



Atlantic  
Technological  
University

**SLIGO**

# ENGINEERING FAIR

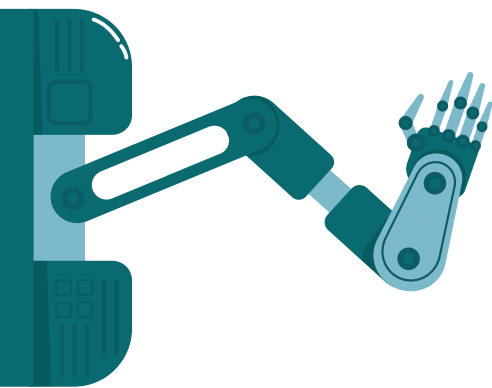
Sunday 2nd March 2025  
12PM - 4PM



# Sligo Engineering

## Fair 2025

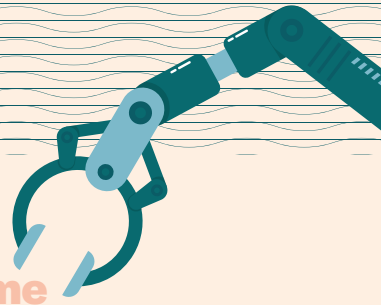
*Sunday 2nd March*  
*12.00 - 4.00 pm*



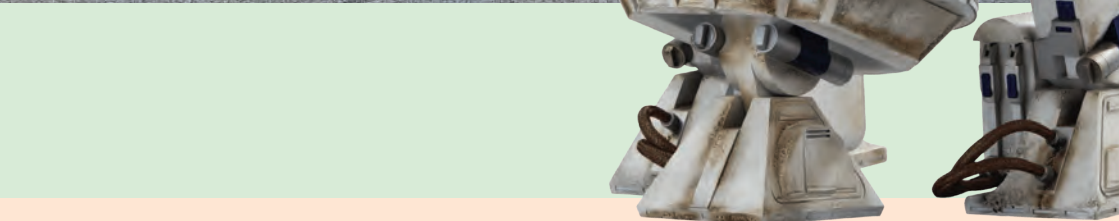
### **A Family event explaining engineering in a fun way**

The Engineering Fair at ATU will include a wide range of performances, interactive displays workshops and demonstrations for all the family to enjoy. **Design, Build & Discover** with lots of fun guaranteed for both children and adults.

**This year's Sligo Engineering Fair will all be live, in-person activities.**



**You can expect a warm welcome  
from our entrance guardians of  
Film & TV, R2D2 and the Darlek**



# What's on at the Sligo Engineering Fair?



## AI-1X

*Out and about  
at the fair all day*

Come to the fair and see AL-1X (Artificial Life – 1st eXperiment). Built to be a cleaning robot but today AL-1X is at the fair day to chat with you about all things engineering and beyond!

## MAKER SPACE

Imagine It - Create It

*Main Concourse  
Drop in - All Day*

ATU MakerSpace is a pioneering initiative that brings technology and creativity to secondary schools, inspiring students to consider science and technology as exciting career choices. Through engaging workshops and hands-on experiences, ATU Maker Space opens doors to a world of innovation and opportunity, bridging the gap between learning and real-world application. ATU Maker Space is part of the ATU Higher Education 4.0 project which is funded by the HCI under Pillar 3.





## **Bricks4kidz - Workshop**

**B1080**

**12.15, 1.15, 2.15 & 3.15pm**

Come along and join Bricks 4 Kidz and their fun and challenging workshop and explore engineering through using LEGO®, Technic & Robotics. The Engineering Fair & Engineers Week provide a unique opportunity for primary students to learn about engineering and together with Bricks 4 Kidz, you can help us build the engineers of tomorrow. LEGO® based education programmes have proven to be a very effective method of introducing engineering concepts to school age children and a Bricks 4 Kidz engineering workshop provides children of all ages with a fun and educational way to develop their understanding of engineering principles through building dragsters, roller coasters, buildings and much much more using our specially designed Lego® Technic kits.

**Age 7+**

**Limited to 25 participants per session Tickets from the Engineering Fair reception on a first come first served basis**

## **Bricks4kidz - Freeform Room**

**B1081**

**Drop in - All Day**

For those of you that just want to build your own freeform Lego machines or worlds, come along to the Bricks4kidz freeform room and get stuck in!



