

Study to find out why you're a slime ball

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A University of Manchester scientist has been awarded £150,000 to study slime!

But this is no ordinary slime, says biologist Chris Thompson, who believes it could unravel mysteries of evolution that even Darwin couldn't solve.

Dr Thompson's curious research was one of only three scientific studies to win this year's prestigious Lister Institute Research Prize.

The award will allow him to develop his work on slime moulds – microscopic organisms that show remarkable qualities of cooperation and self-sacrifice.

“People might wonder why bother studying slime mould but it could lead to a greater understanding of human behaviour,” explained Dr Thompson, who is based in the Faculty of Life Sciences.

“We know that human behaviour, at least in part, is influenced by our genes, so studying behaviour at a cellular level can improve our understanding of why some genes are associated with cooperation and others with conflict.

“Cooperation is a major driving force in evolution and understanding it is a huge challenge in biology.

“In society, people help each other; they work together within a social structure for a common good even if that means individual effort or sacrifice.

“I’m interested in finding out why people choose to cooperate rather than cheat to simply help themselves.”

This process of cooperation, says Dr Thompson, is beautifully demonstrated at the microscopic level by the slime mould, Dictyostelium.

“To understand behaviour at a molecular level we needed an organism that displays social behaviour and can be manipulated in the lab.”

“Slime moulds usually exist as single-cell amoebae feeding off bacteria in the soil but when their food supply runs out they aggregate to form a ‘fruiting body’ of some 100,000 cells.

“Some cells become spores, while others form a stalk beneath the soil surface. These stalk cells die; they sacrifice themselves so the spores can be dispersed to new feeding grounds.

“My research examines the different genetic makeup of the stalk and spore cells in order to understand this behaviour and discover why some cells would ‘choose’ to die to help others.”

Dr Thompson believes that his research could even lead to a better understanding of the human psyche.

“The rules of engagement we observe in the cells of Dictyostelium are the same at all levels,” he said.

“So, if we can find out which genes prompt cells to cooperate and which trigger conflict we will gain a greater understanding of social behaviour.”

Source: The University of Manchester

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