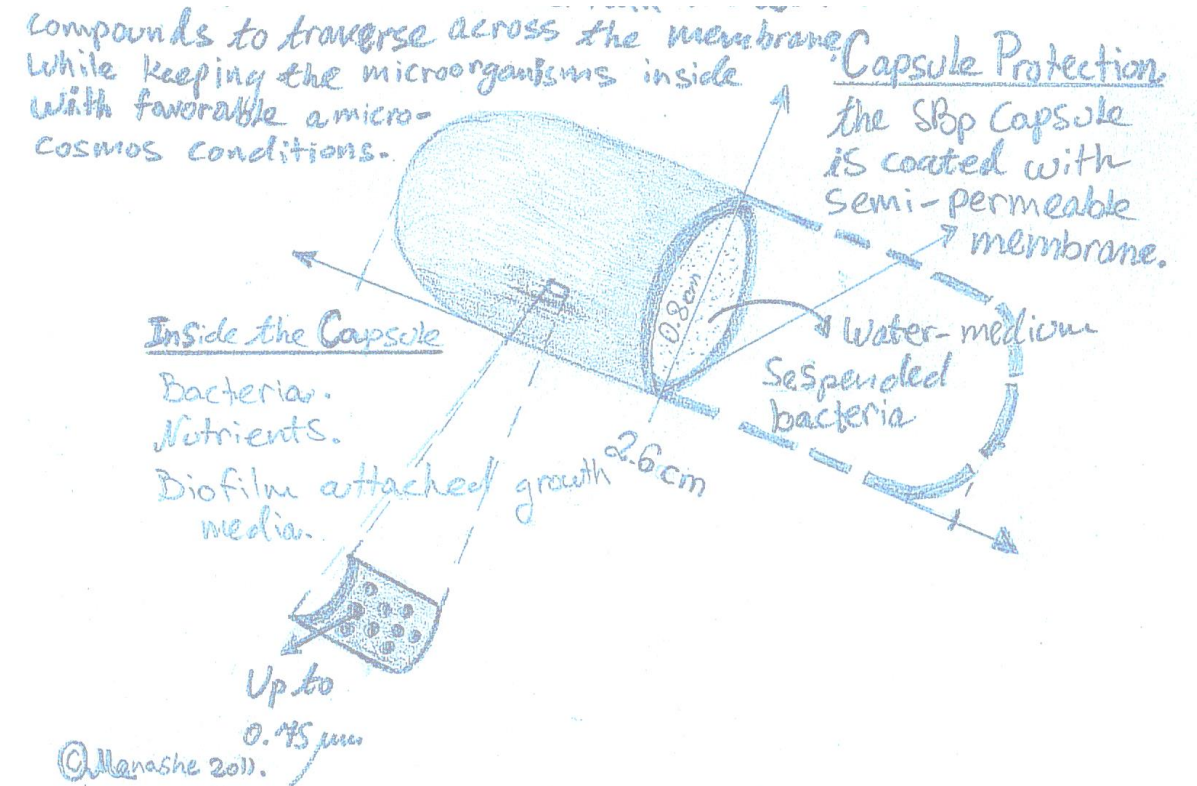


BioCastle Introduction

It is well known that treating water requires moving all the water through a treatment media.

