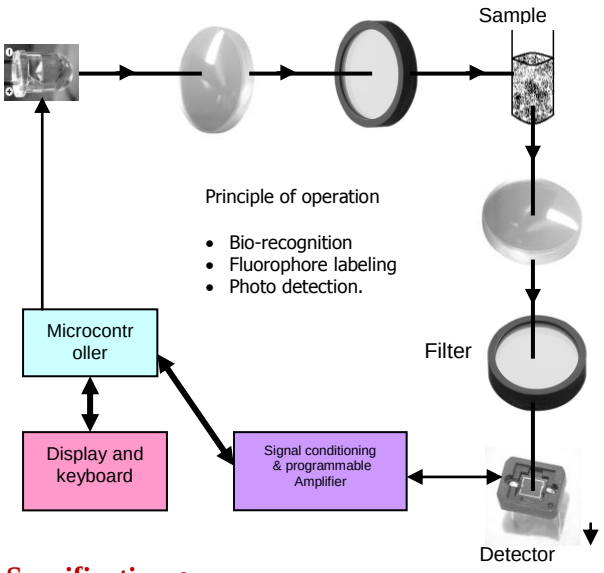
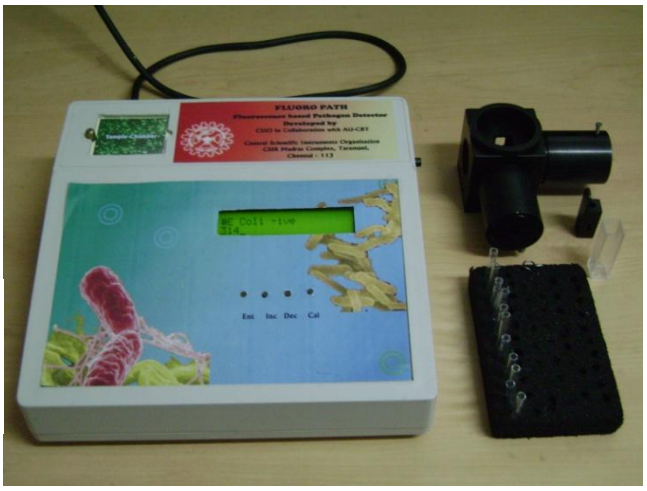
FLUROPATH - Fluorescence based Pathogen Detection

The predominant techniques currently used to identify microbial pathogens rely upon conventional clinical microbiology monitoring approaches, but are laborious, time-consuming and expensive. More importantly, the tests that are routinely utilized for pathogen identification do not directly characterize virulence factors.

Keeping this CSIO in collaboration with Anna University developed an instrument called ***FLOURPATH*** (Instrument using fluorescence based biosensor for detection of pathogen) which determines the presence of pathogens at a faster rate using the accurate analytical techniques. This may be useful for screening large numbers of environmental or clinical samples.





Specifications:

Sample volume	: Reconstituted sample volume 1-5ml
Raw sample volume	: 0.25 to 1.0 ml
Sensitivity range	: **10^4 to 10^6** cells/ml
Sample treatment	: 15 to 30 minutes
Sample treatment after growth	: 3 to 6 hours
Fluorescence detection time	: < 1 minute
Power consumption	: Suitable for battery operation

Applications

- Though only Enterotoxigenic E.coli, Shigella spp. and Salmonella typhi have been chosen for demonstration, the design is versatile.
- By changing the antibody coating of the disposable biosensor sample one can identify any pathogen.
- Use of limited number of fluorophores and availability of indigenous know-how on instrument development has drastically cut-down the cost of instrumentation.

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