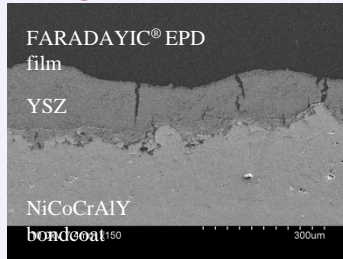


The Need
 Robust, low cost process for the **concentration** and flotation of bioalgae for biofuel.

The Challenge
 Application of **FARADAYIC[®] Electro-Phoretic Processes** (pulse/ pulse reverse) based on prior/current activities directed towards thermal barrier coatings and CNT interconnects.

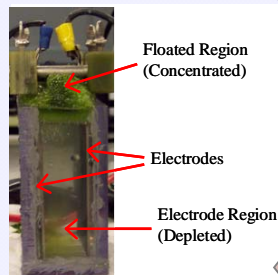
The Background

Faraday has developed its electrophoretic process, in partnership with the DOE and EMTEC, for the deposition of YSZ for use as thermal barrier coatings in gas turbine engines.



Benefit

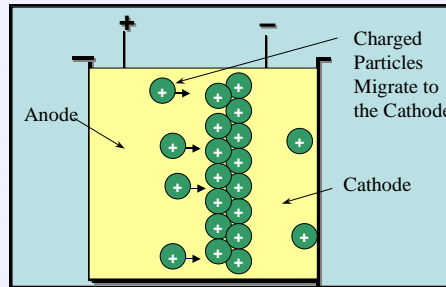
The resulting innovation will enable an enhanced separation process by developing an improved pre-concentration step that will feed into the Algae VS HDD Harvester



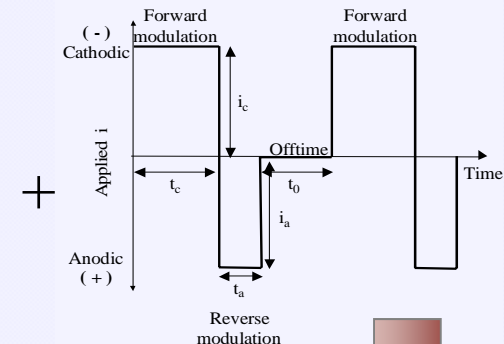
Power Consumption: 0.8 Wh/L (not optimized)
Economics: Processing will cost \$42/barrel (not optimized)

The Process

Conventional EPP



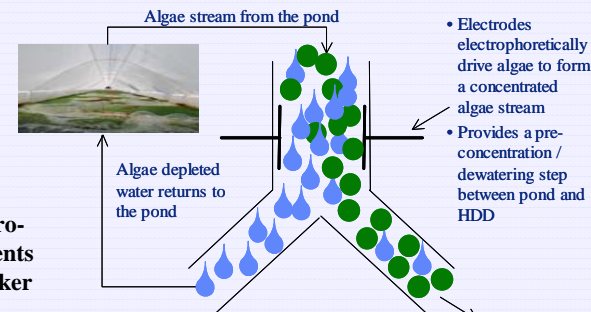
Pulsed Waveform



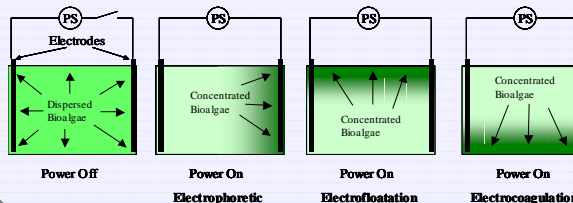
The Idea

• **The FARADAYIC[®] EPP process** has been shown to decrease hydrolysis and improve the ability to control the electric field when compared to conventional EPD

Schematic of how Faraday's ElectroConcentration Process works in conjunction with AVS's HDD Harvester



Schematic of 3 paths to electro-concentration. Green represents algae concentration with darker meaning more algae.



Concentrated algae stream feeds HDD or other dewatering technology.

