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UK, India funding for nanotechnology projects in renewable energy

(*Nanowerk News*) Researchers from the University of Surrey have today been awarded funding by the UK government and the government in India for two projects which will explore how nanotechnology will impact the future of renewable energy.

Awarded to researchers from the [Advanced Technology Institute](#) (ATI) at the University of Surrey through the UK-India Education and Research Initiative (UK-IERI), both programmes will involve close collaboration between universities in the UK and India, as well as with Tata Steel Research and Development UK.

The first project will bring together researchers from the University of Surrey and the University of Hyderabad, India, with collaborators from Tata Steel Research and Development UK to look into how to effectively capture and store solar energy using an approach known as 'inorganics-in-organics', in which composite materials work together to increase efficiency. Tata Steel will lend its fuel cell expertise, partnering research with industry to provide technologies for improved energy generation and storage.

Tata Steel is part of the Indian multinational conglomerate company, Tata group, which comprises over 100 companies operating in seven business sectors, including communications and information technology, engineering, materials, services, energy, consumer products and chemicals.

The second project will examine the use of zinc oxide nanomaterials in ultra-high sensitivity gas sensors. These gas sensors can be used in environmental monitoring devices to deliver improved sensitivity and increased energy efficiency. They can also be used in breathalysers, and even for sensing potentially explosive gas leaks in places such as hydrogen storage facilities.

This project will bring together academics from the University of Surrey, Queen's University Belfast and the Indian Institute of Science Education and Research.

Leading the projects, Professor Ravi Silva, from the Advanced Technology Institute said: "Nanotechnology projects such as these are hugely exciting and offer direct solutions for the key challenges that the energy sector faces. Supported by both governments and the multinational Tata, our expert teams from India and the UK will impact the future of renewable energy on a global scale through the development of new technologies. Working with cutting-edge nanomaterials such as ZnO, graphene and carbon nanotubes, we can revolutionise energy storage and capture."

Professor Vince Emery, Pro-Vice Chancellor International Affairs from the University of Surrey said: "Projects such as these clearly illustrate the global nature of research without boundaries. The University of Surrey has very talented researchers who contribute significantly to world-class research and the most pressing challenges faced by the world today, including cheap renewable energy. The close collaboration between academics and industry is key in achieving visionary goals such as those outlined in these projects."

Dr Debashish Bhattercharjee, Group Director (Research and Development) at Tata Steel said: "I am pleased Tata Steel is partnering with global research leaders at the University of Surrey and India on these UKIERI projects which are won on a highly competitive basis in both countries. Solar energy and functional coatings are part of our research strategy and will

form an important component of global business in the next decade. We are happy to be part of this research effort spearheaded by the two governments.”

The two UKIERI projects are scheduled to commence in the first quarter of 2014.

Source: *University of Surrey*

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