



# nuast

Nottingham University Academy  
of Science and Technology

# NUAST News

December 2017



## Message from the Principal

As you will see from the newsletter, it has been a very busy half term. We have held a number of successful open evenings and events for prospective students and parents/carers for admission into NUAST for September 2018. Parents/carers have fed back positively about the students who have taken part in these events and they represented NUAST and yourselves very well.

Years 10, 11 and some Sixth Form students have had the opportunity to develop revision skills working with Positively MAD to improve their examination techniques and a parent session focusing on revision which will be held at the forthcoming Year 11 Open Evening.

A number of local primary schools have been into NUAST to use the facilities and have taken part in STEM activity days and this is an area of work that we wish to develop further to ensure that all students have access to high quality STEM education. If you know of any local schools that would like the opportunity to work with NUAST, please ask them to contact me directly at the school.

University applications are progressing very well with students starting to receive offers from their chosen universities. Five students have secured interviews for Oxbridge places and we wish them well in their forthcoming interviews.

Our local Counsellor, Counsellor Trimble has contacted myself to express concern about parents parking around the school. Could I ask that you only park in the designated spaces and do not park on single or double yellow lines or in resident parking bays.

I would like to wish you all a happy and restful Christmas break and look forward to seeing students back at NUAST on Monday 8<sup>th</sup> January.

Mr White



# Senior Maths Challenge

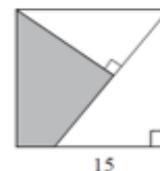
On 7<sup>th</sup> November 2017, 39 A level Mathematics students from NUASt took part in the 90 minute brain workout of the Senior Maths Challenge, organised by the UKMT based at Leeds University. Three of our student achieved gold certificates, and were invited to participate in the UKMT kangaroo competition on Friday 1<sup>st</sup> December. Bruno Truben, Isaac Dixon and Jack Badley await their Kangaroo results. Eight students achieved silver certificates with the highest scores being achieved by Zong Wang and Skye Tinsley in years 12 and 13. There were sixteen bronze certificates awarded.



Just in case this sounds easy we've included one of this year's 25 problems below for you to try – no calculators allowed!



The diagram shows two right-angled triangles inside a square. The perpendicular edges of the larger triangle have lengths 15 and 20. What is the area of the shaded quadrilateral?



- A 142      B 146      C 150      D 154      E 158

On 22<sup>nd</sup> November a team of four, Isaac Dixon, Bruno Truben, Doyle Tuggey and Zong Wang took part in the regional final of the Senior Team Mathematics Challenge at The University of Nottingham competing against nineteen other schools from both the independent and state sector across the East Midlands. The team achieved an impressive 4<sup>th</sup> place in the competition, narrowly missing out on qualification for the UK final. We'll be back again next year. Year 10 and 11 students now have the target of 27 certificates to beat in the up and coming Intermediate Mathematics Challenge in the New Year.

Ms Barr

## Positively MAD for Revision

Positively MAD visited NUASt this half term to talk to Year 10 and 11 students about revision techniques. Both year groups have been preparing for mock examinations across a range of subjects and Year 11 especially have a big year ahead with their GCSE exams in the summer.

Positively MAD specialise in engaging and lively workshops that teach students techniques in revision, and making best use of their long-term memory. Mind maps, simple rhymes and other visual cues were used throughout the morning and lead to everyone remembering minute details on a topic that they had only heard about earlier that morning!

As the name of the company suggests, Positively MAD is all about optimistic thinking and training your brain to think a bit differently. One Year 10 student commented afterwards: "the session was really fun and we learned a lot more about how our brain works. Hopefully I can use this in my exams next term!" It is hoped that the day has given students in both year groups a chance to reflect on how they usually approach their revision and has given them some ideas for how to conduct it differently in the future

