Northumbria University NEWCASTLE

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Northumbria in pole position following F1 appointment

A former Williams Formula One aerodynamics expert has joined Northumbria University, Newcastle, to lead new research using its recently installed, state-of-the-art wind tunnel facilities.

Nick Martin joins Northumbria as a Senior Lecturer in Aerodynamics following five years working with Williams, where he tested, designed and developed Formula One racing cars.

He will teach 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.

His appointment signals Northumbria's continued investment in Science, Technology, Engineering and Mathematics (STEM) facilities. Over the last year the University has invested £6.7m, part-funded by the Higher Education Funding Council for England, in new equipment that provides first class facilities for research and teaching. The University's new kit includes an engine test cell, scanning electron microscope, Mazak CNC machine, scanning ion mass spectrometer and wind tunnel.

As part of his role, Nick will develop Northumbria's wind tunnel facilities for use in automotive, aerospace and industrial research – in particular, exploring the forces vehicles experience from wind and design changes which could improve fuel efficiency and stability.

He said: "I'm really pleased to be joining Northumbria at this exciting time – the University's investment in its STEM facilities and vision for future research and teaching in automotive engineering, specifically vehicle aerodynamics, was what attracted me to the role.

"I feel my experience working in the automotive industry will be of great benefit to students. Bringing theory to life with real examples is an engaging way to learn and, having worked in the field, I can advise on the latest tools and software being used within the industry.

"I also know the set of skills companies like Williams are looking for in graduates and can help students work towards gaining those, hopefully giving them a head-start in their careers."

Nick's interest in automotive aerodynamics began while he was working with Toyota in Cologne, Germany, during the placement year of his Aerospace Engineering undergraduate degree, at the University of Surrey.

While there, he took part in wind tunnel testing for Toyota Racing, after which the company sponsored him to carry out a PhD. He spent the next three years exploring how the use of synthetic jet actuators, which control the flow of air over wings on cars or aeroplanes, can improve vehicle performance.

Following this he joined Williams, initially within the Correlation and Performance team, where he investigated differences in test results between the wind tunnel, real life track testing and numerical testing using a computer. He then moved to the design team, using his aerodynamics expertise to develop parts for Williams' Formula One racing cars.

He said: "What I enjoyed about designing for Formula One cars was the lack of constraints. With road cars the design is limited by the aesthetics, but with Formula One it is all about making the car as aerodynamic as possible, which was a challenge I enjoyed."

In addition to teaching, Nick will be working with Northumbria's Fluid and Thermal Engineering research group, using the wind tunnel in a number of projects. These include researching the aerodynamics of vehicle 'platooning', when cars follow one another closely; and the aerodynamic stability of small 'city' cars.

He will also oversee the ongoing development and commissioning of the wind tunnel systems and sensors. This will include the installation of a student designed robotic arm for positioning sensors and a state-of-the-art, non-intrusive optical velocity measurement system, known as particle imaging velocimetry (PIV).

Nick will also be building on the active flow control research he carried out while at Williams, but with applications to road vehicles.

Professor Rob Dominy, Head of Northumbria's Department of Mechanical and Construction Engineering, said: "We are delighted to welcome Nick to Northumbria. He brings with him fantastic industry experience, which will be of huge benefit to both our students and academic colleagues.

"Following the launch of our Mechanical and Automotive Engineering degree three years ago and the opening of our wind tunnel earlier this year, we are establishing Northumbria as a leader in the field of vehicle aerodynamics, in terms of both research and teaching.

"Nick's appointment will ensure we utilise our new facilities to attract new partnerships with businesses and other institutions, leading to new discoveries and developments."

Find out more about Northumbria's Automotive Engineering BEng (Hons) programme.

Northumbria is a research-rich, business-focused, professional university with a global reputation for academic excellence. To find out more about our courses go to www.northumbria.ac.uk

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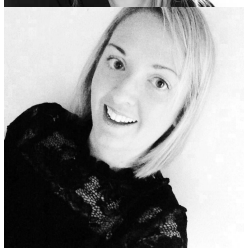

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