

CARNEGIE MELLON UNIVERSITY



IGEM 2017

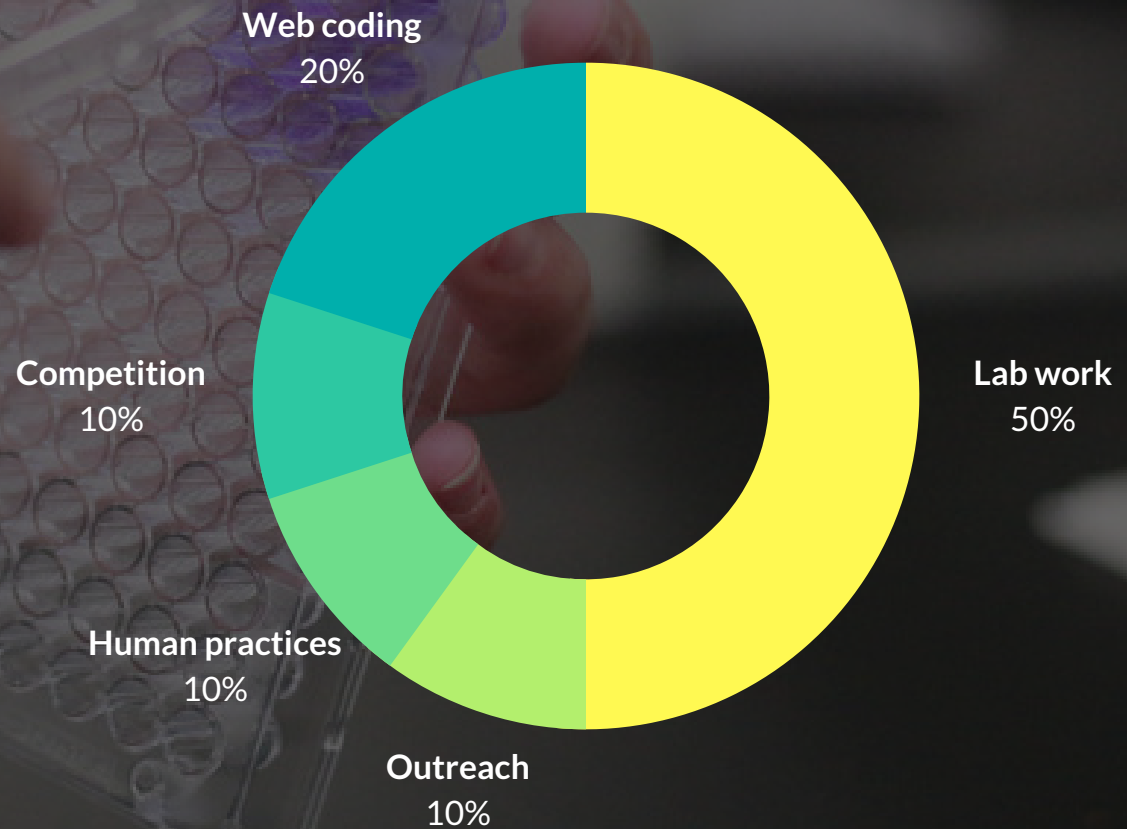
WHAT IS IGEM?

