



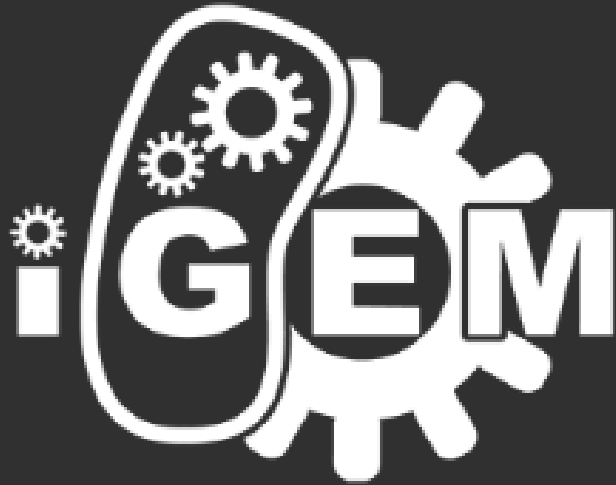
EA



CLICK HERE TO START THE TOUR



# The International Genetically Engineered Machine



Biggest Synthetic biology competition across the globe

# Synthetic Biology

Putting the engineering back into genetic engineering

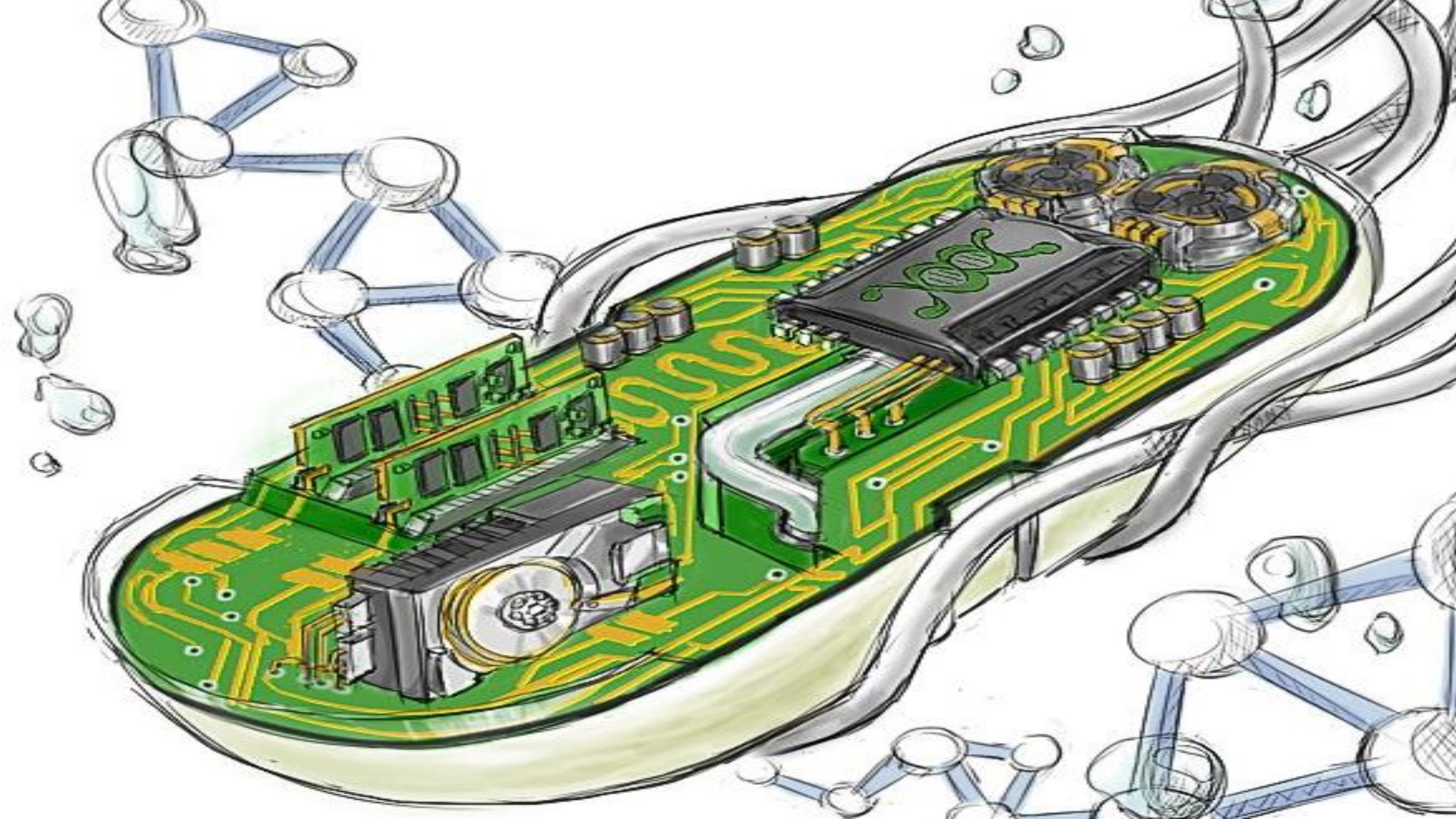
# What-Syn-a-Name?

