSHIP SEMINARS

Women's Health: The Industry and the Opportunity

Jan 22 at 3:30, RKC-101



Marissa Fayer, MBA
CEO
DeepLook Medical &
HERhealthEQ

Lutron Lighting
Innovation Competition
Feb 21 at 4, SILab



BTEC x GWISE
Networking Event
Mar 17 at 6, RKC-101

Cell Culture Workshop
Mar, BTEC

Dean's Imagineering
Competition
Apr 16 and 17, SILab

BTEC x BMES
Design Competition
Apr 25 at 12, LSE B03



SILAB PROJECT HIGHLIGHT

Chainsaw Man Cosplay by Matthew Nizich (MechE '27)

A fan of the anime, Matthew wanted to create his own screen-accurate Chainsaw Man cosplay. Using online sources, he developed his patterns with Adobe Illustrator and cut them out of EVA foam with the laser cutter in SILab. Fine details were added using a dremel tool and sandpaper. The foam components were heat-formed, glued together with contact cement around an internal aluminum frame, and finished with several layers of primer and paint.



SILAB TECHNOLOGY HIGHLIGHT

MillPwr G2 Mill Control System

The MillPwr G2 control system for the mill at SILab makes milling complex shapes and CAD designs easier than ever. The screen responds to movements in the x, y, and z axes and as such can be used as a digital read out for manual operations. Beyond that it can be used to control motors which allows students to program designs on the machine itself, importing DXF files only for more complex cutting. At each stage of the milling process, students can, with the press a button, open a step-specific guide that explains the finer details.



BTEC ASSISTANT HIGHLIGHT

Andrew Taylor (BME '26)

Andrew started at BTEC in 2023, and has since expanded his engineering skill set. Andrew brought his experience in antibiotic resistance research to BTEC, where he has helped launch bacterial and recombinant genetics capabilities at the center. He is most proud of his efforts in streamlining project workflows for undergraduates in the Biomedical Measurements & Analysis course. With effective mentorship and easy-to-use protocols, students can carry out project that are both impactful and informative. Andrew is looking forward to the upcoming semester, when he will lead a qPCR workshop, advance his senior design project in BTEC, and wrap his time up at BU in a space that enhances the undergraduate learning experience.

ENGINEERING STUDENT INNOVATION FUND

Do you have a project that you are working on in BTEC/SILab that could benefit from funding for supplies?

For information on how to apply for funding scan the QR code to the right.

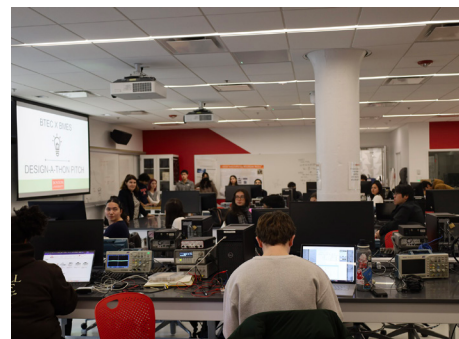
For inspiration from past projects, check out the BTEC-SILab ESIF Video at <https://shorturl.at/WKPhA>



PAST EVENT HIGHLIGHTS

BTEC x BMES Design Competition

The 4th annual BTEC x BMES design competition focuses on increasing access to healthcare technologies and incorporating diversity in design to improve outcomes. In December teams pitched their ideas to a standing room only crowd that included several graduate student mentors. The competition final will take place in April with **prizes sponsored by Merck**.



Outreach for High School Students

The Boston Public Schools Student Advisory Council brought Boston-area high school students to BTEC and SiLab for a firsthand look at what it means to study engineering. The BU BMES student chapter also led high school tours of the spaces.

BTEC Cell Culture Workshops

Due to high demand, several cell culture workshops were offered where students practiced sterile lab protocols, cell passaging, hemocytometry, and plating.



BTEC x Biomaterials Workshops

BTEC hosted workshops with the BU Student Society for Biomaterials on column chromatography and silver nanoparticles.

BTEC x DAMP Lab Workshop

BTEC partnered with the DAMP Lab to host a workshop on lab automation using Opentrons Flex, an open-source liquid handling robot.

SiLab Catapult Challenge

The annual SiLab Catapult Challenge took place on a brisk Saturday in November on Nickerson Field. The previous weekend, 9 teams had seven hours and limited resources to design and build their 3ft x 3ft x 2ft catapults. The winning catapult, by David Hytha (BME), Kylor Ghai (ME), Rocco Meausky (ECE), and Isaac Ryan (CS, '29), launched a golf ball over 125 feet!



Diane Joseph-McCarthy, Executive Director BTEC
Kavon Karrobi, BTEC Manager
Katie Kelso, SiLab Manager
For more information, email: btec@bu.edu