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## **Biodetectors based on Advanced Microchips**

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Since November 2008, investigators from France, Russia and Belarus have cooperated in an effort to couple the emerging nanotechnologies with the protein microarrays and liquid phase NCs-encoded chips technologies through the application of highly-sensitive conjugates of highly luminescent semiconductor NCs with capture molecules as detecting probes. The goal is to develop a bio-detector system employing multi-color, multi-marker microbeads for biodetection using the flow cytometry set-up for single-bacteria and/or single-virus early detection. The developed innovative set-up will then be applied to early detection of bacteria stains that are slow growing (e.g., *Mycobacterium*), or highly infectious (e.g., *Bacillus anthracis*) and simultaneous detection of different bacterial and/or viral species in a single sample using the bacterial *Meningitis* infectious agents detection as a proof-of-the-principle multiplexed demonstration. In the following months, proof of the Concept demonstration of multiplexed bio-detection of at least three different bacterial species provoking bacterial Meningitis and two viruses provoking virus meningitis is expected. One of the end-users is "NanoScan Technologies Ltd." which is specialized in developing and manufacturing of micro-spectroscopy tools, developed the design of the special instrument for optimal excitation and readout of data from the microchips based on nanocrystals.

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