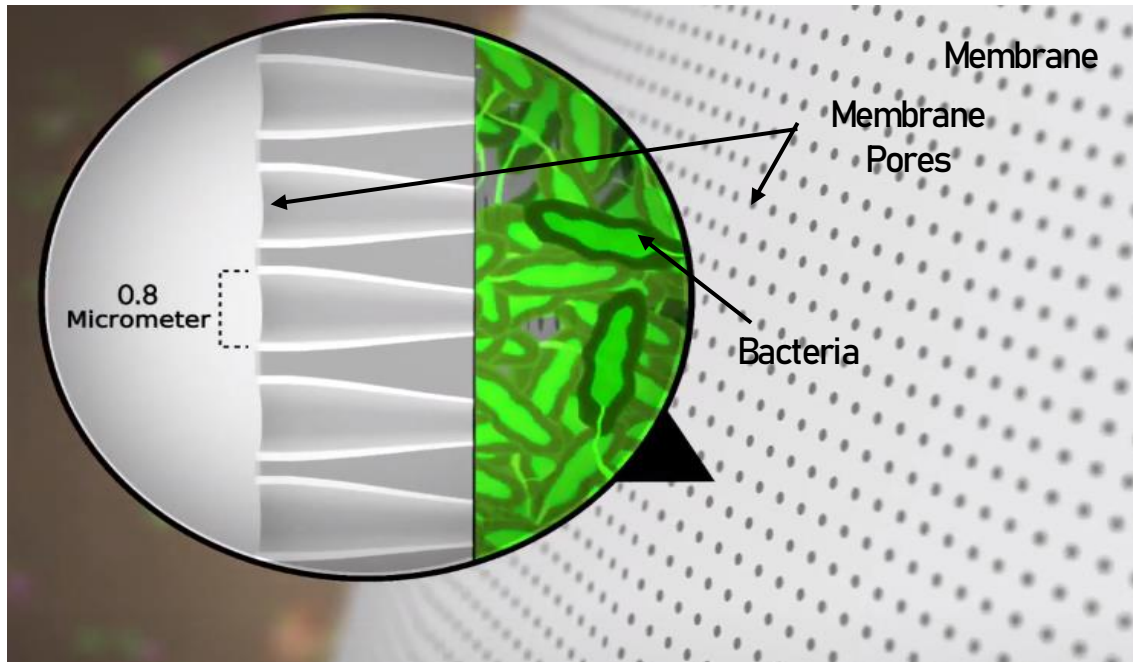
Biocastle is able to transport only the **CONTAMINANTS** within the water.

Now... think about the impact this has on water engineering

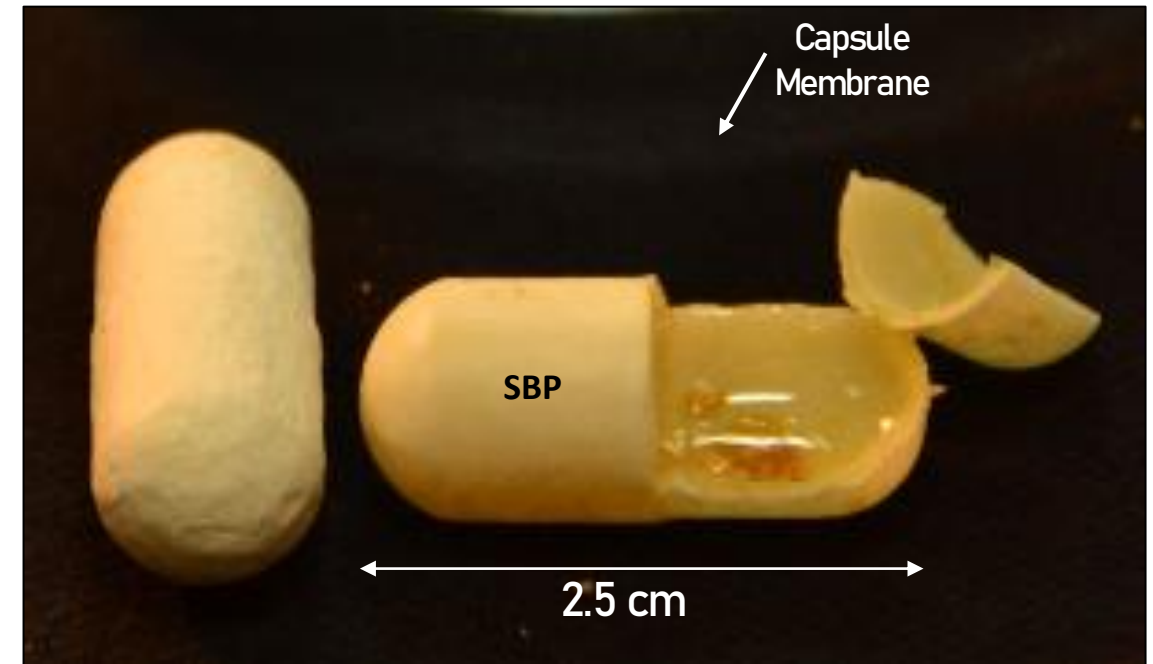


SBP Capsule (Structure)

