



**The Big Bang
Northants**
@ Silverstone



@TBBNorthants
@UniNorthants
@AspireNorthants
@STEMatUN
@bydesigngroup

FREE Wifi!
#TBBNorthants

Your Event Guide

Silverstone, 28 February 2018



“Bringing
science,
technology,
engineering,
arts and maths
to life for young
people”

#TBBNorthants



**Uo
N** University of
Northampton

Welcome

#TBBNorthants

The University of Northampton's Schools Engagement team works with schools and learning providers across Northamptonshire to raise aspirations, inspire and enthuse learners. The Big Bang Northants @ Silverstone is part of a programme of activities and events for 9-19 year olds to raise awareness of career paths into science, technology, engineering, arts and maths (STEAM) through apprenticeships and courses at further and higher education institutions. Big Bang Northants @ Silverstone has been jointly funded by the University and Pathways Universities (NCOP - National Collaborative Outreach Programme), through HEFCE (Higher Education Funding Council for England).



Led by:



Organised with:



Shows

#TBBNorthants

Atomic Science



'Hair, Air & Water'

Audience: Year 4 to 8

Ever wondered how a plane stays in the air or how a rocket fuel tank works? This show will blow away these questions and many more about how we move around our planet and the science we use every day to do it. This show comes with guaranteed learning, laughing and lots of audience participation... also the occasional shout!

Simon Watt



'Cracking the Code: The Genetics of Superheroes'

Audience: Year 7 to 11

The comic books are filled with mutants; heroes and villains whose special abilities are genetic in their origin. But what are real mutants like, and could we one day use genetics to make us superhuman?

Dr Emily Grossman



'Dr Emily's Weird and Wonderful Science Facts'

Audience: Year 4 to 8

Did you know that you can block a tickle? Or that we share 50% of our DNA with a banana? Would it surprise you to discover that snakes can bite you even when they're dead? That cows with names produce more milk? Or that there's a planet on which a day lasts longer than a year? And could it be possible that there's an animal that does square poos? Or that we make better decisions when we need a wee?! In this fun and interactive science quiz show, Emily explains some of the world's weirdest science facts.

“

I was very impressed with how the day was run, a brilliant opportunity for the children to see different STEAM workshops and inspire them in the future.

“

Brilliant day has been had by all of our team. It has been a really positive experience. The pupils want to come back next year!

Feedback quotes from Big Bang Near Me events 2017.

Workshops

#TBBNorthants

BLOODHOUND SSC



Rocket Car Workshop

Audience: KS2 - KS3

Build an air-powered rocket car - working in teams you will use your scientific knowledge and engineering skills to design and test a strong and fast model car using Kinex. Learn about BLOODHOUND Super Sonic Car (SSC) and the challenges of building a 1,000mph car. Race your cars under timed conditions using an air-powered launcher. The winning team will get their team name on the tail-fin of BLOODHOUND SSC.

Come To My Party



Mousetrap Balloon Show

Audience: KS2

The Mousetrap Balloon Show is a fun interactive science workshop exploring Simple Machines. Balloons are used to construct a Rube Goldberg-style mousetrap intended to solve the problem of a runaway mouse. Lots of volunteers are used to aid in the construction of this working machine and the audience's eagerness to set their trap in motion make this an enjoyable workshop for everyone involved!

PULSE CSI



Forensic Science Workshop

Audience: KS3+

The session is designed to give the students an awareness of the Criminal Justice System and how forensic science is used in a crime scene investigation, additionally, how the preservation and collection of evidence at a crime scene are vital and the importance that 'forensic evidence' plays in a court of law.

FUZE Coding



Coding with Basic

Audience: KS2 - KS3

FUZE transitions between visual coding environments like Scratch, and real-world programming languages like Python. While the sessions speed by, an impressive amount of learning takes place. They're loud, buzzing with excitement and filled with "wows", "oohs" and "Ms / Sir, check this out!"

Workshops

#TBBNorthants

UoN Sports Journalism



Sports Commentating Workshop

Audience: Year 7 to 11

Come and have a go at commentating on an FI RACE! It's your chance to come and learn about the skills you need to tell the stories of races we see at Silverstone. The Head of our Multimedia Sports Journalism degree is here, along with current students from the course, to show you how it is done.