Mr Wood



**PositivelyMAD**  
INSPIRING EMPOWERED LEARNING

MON	TUE	WED	THU
4:00pm MATHS - HISTOGRAMS	4:00pm TECH - MATERIALS	4:00pm MATHS - AREA & VOLUME	4:00pm HISTORY - NAPOLEON
4:30pm	4:30pm MATHS - CUMULATIVE FREQUENCY	4:30pm	4:30pm MATHS - QUADRATICS
5:00pm	5:00pm	5:00pm	5:00pm
5:30pm GEOG - POPULATION	5:30pm	5:30pm GEOG - ECONOMY	5:30pm
6:00pm	6:00pm GEOG	6:00pm	6:00pm GEOG

# Science Research Students

Two of our Y13 students, Rebecca Hennessy and George Shouls, did very well to gain Nuffield placements over the summer. These placements were based in Leicestershire and Nottingham where they worked alongside scientists in research.

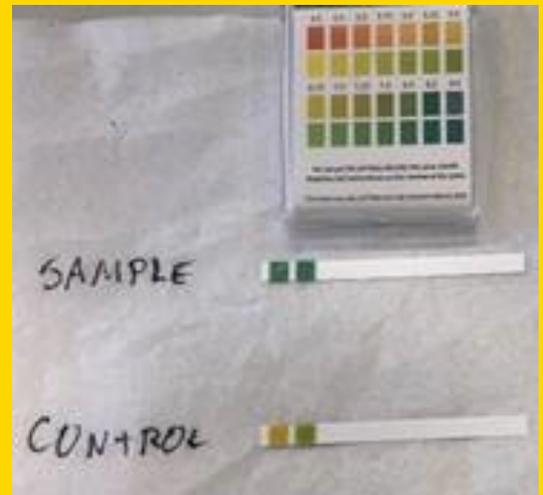
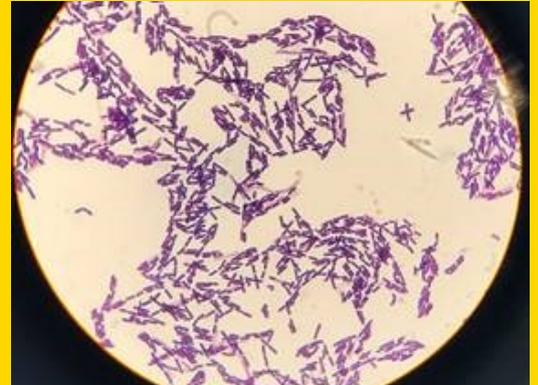
George learnt to work independently helping gather "big" data and processing it for the epidemiology unit for Nottingham City Hospital. He was gathering contact details for information on smoking cessation for the Royal College of Physicians which will then support the analysis of the most effective method of stopping smoking.

Rebecca undertook a practical based biochemistry placement with Leicester De Montfort University. She was looking at cultured bacteria samples from saliva taken from diabetic (group II) patients and comparing to the healthy control samples from people who had volunteered for the study. Rebecca produced a report which will gain her the CREST gold award.

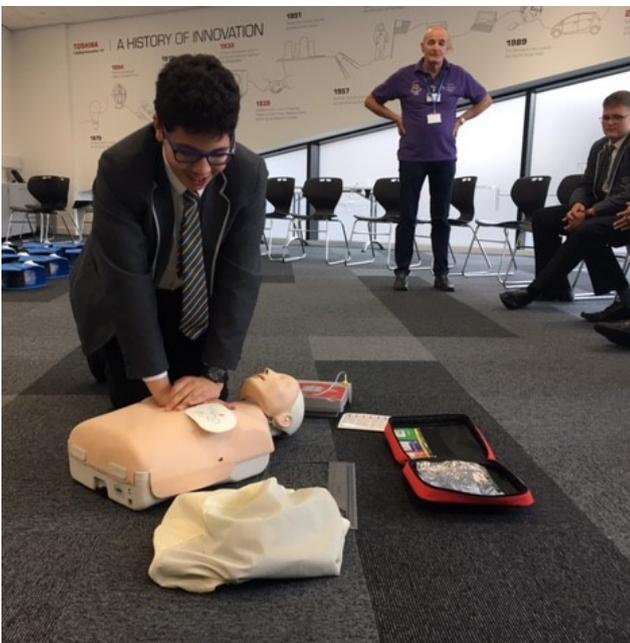
This type of experience is invaluable for students university applications and CV's as it shows them not only developing valuable scientific skills but demonstrates they can work independently whilst being self-motivated. Both students have secured Oxford University interviews.

