



Pupils and staff from Valley Gardens Middle School pictured with academics from Northumbria's department of Mechanical and Construction Engineering

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Pupils' car designs on track following Northumbria visit

Pupils from a North East school have visited Northumbria University to quiz aerodynamic experts ahead of a worldwide engineering competition.

The youngsters, from Valley Gardens Middle School in Whitley Bay, are taking part in this year's F1 in Schools challenge, which sees schoolchildren from all over the world making and racing their own miniature F1 cars in a bid to create the fastest design.

As part of the design process, the pupils were invited to Northumbria to meet Senior Lecturer in Aerodynamics Dr Nick Martin, who worked for the Williams Formula One team before joining the University.

They were also given the opportunity to make use of Northumbria's state-of-the-art wind tunnel facility, using the equipment to test how aerodynamic their cars were so they could make changes to improve their designs.

The pupils hope their visit will give them the competitive edge when they take part in the F1 in Schools North East regional final tomorrow, held at the Nissan car manufacturing plant in Sunderland.

David Fairlamb, Head of Computing at Valley Gardens Middle School, said: "A large part of the competition focuses on the engineering of the cars and how the students follow an iterative design process.

"They have been using the design software Autodesk, CNC machinery and 3D printers to design, test and make their cars, and visiting Northumbria University to use the wind tunnel really gave them some 'real life' context, helping them to understand more about aerodynamics.

"Meeting someone like Nick, who has actually worked in Formula One, was really inspiring for them and is a great demonstration of how STEM subjects can lead to really exciting careers."

Nick joined Northumbria following a five-year career working with Williams, where he tested, designed and developed Formula One racing cars. He teaches students on Northumbria's Mechanical and Automotive Engineering courses, giving them a valuable insight into the automotive industry and the skills potential employers are looking for.

He said: "Engineering and specifically aerodynamics is an area I've always been really interested in so it was great to meet the pupils from Valley Gardens Middle School and see how enthusiastic they were. I was really impressed with the level of detail the pupils put into the aerodynamic design of their cars. They really enjoyed seeing how the wind tunnel worked and we were able to demonstrate how small design changes can make a big difference to how fast their cars travel."

During the regional final tomorrow, the pupils taking part will race their cars down a 20-metre track, using a CO2 canister to power their vehicles. Valley Gardens Middle School has two teams competing – Optimum and Spiro. In addition to the car design element of the competition, the teams have also had to consider business aspects, such as marketing, finance and graphic design, just like a real Formula One team.

Northumbria University has made significant investment in its Science, Technology, Engineering and Mathematics (STEM) facilities in recent years, with new equipment including an engine test cell, scanning electron microscope, Mazak CNC machine, scanning ion mass spectrometer and the wind tunnel.

The University has close links with North East schools through its NUSTEM project. Set up in 2014, NUSTEM aims to inspire future generations of scientists and engineers and redress the balance of female students and under-represented groups studying STEM subjects in universities. Over the last three years, NUSTEM has worked with more than 37,000 children, parents and teachers, working in collaboration with regional and national partners and with support from a £1.2 million grant from the Higher Education Funding Council for England (HEFCE).

For more information about NUSTEM visit <https://nustem.uk/>

For more information about the F1 in Schools competition please visit <http://www.f1inschools.co.uk/>

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Contacts



Rik Kendall

Press Contact

PR and Media Manager

Business and Law / Arts, Design & Social Sciences

rik.kendall@northumbria.ac.uk

07923 382339



Andrea Slowey

Press Contact

PR and Media Manager

Engineering and Environment / Health and Life Sciences

andrea.slowey@northumbria.ac.uk

07708 509436



Rachael Barwick

Press Contact

PR and Media Manager

rachael.barwick@northumbria.ac.uk

07377422415



James Fox

Press Contact

Student Communications Manager

james2.fox@northumbria.ac.uk



Kelly Elliott

Press Contact

PR and Media Officer

kelly2.elliott@northumbria.ac.uk



Gemma Brown

Press Contact

PR and Media Officer

gemma6.brown@northumbria.ac.uk