Institute for Creative Leather Technologies



Hide to High Street

Audience: Year 7 to 11

Explore the science of leather technology and handle skins from a variety of animals. Use a microscope to look closely at the composition of different hides, understand how science changes the hides and learn about the products that are made from leather. Plus, make your own polymer slime to take home.

Learn by Design



Robot Rumble

Audience: KS2 - KS3

This workshop covers the effect robots have had in modern times and how quickly machines have transformed from assembly lines to astronauts. Young people will spend the majority of the session deciding which robotic attachment will assist their remote control robot and complete a challenge using practical skills and teamwork.

Medical Mavericks



Careers in Health

Audience: KS2 - KS3

Come and meet the Medical Mavericks and use a whole load of real medical kit to discover some of the amazing jobs in the NHS. You can use an ultrasound machine to see your bones and muscles, record and print an ECG from your heart, take a picture of your retina on an iPhone and take blood from a fake arm!

**University of
Northampton**



**Hello
Waterside**



Waterside campus



opening September 2018.

UoN

Discover more, take a tour
or ask a question
[northampton.ac.uk/
hello-waterside](http://northampton.ac.uk/hello-waterside)

Exhibitors

“

Excellent opportunity to share best practices and most importantly the opportunity to bring to life career prospects within the different fields for young people.



“

Great engagement, lots of excitement! We will definitely be back again next year!

Feedback quotes from Big Bang Near Me events 2017.



Timetable

Have you pre-booked your shows and workshops? Tick the boxes to keep a track of your day's schedule!

Shows

'Dr Emilys Weird and Wonderful Science Facts'
(Audience: Year 4 - 8)

10:00am 10:45am

'Cracking the Code: The Genetics of Superheroes'
(Audience: KS3)

12:30pm 1:30pm

'Atomic Science: Hair, Air & Water'
(Audience: Year 4 - 8)

10:00am 11:00am
12:15pm 1:15pm

Workshops

PULSE CSI: Forensic Science Workshop
(Audience: KS3+)

10:30am 11:30am
12:30pm 1:30pm

Learn by Design: Robot Rumble
(Audience: KS2 - KS3)

10:30am 11:30am
12:30pm 1:30pm

FUZE Coding: Coding with Basic
(Audience: KS2 - KS3)

10:30am 11:30am
12:30pm 1:30pm

Medical Mavericks: Careers in Health
(Audience: KS2 - KS3)

10:30am 11:30am
12:30pm 1:30pm

Come To My Party: Mousetrap Balloon Show
(Audience: KS2)

10:30am 11:30am
12:30pm 1:30pm

Bloodhound SSC: Rocket Car Workshop
(Audience: KS2 - KS3)

10:30am 11:30am
12:30pm 1:30pm

UoN Sports Journalism:
Sports Commentating Workshop
(Audience: KS3)


10:00am 11:00am
12:15pm 1:15pm

Institute for Creative Leather Technologies:
Hide to Highstreet
(Audience: KS2 - KS3)

