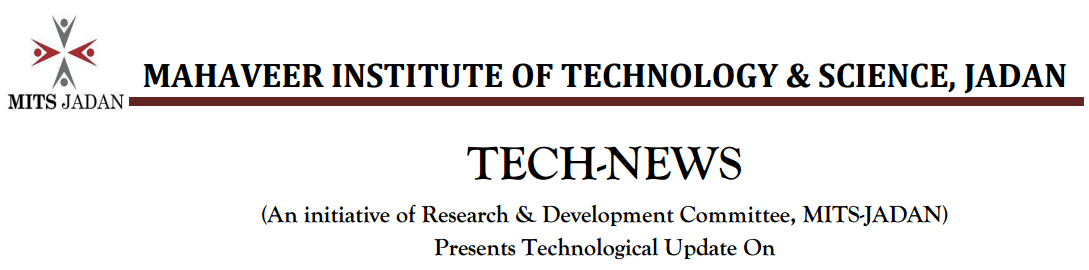
**Microbial desalination cell technology**

By

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**Introduction:**

The microbial desalination cell (MDC) is a newly-developed technology which integrates the microbial fuel cell (MFC) process and electrodialysis for wastewater treatment, water desalination and production of renewable energy. Due to free energy requirements and environmentally friendly technologies, MDC recently received considerable attention for desalination and wastewater treatment.

**Keywords:** Desalination; Wastewater; Microbial desalination cell

Fig. 5. Biocathode microbial desalination cell [28]. 
                

**Schematic representation of microbial desalination process**

**Highlights for R & D aspects:**

1. *The issues of scale-up and practical limitations of MDCs are also need to be addressed.*
2. *Alternate designs for wastewater treatment plants with MDCs are required to be evaluated.*
3. *Main challenges for using MDC in seawater desalination will discussed for R & D.*
4. *Current challenges in MDC scale-up will be examined and presented.*