## **2D Game Programming Workshop with Neil Gannon**

**B2313 - 1pm & 3pm**

Experience the process of developing a 2D game in the Unity game engine.

**Age 12+**

**Limited to 20 participants per session  
Tickets from the Engineering Fair  
reception on a first come first served basis**



# Engineering Room

## DEMONSTRATIONS/ACTIVITIES

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*Room B1013  
Drop in – All Day*

### About Abbott

At Abbott, we're dedicated to helping people live more fully, in everything we do. We're creating the future of healthcare through life-changing technologies and products that make you healthier and stronger, quickly identify when you have a medical need, and treat conditions to help you get back to doing what you love.

### Abbott in Ireland

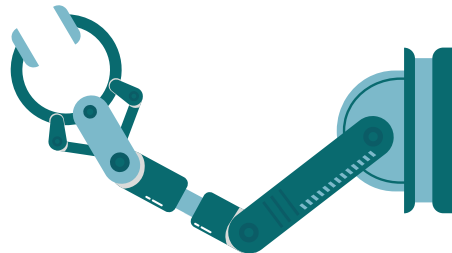
Abbott employs 5500 people across Ireland, in ten sites based in all four provinces.

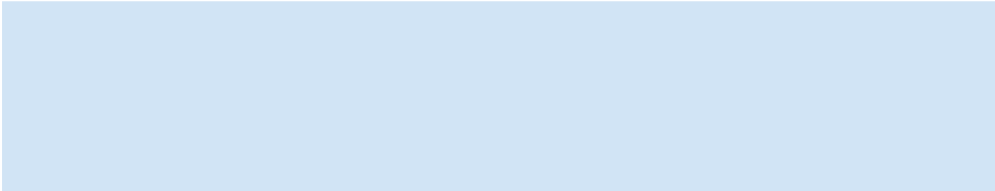
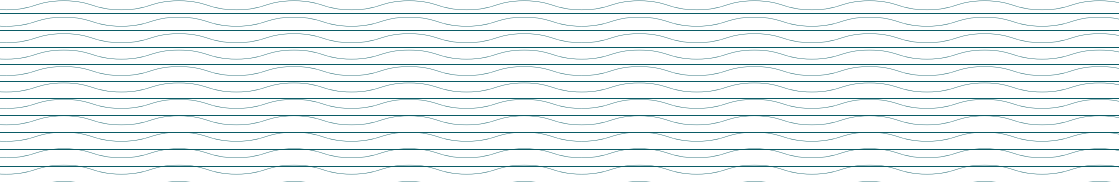
Abbott products manufactured in Ireland are now exported to more than 130 countries. The Engineers on our team, like everyone at Abbott, make a difference everyday working together to help people around the world live healthier and better, at all ages and stages of life.

### Abbott & STEM

We are passionate about supporting young people and education. The future of healthcare and the future of our country will rely upon the innovation, creativity and imagination of the next generation of scientists and engineers.

Connect with us at [www.abbott.ie](http://www.abbott.ie), on LinkedIn at [www.linkedin.com/company/abbott-/](http://www.linkedin.com/company/abbott-/), on Facebook at [www.facebook.com/Abbott](http://www.facebook.com/Abbott) and on Twitter [@AbbottNews](https://twitter.com/AbbottNews)

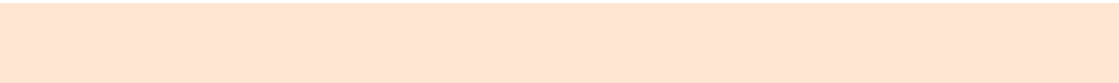




INNOVATING FOR  
the future

 **Abbott**

 **Abbott**





# Engineering Zone

Lower Canteen - All Day Drop In

## Build and Launch a Foam Rocket

Participants in this activity will construct rockets made from pipe insulating foam and use them to investigate the trajectory relationship between launch angle and range of the rocket!