10:30am 11:30am
12:30pm 1:30pm

Lunch Schedule

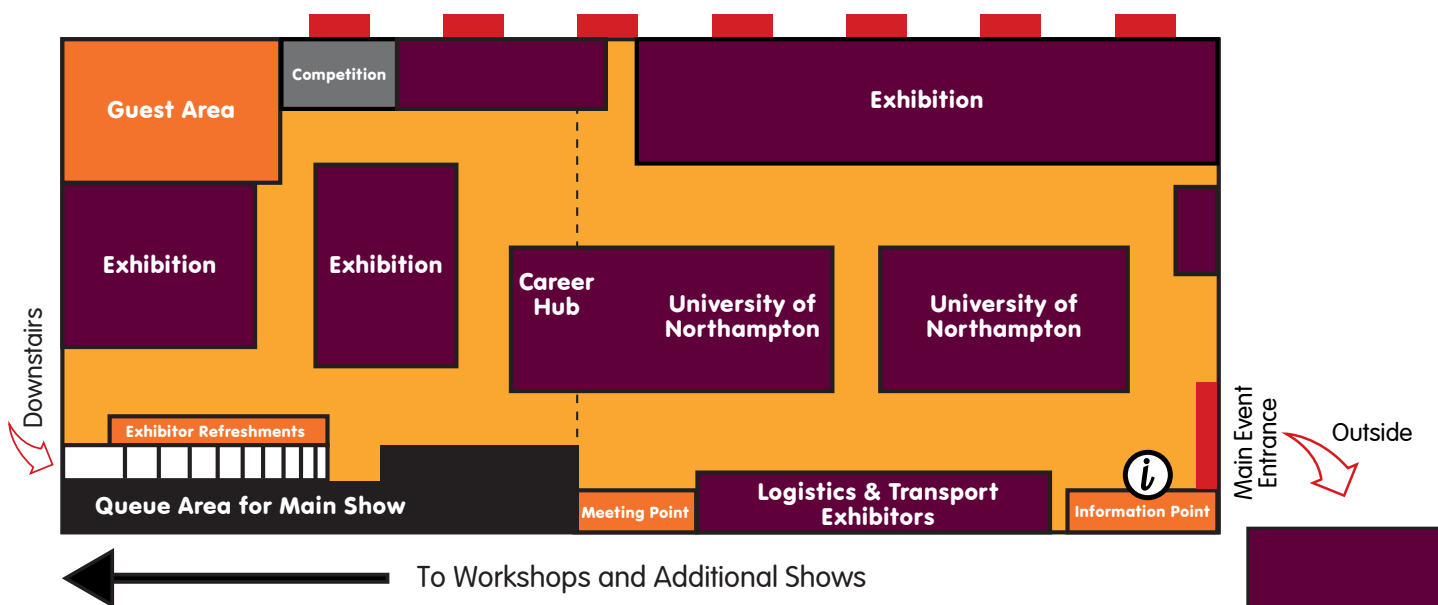
Primary Schools: 11:30pm to 1:00pm | **Secondary Schools:** 1:00pm to 2:00pm

Not pre-booked a show or workshop? Visit the Information Point  to see if there are any spaces available. Please note most shows and workshops will be fully booked.