“an emerging discipline that uses engineering principles to design and assemble biological components”

Systems Biology

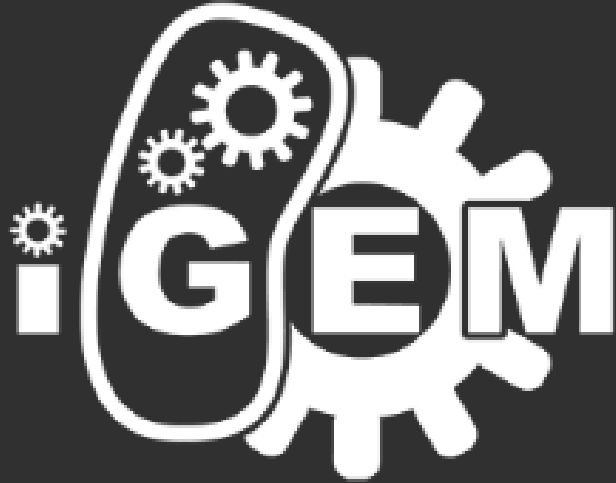
Synthetic Biology

International Genetically Engineered Machine





# The International Genetically Engineered Machine



# The Giant Jamboree

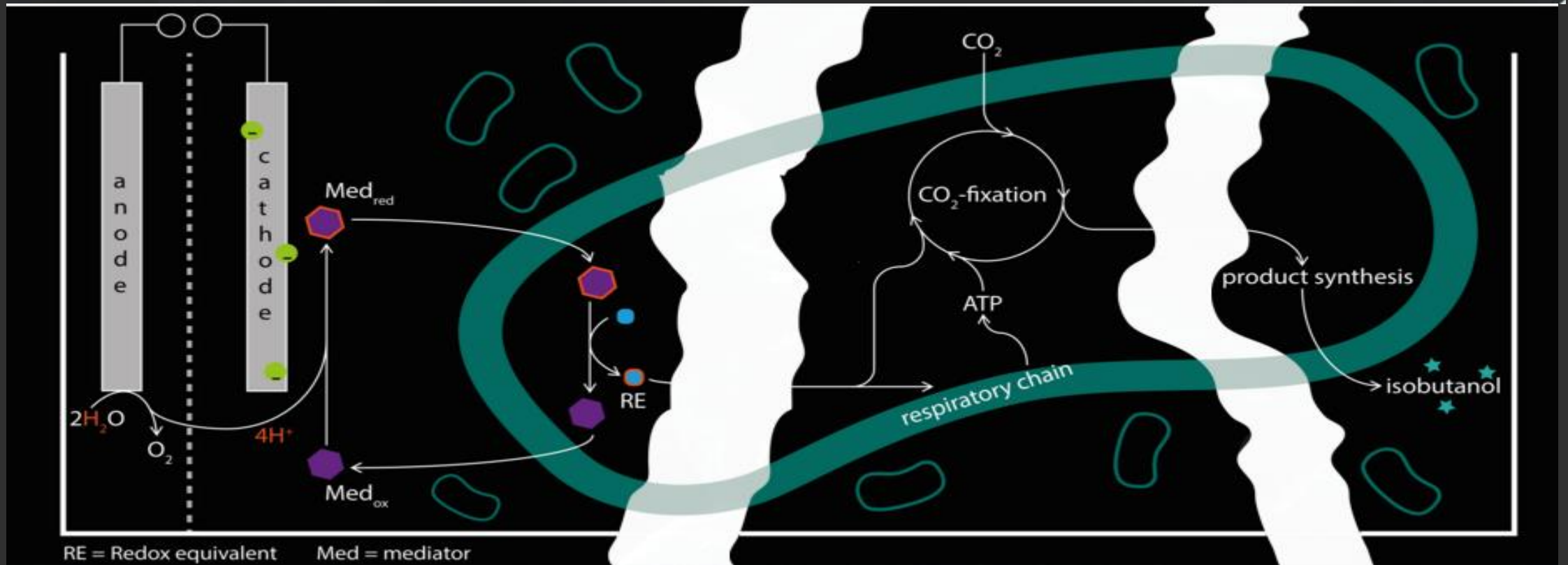




# Bielefeld- iGEM 2014



## THE TRANSFORMERS FROM CARBON DIOXIDE TO BIOFUEL



# BGU Israel- iGEM 2015



- Engineering a genetic device based on a simple concept of AND logic gate
- Using CRISPR/Cas9-based system - dependent on the existence of two cancer-specific promoters that control the expression of Cas9 and gRNA

# Valencia Spain- iGEM 2013

## WORMBOYS

### HOW DOES IT WORK?

*P. putida*



