

JOINT EVENT

4<sup>th</sup> World Congress and Expo on **APPLIED MICROBIOLOGY**  
&  
2<sup>nd</sup> International Conference on **FOOD MICROBIOLOGY**

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**Detection of waterborne pathogenic bacteria using immunofluorescence technique****Mihai Nita-Lazar, Irina Eugenia Lucaci, Catalina Stoica and Alina Roxana Banciu**  
National Research and Development Institute for Industrial Ecology, Romania

The waterborne pathogenic bacteria, especially the enteric bacteria of human fecal origin have become currently a global public health issue. The detection and quantification of drinking water microorganisms are an essential part of any quality control or water safety management plan interconnected to enteric bacterial pathogens such as *Salmonella* spp., *Shigella* spp., *Vibrio cholerae* or to nonfecal bacterial pathogens such as *Legionella* spp. The standard methods of detecting waterborne pathogenic bacteria are time-consuming due to the growing step in a specific culture media, followed by isolation, microbiological and/or serological identification and in some cases followed by subspecific characterization. This study aimed to develop a faster, powerful, more sensitive and reproducible diagnostic tool to monitor a specific pathogen contamination in drinking water by specific antibody-antigen interactions. Three pathogenic bacteria such as *Pseudomonas aeruginosa*, *Escherichia coli* and *Legionella* spp. were detected by immunofluorescence technique with fluorochrome tagged antibodies. Our results showed a good specificity of the antibodies in a very complex bacterial mixt as well as a starting detection level from 1 bacteria/ml. Overall, these techniques proved to be a reliable one, time-effective and sensitive for diagnosis and prevention of drinking water quality and waterborne bacterial disease.

**Biography**

Mihai Nita-Lazar has a wide expertise in the fields of Microbiology, Molecular Biology and Biochemistry mainly in prestigious laboratories such as the Institute of Microbiology, ETH, Zurich, Switzerland, Department of Biochemistry and Cellular Biology of Stony Brook University, New York, SUA, Department of Cellular and Molecular Biology of Medical University Center from Boston, Massachusetts, SUA and the Department of Microbiology, University of Medicine, Baltimore, Maryland, SUA. He is currently working as Principal Investigator of Bioassay-Biological Analysis Laboratory of the National R&D Institute for Industrial Ecology-ECOIND. He has published more than 40 ISI papers, four books/chapters, h-index 10.

mihai.nita@incdecoind.ro

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