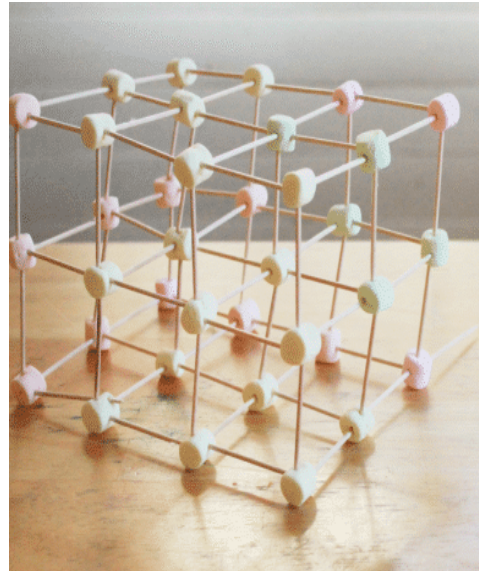
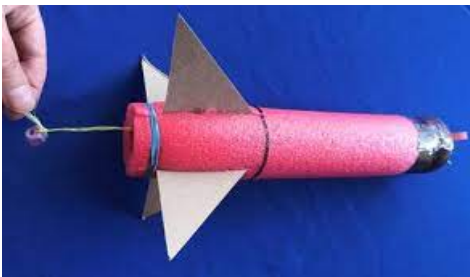
The foam rocket flies with thrust received from the force produced by the elastic rubber band. The rubber band is stretched and when the rocket is released, the rubber band quickly returns to its original length, launching the foam rocket in the process.

Technically, the foam rocket is a rocket in appearance only. The thrust of real rockets typically continues for several seconds or minutes, causing continuous acceleration, until propellants are exhausted with the launch of a foam rocket being a good demonstration of Newton's third law of motion. The contraction of the rubber band produces an action

force that propels the rocket forward while exerting an opposite and equal force on the launcher.

In this workshop, you will discover what effects the rocket, such as; gravity, launch angle, initial velocity and atmospheric drag

How will your rocket perform?



## Towers and Bridges Procedures

**Marshmallow Toothpick Towers** is one of the best STEM activities for the youngest and older students. This project is the one that challenge students to problem solve, use their critical thinking skills, and of course... involve food. This marshmallow project checks all three of those boxes! The youngest students will be asked to demonstrate the use of marshmallows and toothpicks to create a tower and build the largest, strongest, tallest tower. For older students use toothpicks and marshmallows to create a marshmallow bridge and explain why bridges are important.

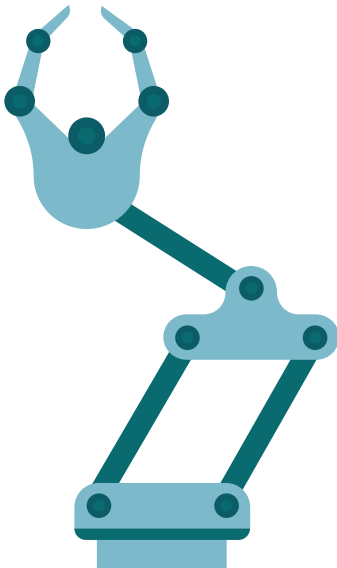




## Racals Driven Robots

### *Lower Concourse Drop in - All Day*

A mini Robot Wars team of 5 robots that are driven by the public in a set of games. Operating in a 12x8 foot enclosed arena/soccer pitch with lights and sound. See how well you get on!



## Exploring Engineering All Around Us with Jay Ryan

### *AbbVie Auditorium 12.30, 1.30 & 3.00pm*

This Engineering Show is created and presented by Jay Ryan, well known to many as the star of the RTE Junior 'Living with a Fairy' series.

During the show Jay will explore Engineering and how it affects the world we live in.

What is Torsional Stress?

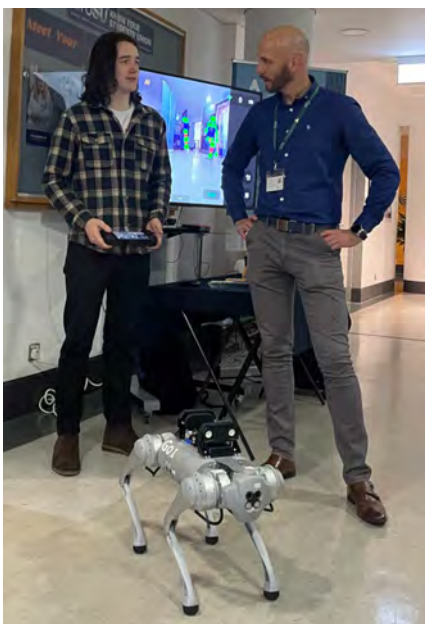
How does a bridge stay up?

