Sheffield scientists light up bacteria

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Researchers from the University of Sheffield have received joint funding from the Engineering and Physical Science Research Council and the Ministry of Defence to develop an innovative sensor to detect bacteria. The new method will use a polymer which will give a fluorescent signal when it encounters bacteria, allowing scientists to easily identify infected wounds much earlier than using conventional methodologies.

The new technology will be of immediate benefit to healthcare industries in general, as well as those involved in detecting infection in battlefield conditions and bacterial contamination, whether accidental or deliberate.

Currently identifying bacterial infection takes several days and requires swabbing and culturing of bacterial swabs as well as the use of specialist bacteriology laboratory facilities. By combining polymers, which change shape when they encounter bacteria, and developing a light signal through fluorescence non radiative energy transfer (NRET), the researchers will be able to detect early stage bacterial contamination.

Being developed by a multi-disciplinary team of researchers from the University's Departments of Chemistry, Engineering Materials and the Dental School, the sensor will have widespread applications beyond the initial project.

Dr Steve Rimmer from the University's Department of Chemistry, said: "The project is a great example of progress that can be achieved at the life sciences/physical sciences interface and we hope the project will

deliver technology of real importance."

Source: University of Sheffield

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