

## MEDIA RELEASE

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### **Australian-Irish partnership develops smart sweat-monitoring ‘watch’**

Researchers in Dublin, Ireland and Wollongong, Australia have created an intelligent sensing device that is worn like a watch and monitors the chemical composition of the wearer’s sweat.

Named the ‘Sweatch’, the device captures sweat and provides real-time data on the sodium content to a laptop, phone or tablet. In addition, the sweat is stored on-board the device for further analysis.

Once strapped onto the wearer, sweat enters the ‘Sweatch’ through a sampling device and passes over electrodes and into the storage area containing high capacity storage material. Signals generated by the electrodes are passed to a custom-designed electronics board to capture the voltage.

Sweatch project lead Professor Dermot Diamond from Dublin City University (DCU) said the information provided by the ‘Sweatch’ about sodium levels in an individual’s sweat can indicate dangerous dehydration levels.

“The device could also assist in monitoring the effectiveness of new therapeutic treatments for conditions like Cystic Fibrosis,” he said.

“These treatments are typically designed to restore normal electrolyte balance – which could be indicated by a return to normal sodium in sweat.”

The ‘Sweatch’ device was developed through a partnership between DCU and the Australian Research Council Centre of Excellence for Electromaterials Science (ACES) at the University of Wollongong.

This 20-year collaborative relationship combines the Irish advanced sensing capabilities with the new-materials development and fabrication expertise in Australia. The 3D printing facility at ACES in Wollongong is led by DCU graduate Dr Stephen Beirne.

“World class 3D printing facilities are a tremendous catalyst to forge world class collaborative research programs that can tackle complex multidiscipline research challenges like the Sweatch,” Professor Wallace said.

The research has been published in [Electroanalysis](#) journal.

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## **About the ARC Centre of Excellence for Electromaterials Science**

Led by Australian Laureate Fellow Professor Gordon Wallace, the ARC Centre of Excellence for Electromaterials Science is a multidisciplinary research group with a focus on developing functional devices for applications including batteries, solar cells and systems that interact with living tissue.

### **ACES Organisations:**

#### **Administrating Organisation**

University of Wollongong

#### **Collaborating Organisations**

Monash University

Deakin University

University of Tasmania

The University of Melbourne

The Australian National University

#### **Partner Organisations**

Dublin City University, Ireland

University of Warwick, UK

Friedrich Alexander University of Erlangen, Nuremburg,  
Germany

Hanyang University, Korea

Yokohama National University, Japan