The Nuffield placements selection process is open for our current Y12 students. Apply to make sure you are ahead of other students when applying for university places or a higher apprenticeship.

Mrs Barnett



# Year 10 Restarting Hearts



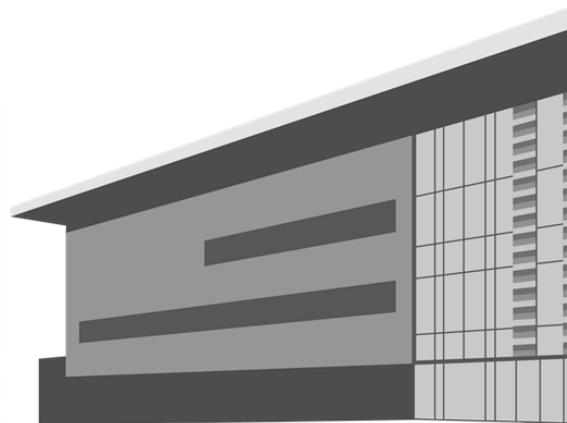
As part of the British Heart Foundation's annual initiative, all Y10 students took part in 'Restart a Heart Day' on Monday 16<sup>th</sup> October. The aim of the initiative is to equip as many people as possible in one day with basic CPR training. NUASt students had the opportunity to listen to and be coached by professionals from the Queens Medical Centre.

Students were introduced to basic DRS ABC code and CPR within practice and scenario situations.

Anne-Marie Lawrence, Health Educator Programme Lead from QMC said "it was a really good morning, the NUASt students were great within the sessions". We look forward to Restart a Heart training again in 2018.

Mr Tapp

# Young Enterprise



One of the enrichment programmes currently being run at NUASt is Young Enterprise. This is a programme created by the Young Enterprise charity and delivered by our Business Studies teacher. The programme aims to enable young people to develop their employability skills with practical hands on learning. Students have created their own business. The business is called Clock Fusion and students have produced and are selling vinyl clocks, bowls and books. Each student has been allocated a role within the business for example, Sales Director and they have been working hard to fulfil their business objectives. The team have had to raise capital for their business and have organised several fundraising events including selling shares, cakes sales, and a non-uniform day. Whilst making a profit is key for the business, Clock Fusion decided to donate 10% of their profits to Alzheimer's Society UK. The recent non-uniform day raised £256 with 50% being donated by the team to the Alzheimer's charity.

The team have been working hard on sourcing vinyl records and 'classic' books and have had to research into various different clock mechanisms. They have set up their own bank account, sold shares to family, friends and staff in order to raise funds to buy their raw materials. They have been working hard to produce their products in time to sell at Christmas fairs and events. Skills have been developed which includes team working, finance, problem solving, creativity and resilience. Check out their Facebook page 'clock fusion' where you can purchase their products.

Mrs Langsdale

## 4x4 Competition

Students in Years 10, 11 & 12 have been busy developing their 4x4 cars ready for the Land Rover 4x4 in Schools Technology Challenge regional finals in January. The challenge involves a number of timed challenges, presentations to the judges, describing how they worked as a team to build their cars and driving their remote controlled car around a series of obstacles and challenges as quick as possible in front of a large audience! Each week the students have been working in small groups of 2 or 3 to design and manufacture a body shell to fit on their existing chassis using our industry standard Fusion360 drawing program. Meanwhile other students in the team are responsible for the maintenance of each car while our other two groups work on the electronics for the lights and tilt sensors and designing and making our own test track. The Land Rover 4x4 in Schools Technology Challenge is helping to engage our students in STEM subjects to give both them the opportunity to develop key skills such as communication, presenting and team work. Good luck to both teams in January!

Mr O'Hare



### Parent Maths Puzzle

How many times does the digit 9 appear in the answer to  $987654321 \times 9$  ?

You should be able to decide **WITHOUT** calculating the answer.