*C. elegans*



#### THE RIDING

Pseudomonas make a biofilm on the worm



#### THE CALLING

The nematode is attracted towards substrate-rich hotspots



*E. coli*

#### THE CLUMPING

RNAi from ingested *E. coli* triggers nematode altered behavior in the form of clumping



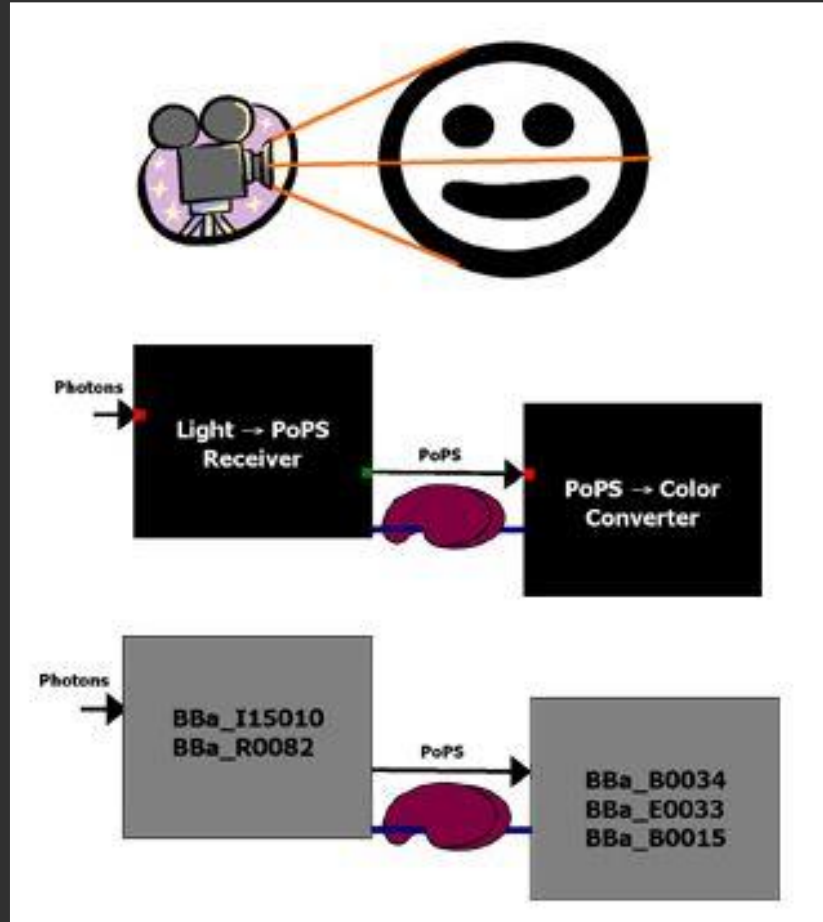
#### BUILDING THE BIOPLASTIC (PHA)

As a result, *Pseudomonas* concentrate in the desired substrate-rich hotspot and do their work



# UT Austin- iGEM 2004

## Bacterial Camera

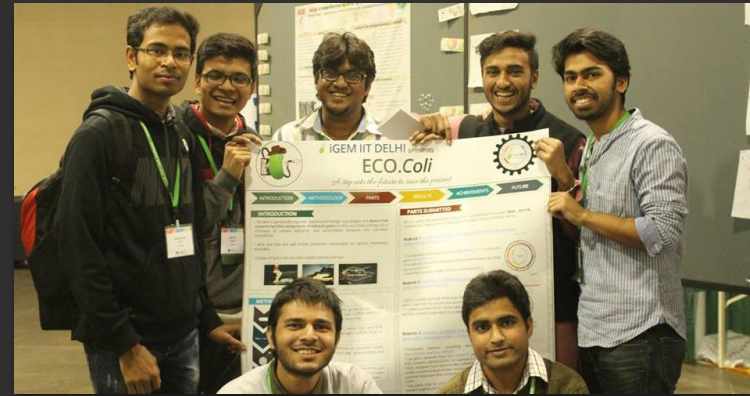


Escherichia Ellington, an example of bacterial portraiture. The left panel shows the projected image of Dr. Andrew Ellington and the right panel shows the resulting image recorded on the lawn of bacteria.