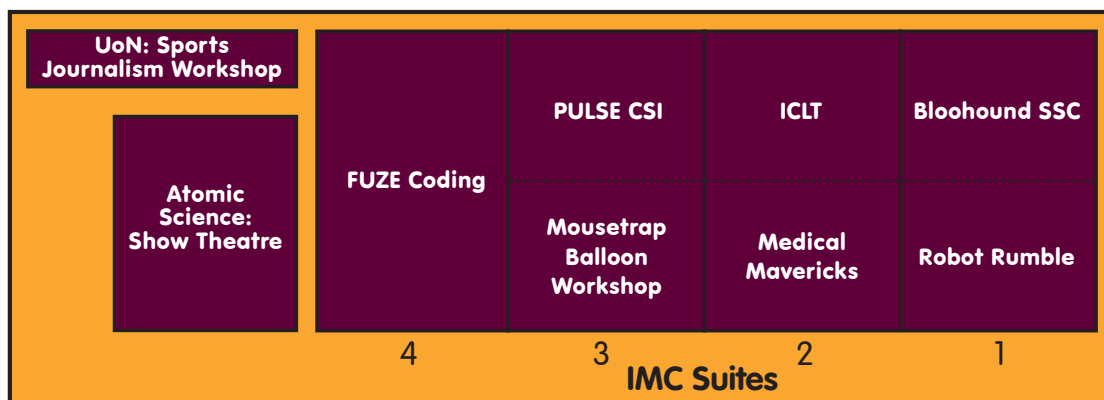
Map of Event

Fire Exits

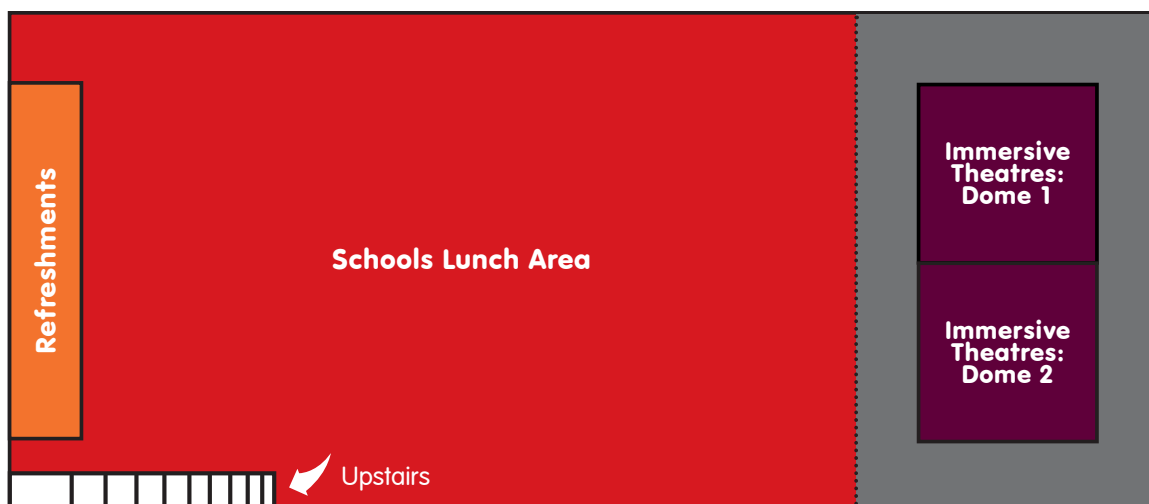
Exhibitors



Workshops & Shows



Downstairs Area



*Please note: The majority of workshop and show places will have been pre-booked. There may still be some spaces available. Please ask at the Information Point. (i)

Creative Theatre:

Making a Drama of VR & Gaming

Find out how to use VR technology and gaming to create theatrical experiences for small audiences in environments such as a church, underwater or up into space.

Computing:

Meet the Robots

Come and play with the robots Red or Smurf. After you have played with them, why not see if you can build a small 'bot' from junk that draws squiggle pictures.

Business:

Economics, Trade & Logistics

Using everyday products you will be able to explore how logistics plays a part in all aspects of our lives, consider the impact you have on the economy because of what you buy and find out what happens when things don't go to plan.

Education:

Marshmallow Trebuchet Challenge

Come and meet current trainee teachers and engage in an interactive Marshmallow Trebuchet Challenge to learn how to teach science, mathematics, art, english, design and history. Can you make the marshmallows fly?

Engineering:

Infrared Investigation

Exploring heat loss from the human body through infrared thermography in order to optimise high performance clothing including engineering, motor sport and high altitude clothing.

Fashion:

Fashion Leather Accessories

Use leather to create accessories such as friendship bracelets. Learning about techniques, materials and how they fit into today's world of fashion.

Fine Art:

SciArt Digital Drawing

Using digital microscopes to explore usually unseen aspects of the world around us and generate a set of drawings from the microscopic imagery.

Institute for Creative Leather Technologies:

Material Science & Arts

Explore the science of leather technology and handle skins from a variety of animals. Use a microscope to look closely at the composition of different hides, understand how science changes the hides and learn about the products that are made from leather. Put chemistry into practice and make your own polymer slime to take home.

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Mechanic Panic:

Computer Game



You and your friends must race against the clock to repair and replace parts, paint bodywork and prepare vehicles ready for their test drive so that they can be returned to the customers. Fix up and cash out as many cars as possible to earn cash for upgrades.

Media:

Visual Effects

Using technology visitors will be able to explore the use of visual effects using VR headsets and virtual worlds.

NLive:

106.9 NLive from Big Bang Northants
@ Silverstone | 10:30am to 1:00pm

Meet journalism students working with the live broadcast, interviewing visitors about their experiences. Find out how it all works and what you need to do to become the next Chris Evans or Sara Cox.

Photography:

Pimp Your Portrait

Using photography equipment and software, visitors will be able to manipulate their images, print the results, learning about different techniques. Assisted by students studying photography.

Podiatry:

Bones & Muscles in Podiatry

Investigating what podiatry is and what parts of the body are involved, the sort of problems looked after and the use of anatomy models and diagnostic equipment from a podiatry clinic.

Product Design:

Construct a Mobile Phone Stand

Paper and thin card is inherently weak but when you add folds it becomes strong. As product designers we need to be aware of the constraints and opportunities that materials offer. This requires a combination of creative and engineering skills. Using thin card, scissors and rulers you will have the opportunity to cut out and fold a up a mobile phone stand demonstrating how thin material can become structurally robust.