Can we relate Engineering to the human body?

Find out how amazingly strong eggs are. But what makes them so strong?

Join Jay for this fun filled engineering show and explore Engineering All Around Us!





## **ATURobotics Area**

*2nd Floor Engineering Block*

*Drop in - All Day*

Various ATU robotics displays Including Sparky the Robot Dog.

Come along and see robotics in action



## **Micro-BitWorkshop**

*E2004  
2nd Floor Engineering Block  
12.30 & 2.30pm*

*Age 10-14 years*

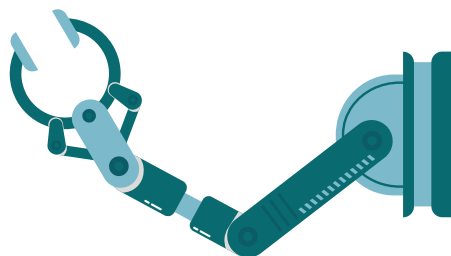
*Limited to 15 participants per workshop*

*Tickets from the Engineering Fair reception on a first come first served basis*

Join us for an exciting micro:bit workshop where children aged 10-14 will explore the world of programming and robotics by creating their own smart desk lamp or smart fan using the Ring:bit kit!

Participants will learn how to code their micro:bit to control lights and motors, developing key engineering and problem-solving skills in a fun, hands-on environment.

This workshop is perfect for young innovators interested in STEM and ties into real-world engineering concepts showcased at the fair. No prior coding experience is needed—just curiosity and creativity





## Cyclelectrics

*Main Concourse  
Drop in - All Day*

Exercise bike powered Scalextric car racing. The faster you pedal the faster your car races round. For children and adults alike and you may learn a bit about the importance of good exercise and diet and of course, how power transfers to make things move. Come along and have a race!

## Sustainable Shared Spaces

*Main Concourse  
Drop in - All Day*

Our project is examining how we use our outdoor areas to better connect to nature and each other to improve mental and environmental health and our local communities. We will be engaging with the public about our project through a range of interactive activities, including Lego.

## BiasBusters

*Main Concourse  
Drop in - All Day*

A software solution detecting data-related bias in Artificial Intelligence models

## Eyes on the Coast: Tracking Shoreline Changes in Northwest Ireland

*Main Concourse  
Drop in - All Day*

Coastal erosion is reshaping our shorelines and understanding these changes is crucial for protecting our environment and communities. The SCORE Project, a €10 million EU-funded initiative, is using low-cost sensors, drones, and satellite data to monitor coastal erosion in Northwest Ireland, especially Sligo. This research helps create real-time shoreline maps and supports climate resilience efforts. Our team conducts high-resolution drone surveys to capture detailed images and 3D models of the coastline. These surveys provide crucial insights into erosion patterns, helping researchers predict future changes and develop effective mitigation strategies. But science isn't just for researchers—you can help too! Through citizen science activities, locals can contribute by taking part in our Photo Booth on the Beach initiative. By capturing and uploading shoreline photos, you help track coastal changes over time, providing valuable data for erosion studies. Visit our stand to explore how drone technology, remote sensing, and citizen science are working together to protect Ireland's coastline.





Build, Code and Play with Robots

## **RoboThink!**

*Main Concourse  
Drop in - All Day*

RoboThink North West has been dedicated to delivering high-quality, engaging STEM/STEAM education to children through Workshops, Summer, Easter and Halloween Camps, and After School Clubs - currently we are in 10 schools across Sligo!

Our experience in delivering interactive and hands-on sessions ensures that children develop key STEM/STEAM skills in a fun and supportive environment. We are committed to inspiring the next generation through innovative, educational experiences that make science, technology, engineering, arts, and maths both accessible and enjoyable.

