

EPRSC Centre of Doctoral Training in Modelling of Heterogeneous Systems

Computer Models of Matter that Matter

The University of Warwick has been awarded £11m to train PhD students in computational modelling.

The new centre will train 50 PhD students to use computational modelling to tackle pressing global sustainability challenges from accessing clean fusion energy, controlling infectious diseases, to designing energy-efficient devices including thermoelectrics and solar cells.

The [Centre for Doctoral Training in Modelling of Heterogeneous Systems](#), known as [HetSys II](#), led by Professor James Kermode from the [School of Engineering](#), Dr Livia Bartok-Partay from [Chemistry](#) and Professor Nicholas Hine from [Physics](#), will train a new generation of scientists in computational modelling. It spans seven departments and three university research centres forming a national centre of excellence in computational simulation, providing world class opportunities in the West Midlands.

Professor Kermode said: “We’re very excited to launch this new centre to build on the success of other modelling training at Warwick. The key players are the PhD students who are driving the success of our Centre for Doctoral Training now and in the future. It’s inspiring to see their ideas develop: they will become future leaders in a wide range of sectors of national importance.”

The new centre builds on the successes of the current [HetSys doctoral training centre](#) at Warwick and will take advantage of the ongoing artificial intelligence revolution by training students in research software engineering, uncertainty quantification and scientific machine learning.

It will have cross-cutting themes in modelling of biological systems, development of new simulation algorithms, and analysis of materials, linking mathematical modelling projects with experiments taking place across the UK. PhD students in the centre will work closely with industry and with international partners, gaining valuable experience in doing so.

Current PhD student Tom Rocke said: “The best part of HetSys for me is the supportive research community. I owe a lot of my success to the many discussions and conversations with peers across departments and research groups, and I’m excited to see the family continue to grow.”

Prof. John Murphy, Head of Department of the School of Engineering, said: “This doctoral training centre is fantastic news for Warwick. It has come to fruition as a result of a long-term strategy to build up academic activity in this key research area across multiple Warwick departments. It is also strongly aligned to the University’s sustained investment in high performance computing facilities.”

The news comes as part of the Engineering & Physical Sciences Research Council’s (EPSRC) announcement today of £1 billion funding for 65 Centres for Doctoral Training (CDTs) across the UK. This includes the £11 million funding for the University of Warwick’s new CDT in ‘Modelling of Heterogeneous Systems’ (HetSys II).