- **Technology Category:**
Macro encapsulation of confined
suspended culture

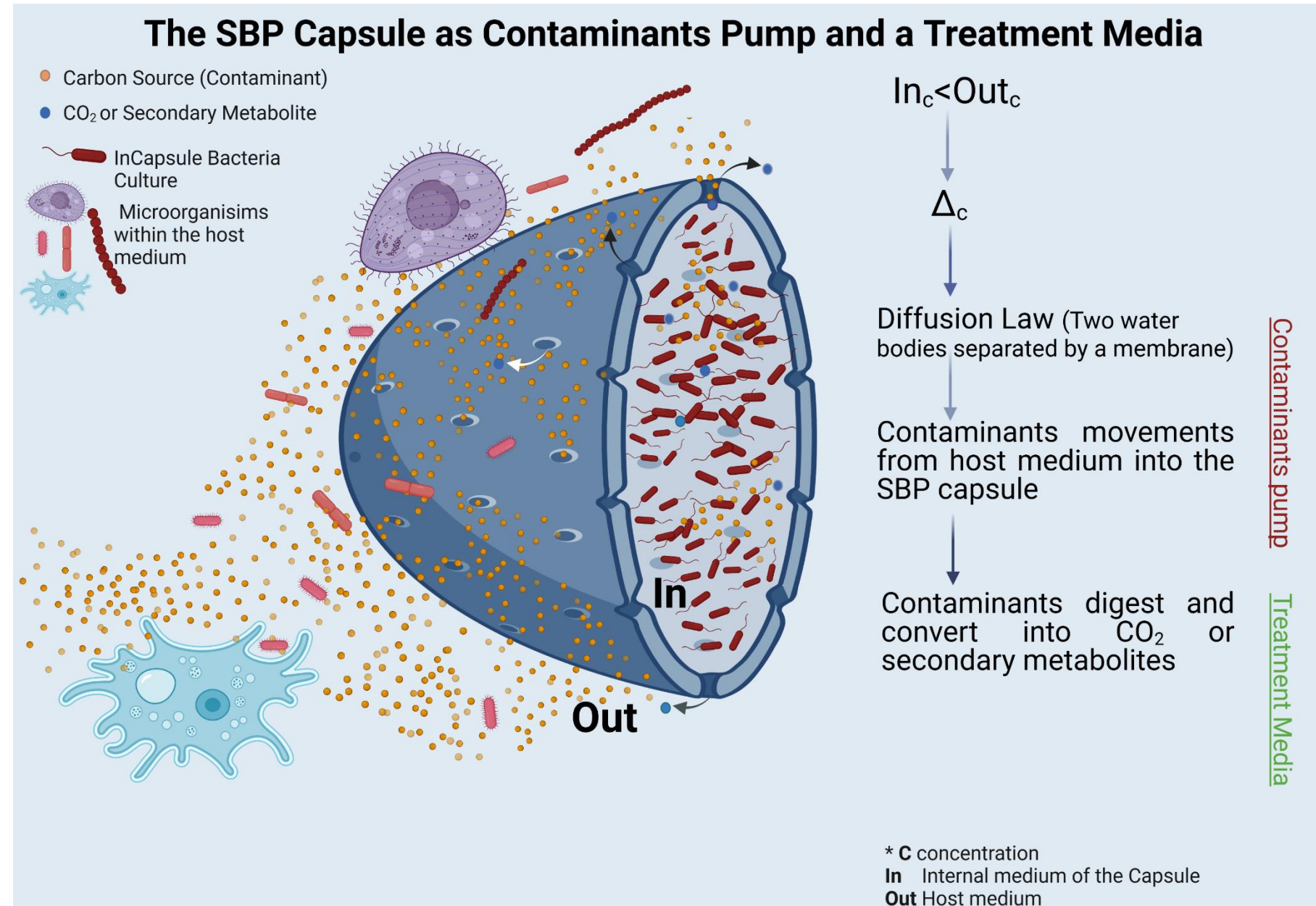


- The SBP capsule is coated with a
structural microfiltration membrane
(0.2 μ m pores)