RoboThink North West Ireland offer After School Clubs, Workshops, Birthday Parties and camps at Easter, Summer and Halloween in Sligo, Leitrim and Roscommon. Looking to book us for an event? email [northwest@robothink.ie](mailto:northwest@robothink.ie)

## **RoboThink! Workshops**

*B1201*

*12.15, 1.45 & 3.00pm*

*Age 5-13 years*

*Limited to 22 participants per  
workshop*

*Tickets from the Engineering Fair  
reception on a first come first served  
basis*

This year, we're inviting young innovators to step into the world of automotive engineering with our hands-on 1-hour workshop

### **Design Your Own Car and Build It for the Future**

Using our RoboThink STEM kits, children will design and build their very own Robot Car, bringing their ideas to life just like real-world engineers do! It's a fantastic opportunity for young minds to problem-solve, experiment, and think creatively about the future of transportation.



# Workshop Tours

## **Toolmaking Workshop Tour:**

12.15, 1.15 & 2.15pm

## **Electrical Workshop Tour:**

12:45, 1.45 & 2.45pm

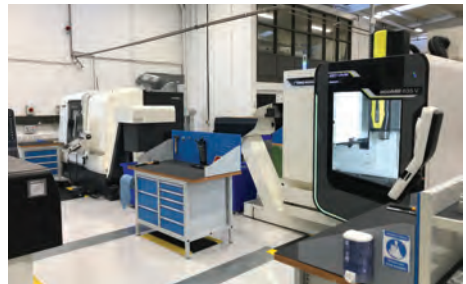
*Meet at the Engineering Technology Stand at the Main Reception*



Come along to the Engineering Fair and have a guided tour of ATU Sligo's Toolmaking and Electrical workshops with the department of Engineering Technology.

Age 7+ Max 12 persons per session

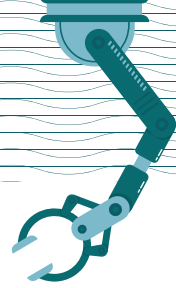
In the Tool Room Workshop, there will be CNC 5 axis and 3 axis CNC mills together with a CNC lathe up and running for the day!



In the Electrical Workshop you will be introduced to the exciting world of electricity and electronics including installation techniques, wiring systems, distribution boards, motor controls and much more.....

Join the tours for a great chance to see behind the scenes of engineering in action!





## Pre-school Engineering Room

**(1-5 years)  
with Maia Purposeful Play**

**B1202**

**1.30 to 4pm**

Engineering discovery through child-led play, learning and meaningful engagement for your little ones at the science fair.

Through these sensory experiences, children get to explore early STEAM concepts. The workshops are child-led which fosters independence but also allows children to unearth their passions, cultivate curiosity, and create their own meaningful play experiences. Drop in and let your little ones enjoy a memorable engineering adventure!

## ATU MotorSport Display

**Manorhamilton Road entrance**

**Drop in - All Day**

Join Zoe Nicholson, ATU Student, who started racing at 12 years of age and attained a Sports Scholarship from ATU Sligo in 23/24 and 24/25. Zoe competed Karting, Rally Sprints and wheel to wheel Circuit Racing, as well as participating in the Vision Sports Ireland Zero Limits Track Day (Organised by ATU Sligo Alumni Sara McFadden), competed in Kirkistown Cooper Cup 23 and 24 and will Compete in MotorSport Ireland's Future Classics in 2025.

Zoe will show you around the 2002 Mini Cooper which has a 1.6 Naturally Aspirated Engine, Custom roll cage MRC cages with a Full Engine Rebuild by MJF engines making 137BHP, Lowered 30mm, Toyo Proxy R888 Semi Slick Tyres and weighs 1000kg.



Come along and see displays by:

**Engineers Ireland North West  
National Schools Engineering Projects  
An Garda Síochána  
Sligo Bay RNLI**

**The Sligo Engineering Fair  
is supported by  
Sligo Civil Defence**



## The Quiet Room B1082

A room for anyone who may need a quieter, smaller space to self-regulate or rest



Sligo Engineering Fair Organisers sincerely thank Partners, Local Businesses and Community Groups for their support, including but not limited to:

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