Psychology:

Amazing Brain

Have you ever thought about how your brain works? Come and build a brain and have a go at a range of activities including illusions, the Tower of Hanoi, wire loop and talk to students about their experiences of studying psychology.

Sociology:

The Sociology of Hair

In this fun and interactive activity, we explore what your hair style might say about you and your friends! You will be talking to sociology students about how hair styles relate to the ways we live our lives and how we are expected to behave in life.

CNC MACHINING

This process involves the use of computers to control machine tools. Designs can be uploaded into the system and cut out of honeycomb-deck, wood, plastic or metal using lathes, mills, routers and grinders.

BOOK OUR CNC MACHINING SERVICE TODAY!



PALLITE® PALLET

From the honeycomb deck to the design of the pallet feet, the PALLITE® Pallet offers a lighter and cleaner alternative to wood, as well as the robustness and strength you'd expect from any pallet in your supply chain.



PALLET BOX

The PALLITE® Pallet Box is no ordinary pallet box. With a collapsible design that's known for strength as well as a 5mm reinforced honeycomb wall, it's sure to withstand even the most turbulent of journeys.



INSULATED PALLET BOX

Paper makes it light. Design makes it strong. And state-of-the-art insulative liners make it efficient.



PALLET FEET

PALLITE® Pallet Feet are the ideal solution if you want to keep boxes off the floor or use them in the same way you would a pallet. Simply peel back the adhesive tape and stick firmly to the bottom of your consignment.



LAYER BOARDS

Layer boards are ideal for stacking, reinforcing, and separating loads, but there's an alternative to corrugate that offers more strength and greater robustness.

Careers Hub

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Come and visit University colleagues in the Careers Hub and find out more about careers in science, technology, engineering, arts and maths! Pick up some resources for your school or visit the suggested websites for further information.

Research and Evaluation

Working within the Careers Hub will be members of the University research team who will be asking you a few questions on today. The job of a researcher is to find out more details about something, and at the Big Bang Northants, it is to find out if our visitors enjoyed the event and found it worthwhile! So have a chat with them and find out more about what they do!

There are many websites for teachers, parents, carers and students to help inspire you on the many careers linked to STEAM. These might be a good starting point:

www.ccskills.org.uk
www.engineeringuk.com
www.getingofar.gov.uk
www.ice.org.uk
www.icould.com
www.ipem.ac.uk
www.nationalcareersservice.direct.gov.uk
www.raeng.org
www.rsc.org
www.think-logistics.co.uk
www.tomorrowsengineers.org.uk
www.wisecampaign.org.uk

Creative and Cultural Skills
Engineering UK
Find out more about Apprenticeships
Institute of Civil Engineers
Great videos to inspire on different careers
Institute of Physics, Engineering & Medicine
Career profiles
Royal Academy of Engineering
Royal Society of Chemistry
Think Logistics
Tomorrows Engineers
Women Into STEM



Quiz

#TBBNorthants



Look out for your quiz sheet! Once completed, hand them in at the Chartered Institute of Logistics and Transport (CILT) stand.

Hidden at the Big Bang Northants @ Silverstone are 12 images that look like this! Find all 12 images, unscramble the letters, complete the sheet and enter our prize draw!

Four £25 vouchers will be awarded, courtesy of our sponsor, CILT.



The Chartered
Institute of Logistics
and Transport



Videoring, Photography and Broadcasting

Videos and photos will be taken during the event for publicity purposes, including use on social media. Live radio broadcasts will be taking place and activities will be filmed throughout the day. It is schools responsibility to ensure that students know if they do or do not have parental/carer consent to be photographed and/or filmed. The Big Bang Northants team can not be held responsible. Schools and students must take responsibility for removing themselves from opportunities where they may be filmed/photographed.



#TBBNorthants

Tweeting about The Big Bang Northants @ Silverstone?
Make sure to use our #Hashtag so we can celebrate with you!

We look forward to seeing you again at The Big Bang Northants 2019

27 February 2019



Keep in touch...



@TBBNorthants
@UniNorthants
@AspireNorthants
@STEMatUN
@bydesigngroup

www.learnbydesign.co.uk
www.northampton.ac.uk





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