# iGEM IIT Delhi



iGEM 2013



iGEM 2014



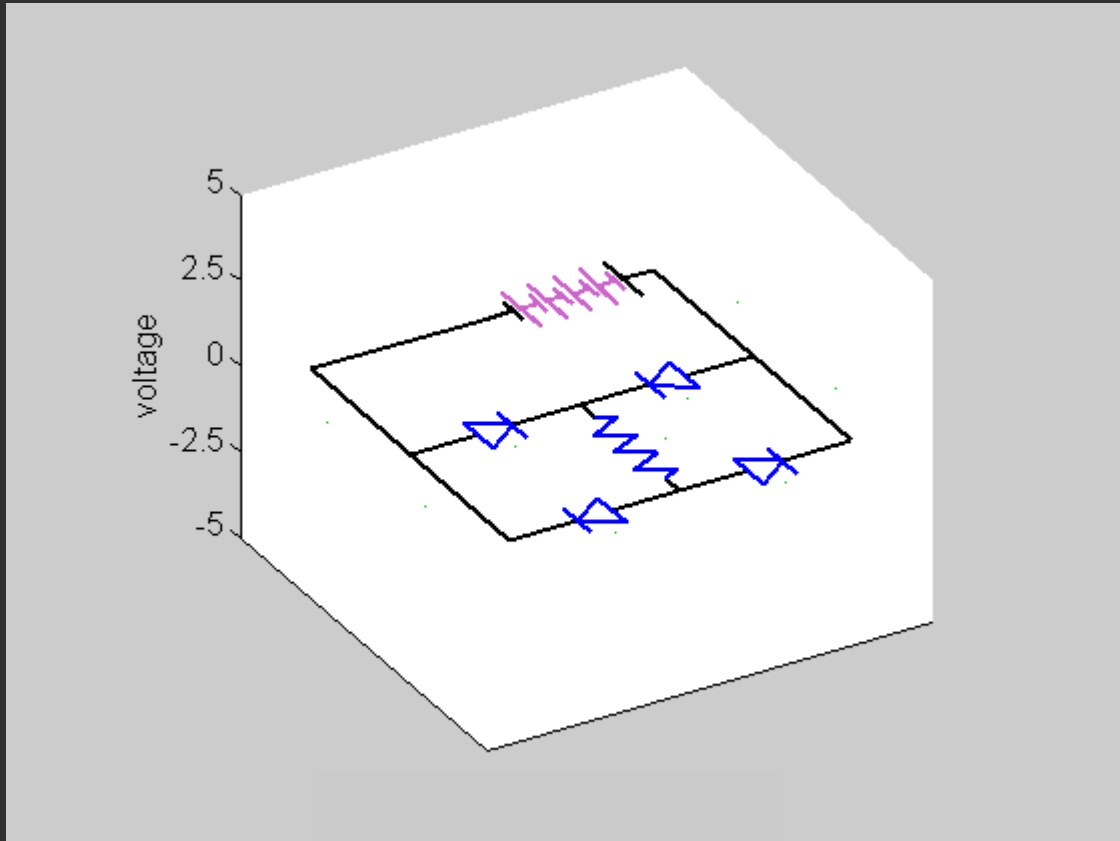
iGEM 2015



iGEM 2016

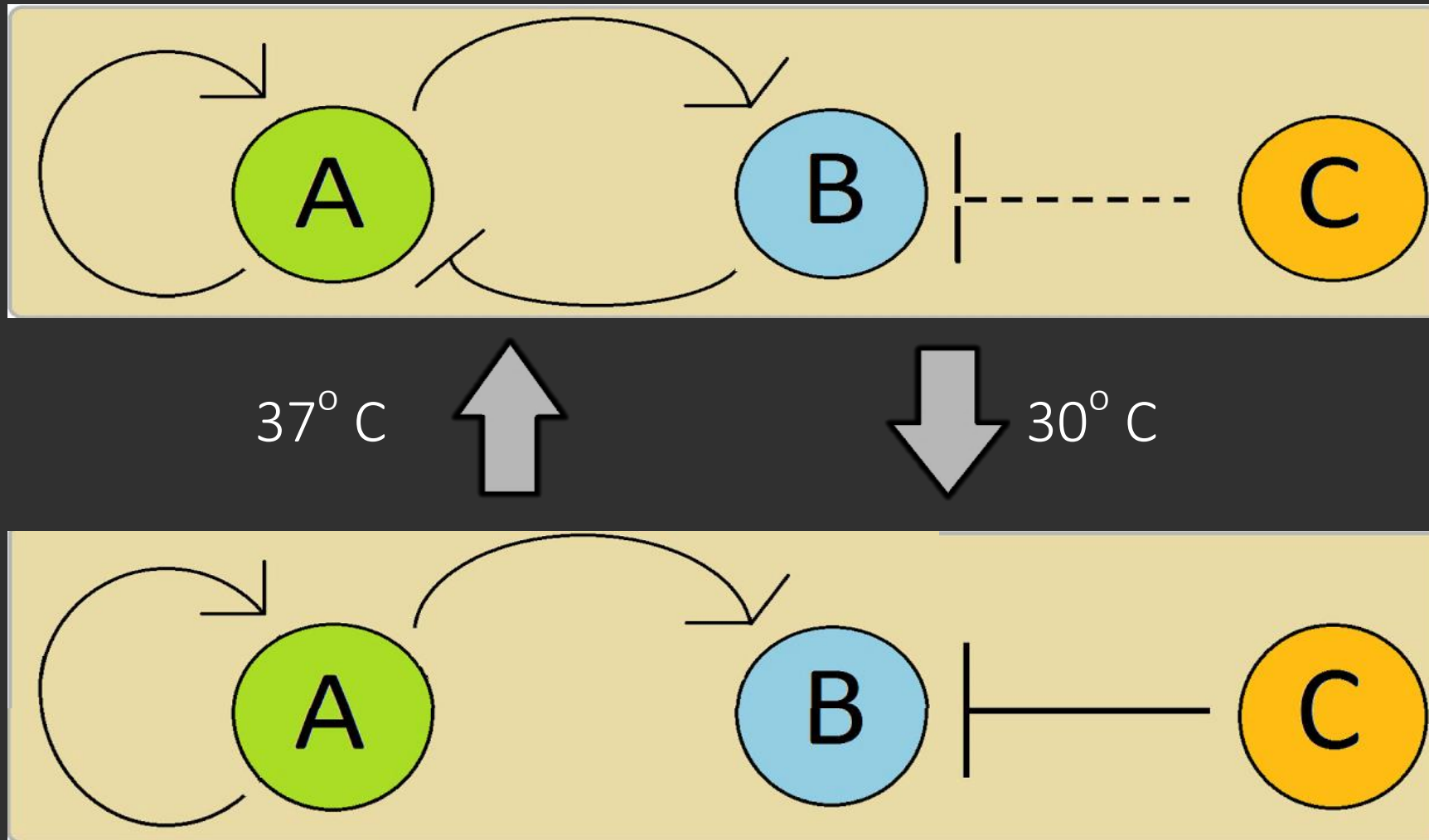


# Our Idea



One chip to control  
them all...

# iDanino – How does it Work?



# Why IISER Mohali should form iGEM Team ?



- Synthetic Biology is the next revolution
- Front Runner of syn bio in india
- Immense Creativity and freedom to work on your own ideas.



## India's budget windfall for biotech entrepreneurs

**Killugudi Jayaraman**

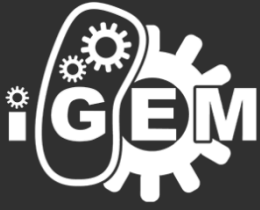
*Nature Biotechnology* **34**, 367 (2016) | doi:10.1038/nbt0416-367

Published online 07 April 2016

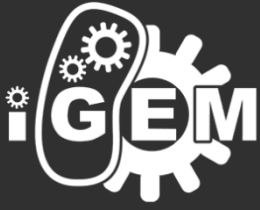
In the 2016–17 budget announced February 29, the Department of Biotechnology (DBT) took the lion's share of the spoils with a 12% increase over the last year, whereas most science agencies received just enough to cover costs from rising inflation (currently at 5%). The overall Rs.1...

allocation. The Department of Biotechnology (DBT), meanwhile, received 18.2 billion rupees, a 12% rise on the previous year — an indication of how the National Biotechnology Development Strategy, which the department unveiled last December, is likely to evolve.