International

Genetically

Engineered

Machines



SPONSOR

Carnegie Mellon University | Qatar

PARTNERS

Green Mangroves

Occidental Petroleum

iGEM Pitt

IDT

Benchling

جامعة كارنيجي ميلون في قطر
Carnegie Mellon University Qatar



GENETIC ENGINEERING

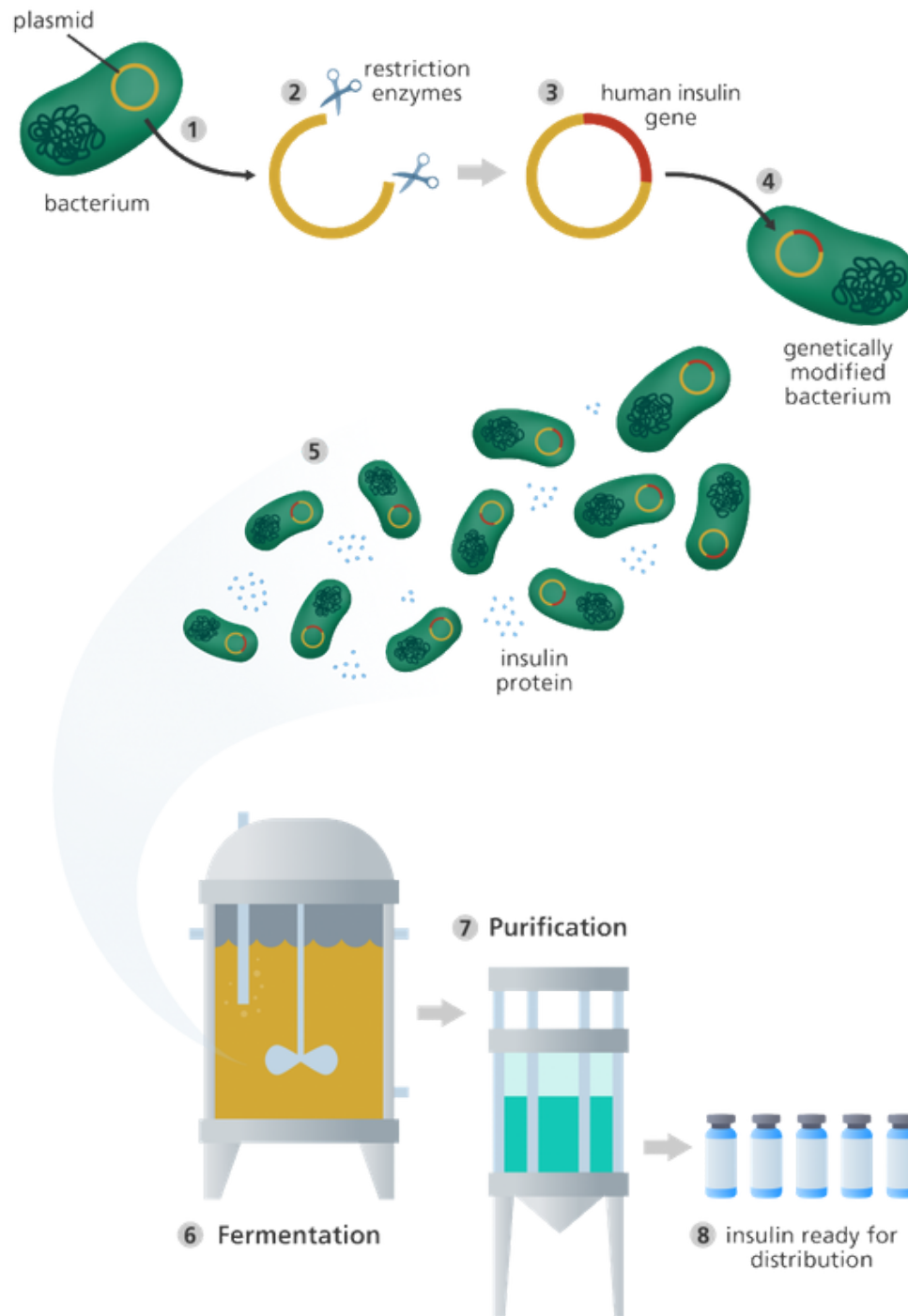
Plasmid (vector)

Bacteria (host)

DNA of interest

Restriction Enzymes







JENGA TIME !

