

Myriad Optics

Ensuring food safety from farm to fork with quick and accurate detection of bacterial contamination

In a nutshell

Unsafe food containing harmful bacteria, viruses, parasites, or chemicals are responsible for more than 200 different diseases. The WHO estimates that every year 600m (about 1 in 10 people) fall ill after eating contaminated food. Around US\$110b is lost every year in productivity and medical expenses resulting from unsafe food. It's clear then, that something as simple as the safety of the food we eat can have serious consequences – for farmers, food businesses, and for the people who buy and eat contaminated products.

There are many methods and technologies used to identify and prevent contamination. There are kits which can test for anything from bacteria to heavy metals to mould toxins. However, particularly when it comes to bacterial contamination (the most common cause of food poisoning), they either take too long to identify bacteria, or they're unable to define the exact nature of the contamination.

Myriad Optics is developing the world's most comprehensive bacterial detection and identification technology which they believe will ensure the health of families around the world.

Why is our technology important?

Myriad Optics are combining microfluidic technology, spectroscopy, biochemistry, and machine learning models to detect and identify harmful bacteria. They leverage Raman spectroscopy to collect the unique vibrational signatures of bacterial cells, these are then detected and identified with a machine learning model. Thanks to its portable nature, food producers can do on-the-spot testing of their facilities and get detailed results in hours, rather than days. This greatly reduces food waste and effectively eliminates the risk of contaminated food reaching the consumers.

Our rapid and reliable test means food companies can be sure their products are safe to eat in a simple and easy to use way. Myriad Optics makes the invisible, visible to secure the safety of the food chain.

The benefits of our solution

- Quicker results: full sample analysis done on-site in under two hours with the ability to pinpoint the exact type of bacterial contamination.
- Operational efficiency: our technology is designed with the realities of food industry operations in mind and therefore integrates seamlessly into existing processes.
- Scalability: our solution is designed to be adaptable, catering to different sized operations – from small local producers to multinational corporations.
- Cost effective: early and accurate detection saves food producers the costs and waste associated with product recall and mitigation.

Keywords

food industry, bacterial detection, Raman spectroscopy, microfluidics, machine learning

Founding Team

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