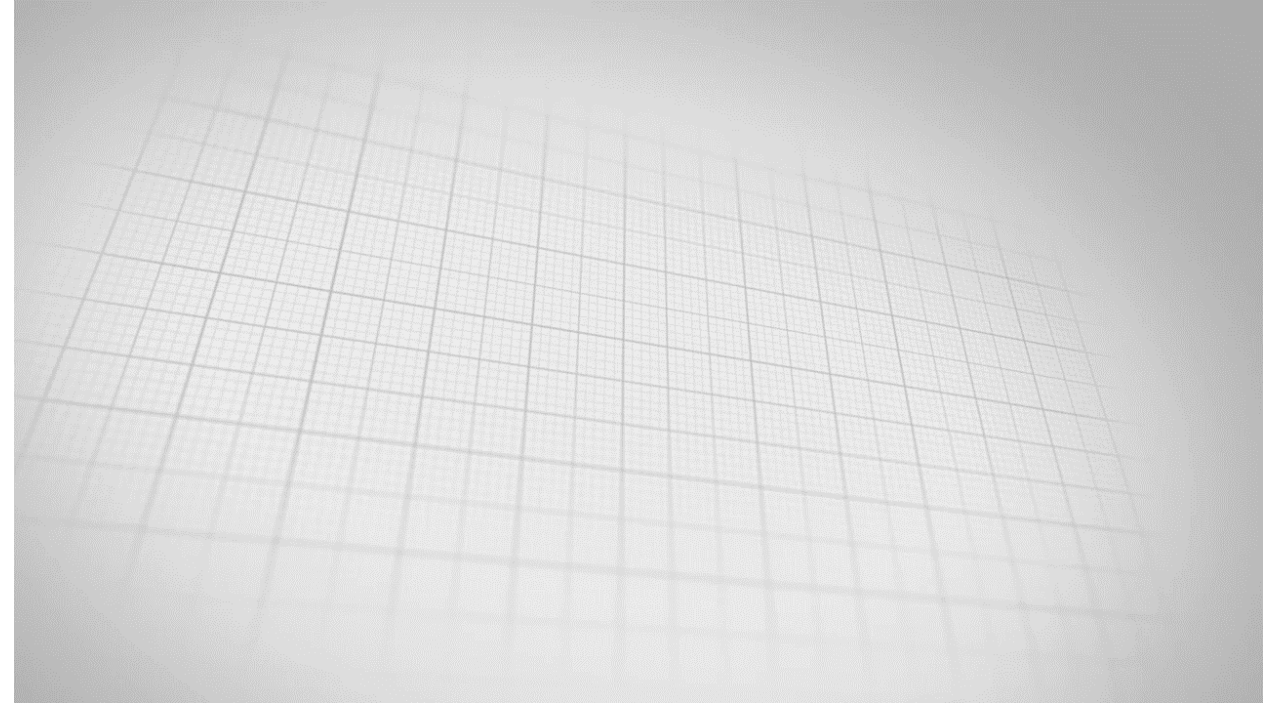
How does the SBP capsule move the contaminants?

- In the water there are actually 2 water bodies: one inside the capsule and one is the hosting water body
- The water bodies are separated by the capsule's microfiltration membrane
- Once the bacteria in the capsule consume the contaminant, the concentration in the capsule is reduced
- The water bodies now have different concentrations which create the movement of contaminants from the host water body into the capsule



Value Proposition

- Reduce infrastructure - up to 70% in industrial applications.
- Get 15% more out of your sanitary facility
- Reduce energy costs – no need to move the water
- Reduce manpower - autonomic treatment
- Reduce chemicals
- Reduce GHG
- Reduce land and industrial usage
- 100% Sustainable



Watch Short Video (1 minute)



Capsules
are added
periodically

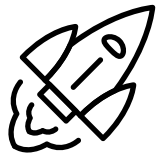
3 Introduction
devices

Inside the
perforated cage

Using perforated
cages for capsules
implementation



SBP TECHNOLOGY IMPLEMENTATION



Implementation

Sanitary Wastewater Treatment

Nir Etzion DWWTP (A2O)
Q=5000 cubic meters per a day



K'far Tabor DWWTP (AS)
Q=500 cubic meters per a day



Ha-Solelim DWWTP (MBR)
Q=2400 cubic meters per a day



Industrial Wastewater Treatment

Food & Beverage waste treatment
Q=200 cubic meters per a day



Vegetable oil waste treatment
Q=80 cubic meters per 5 days



Winery wastewater treatment
Q=150 cubic meters per a year



Achievements

Clients



Patents and articles



2 Patents
Granted

1 Patent
Pending

20 Peer
Reviewed
Articles

Academic partners



Daughter companies





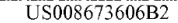
US Patent No. US 8,673,606 B2, Europe Patent No. EP 2421544 (*Germany, France, U.K, Nederland, Ireland and Switzerland*), Australia Patent No. 2010240486, and Israel Patent No. 213072.

Methods and Systems for Treating Liquides Including Contaminant Molecules

National Phase (US) Allowance (EU)

Small Bioreactor Platform (SBP) Technology as Microbial Electrochemical Systems

National Phase (US and EP).



(10) **Patent No.:** **US 8,673,606 B2**
(45) **Date of Patent:** **Mar. 18, 2014**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 105 days.

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(86) PCT No.: **PCT/IL2010/000256**

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