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Investigating a novel system for the detection of *Campylobacter jejuni* in food safety testing

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Campylobacter jejuni is a leading cause of foodborne diarrheal disease worldwide, typically obtained through contact with contaminated poultry products. My research focuses on development of a biosensor for detection of *C. jejuni* in food samples. A biosensor is any device that converts a biological response to a measurable signal. Bacteria pass genetic information to each other through a process called conjugation – which we plan to exploit as the basis for our biosensor. DNA from a non-disease-causing species of *Escherichia coli* will be passed to *C. jejuni* via conjugation, and will trigger *C. jejuni* to produce proteins. These proteins will activate a signal in *E. coli*, which results in the bacteria becoming fluorescent. This proposed system will be a fast, highly specific, and low-cost alternative to current detection methods by food manufacturers.