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POLYSACCHARIDE RESEARCH A CATALYST TO ESTABLISHING PIONEER...

SEARCH JOBS

09-Jan-2020

POLYSACCHARIDE RESEARCH A CATALYST TO ESTABLISHING PIONEERING MICROARRAY CENTRE AT NEWCASTLE UNIVERSITY FOR BIOSCIENCE COMMUNITY

g £280,000 with Arrayjet, the UK's leading provider of microarray instrumentation technology, as part of its plan to establish a new microarray centre for the northern half of the United Kingdom. The centre will be used by other university departments, as well as external biotechnology research partners.

was secured through the Biotechnology and Biological Sciences Research Council (BBSRC) 18ALERT fund. This is part of a wider strategy to put in place cutting edge technology, whilst strengthening collaborations with Industry.

William Willats, Professor of Molecular Agri-Diagnostics at Newcastle University, whose own research investigates the role of carbohydrates in their environment, with a particular focus on the role of cell walls – the carbohydrate-rich casing that surrounds plant cells.

Now the lab now uses a customised Arrayjet Marathon Argus printer with a built-in camera system and interchangeable substrates to allow the lab to offer printing for a wide range of substrate and sample options including their own novel substrates for printing projects.

Plants that provide support and regulate growth, but they also display remarkable plasticity and are a dynamic interface with the world. Because plants don't move around people sometimes assume that they are passive, but in fact they show remarkable short-term adaptation and short-term responsiveness.

From an evolutionary standpoint and partly explains how plants have colonised the planet so widely and exploited so many different niches.

At the cellular level and enables plants to cope with a range of threats from pathogens and environmental stress.

The study of molecular processes is fascinating and important for developing new crops with higher productivity and resilience to environmental stress.

The new Argus microarrayer will enable William and his colleagues to develop high-throughput carbohydrate microarrays that can be used to analyse a wide range of biological samples and help decipher complex profiles of plant carbohydrates.

Carbohydrates can be tricky to work with. Unlike proteins and nucleotides, they cannot easily be sequenced or synthesised, and are incredibly diverse.

The new centre is focused on extracting polysaccharides from plant materials which are then deposited as thousands of minute spots, or microarrays, on a glass slide using the high throughput Arrayjet Marathon Argus bio-printer. We then use monoclonal antibodies to detect the polysaccharides are in which samples and this provides a high-resolution overview of complex polysaccharide profiles.

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...e of Professor Willat’s research and his foresight in allowing collaborative partners to use our bio-printing
...ng a Microarray centre at Newcastle University is a very positive move. I’m certain other universities, research
...d the general bioscience communities across the country will warmly welcome this.”

...ent from the Archangels business angel syndicate and Scottish Enterprise.

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