

Application of metagenomics in food safety and quality control**Boris Kirov**

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Despite recent developments in the field and wide-spread adoption of blockchain solutions in food industry and specifically regarding safety measures, foodborne pathogens still remain a major health hazard in EU countries. Apart from the technological solutions, quality control and pathogen detection represent the final frontier before serious illness and even death of a significant number of people annually throughout the whole continent. Regardless of the seriousness of that threat, the standard biomedical laboratory practice for food analysis still relies heavily on outdated, slow and expensive methods for food quality control and pathogen detection. We report the results of our team obtained through the application of the newest methods for gene sequencing and metagenomics analysis applied to food investigation. We tested next-generation and nanopore sequencing techniques to acquire information for the traces of all organisms in a certain sample. Furthermore we developed and automated the procedure for metagenomics analysis of such data. Finally, we also provide research solution such as an online service, which renders the whole process accessible to a wide number of interested parties.

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