PICK A REPRESENTATIVE FROM YOUR GROUP

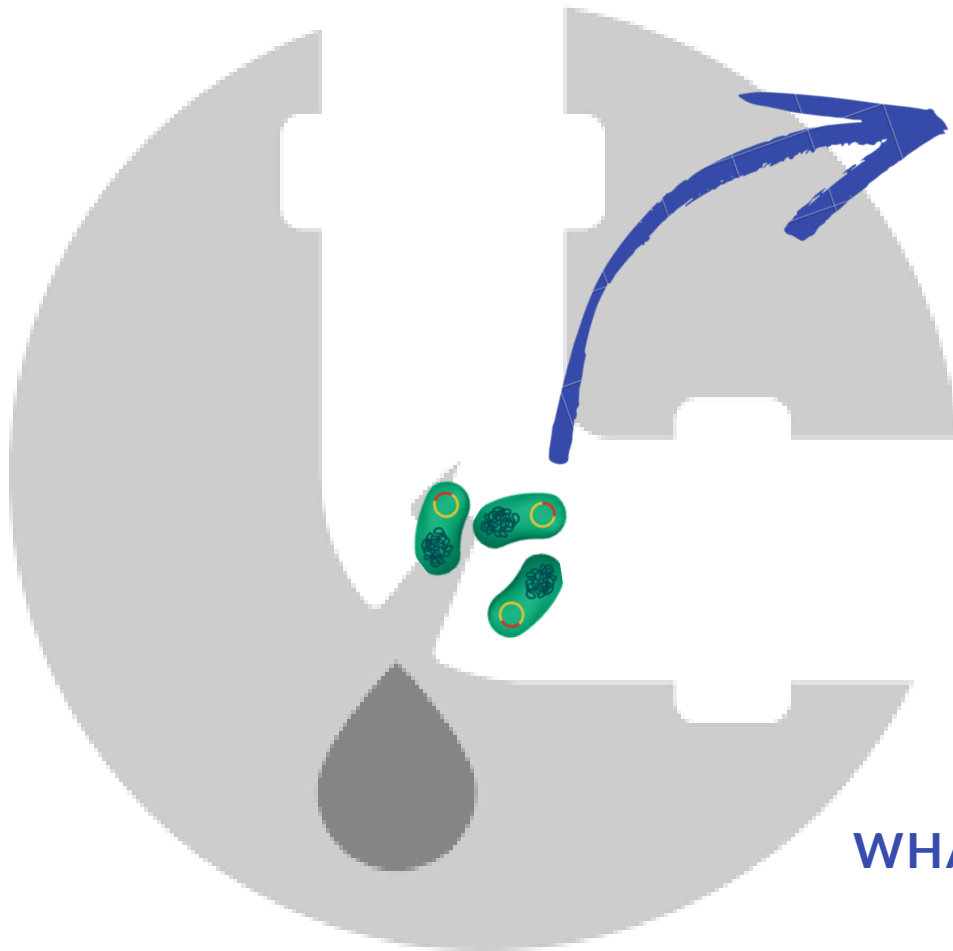
WHAT WE WANT TO SOLVE

ENVIRONMENTAL APPROACH



PROBLEM

IN OIL PIPELINES



SRB (SULFATE REDUCING BACTERIA



BIOFILM FORMATION



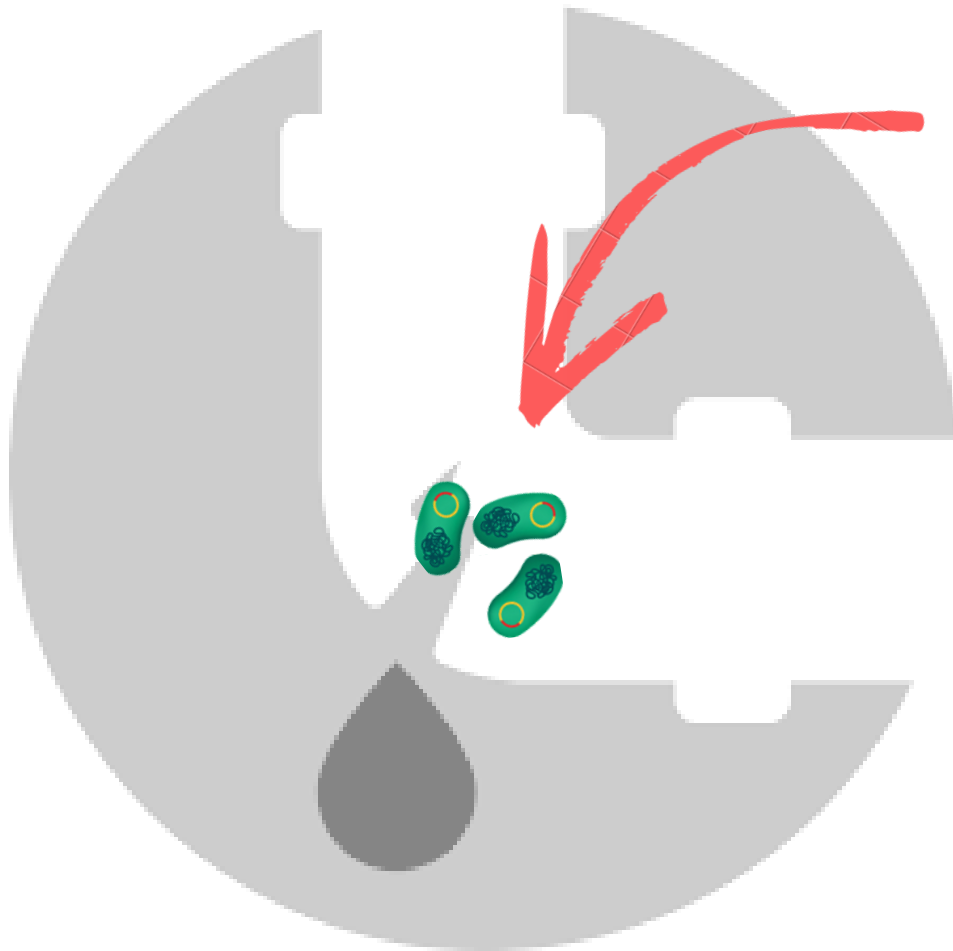
CORROSION IN THE PIPELINE



WHAT HAPPENS WHEN THE PIPE CORRODES ?

PROBLEM

CONTINUED



PUMP BIOCIDES (CHEMICALS TO KILL BACTERIA)



THIS GETS RELEASED IN THE OCEAN



AFFECTS MARINE LIFE

**HOW WOULD YOU SOLVE
THIS PROBLEM?**

WHAT IS HAPPENING IN DETAIL:

- **BIOCIDES: PREVENTIVE METHOD**
- **NACE TEST: 1-2 WEEKS TO QUANTIFY SRB**
- **WE WANT ANOTHER TEST**

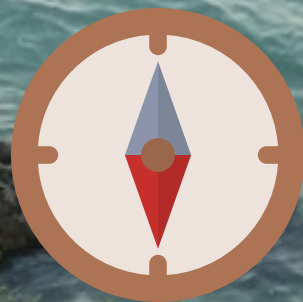
OUR SOLUTION

- PRO-U OSMOLARITY SENSOR

- DISPERSIN B

WINNER OF BRAINSTORMING ACTIVITY....

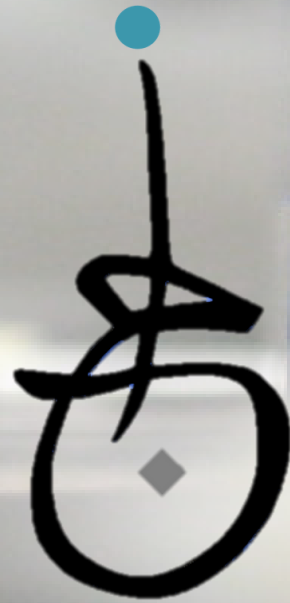




GUESS THE LOCATION...



**WHAT DO YOU THINK OUR
LOGO STANDS FOR?**



A close-up photograph of a scientist in a white lab coat and blue nitrile gloves using a pipette. The scientist is focused on the task, with the pipette tip positioned over a small vial. The background is a blurred laboratory environment with various pieces of equipment and another person in a blue lab coat. The text "THANK YOU FOR YOUR ATTENTION!" is overlaid in white, bold, sans-serif font across the center of the image.

**THANK YOU FOR YOUR
ATTENTION!**