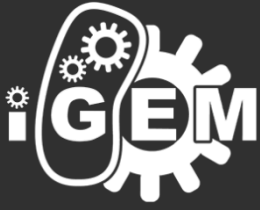
# Brainstorming Sessions



# Team Meetings



# Events



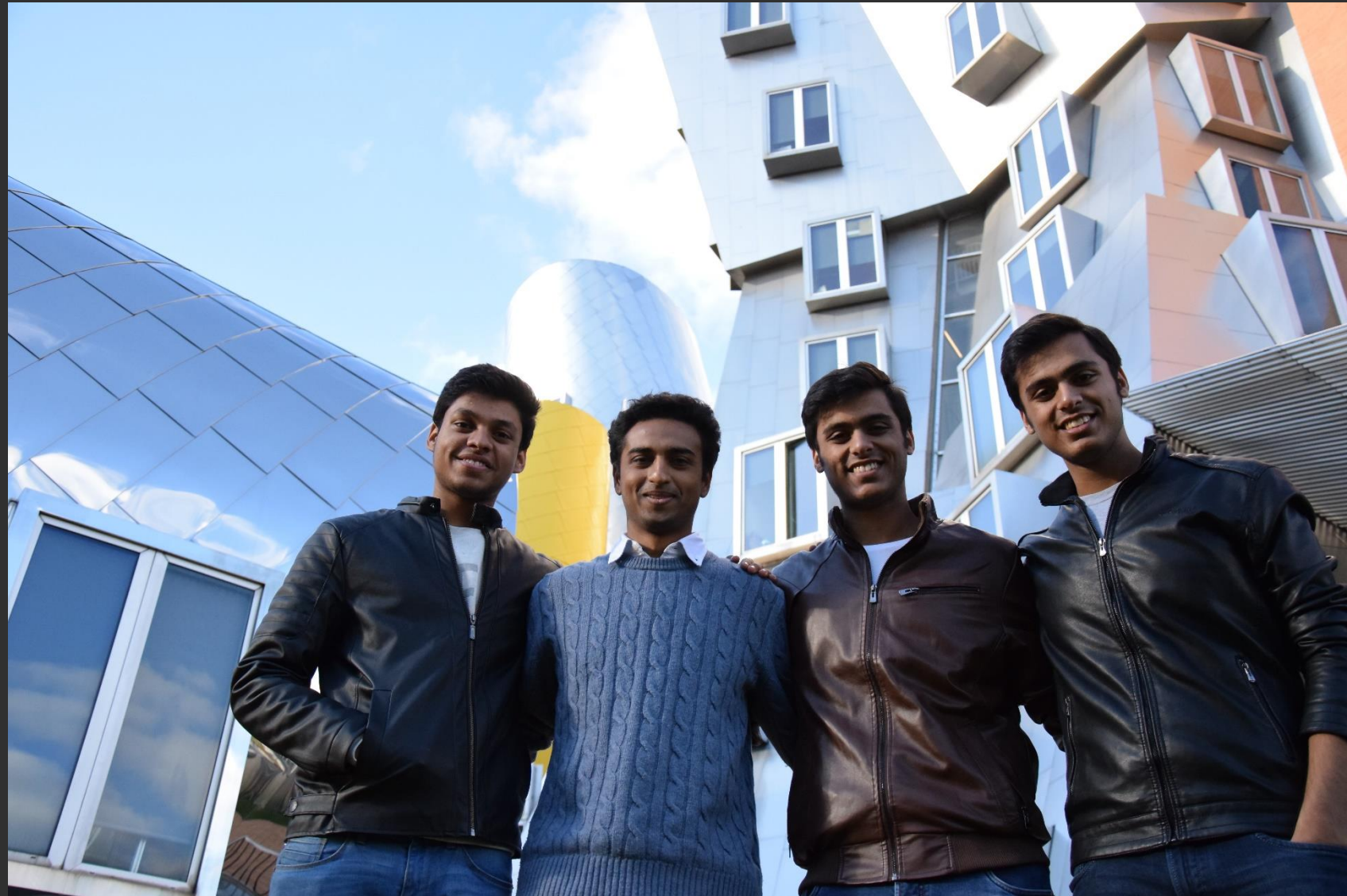
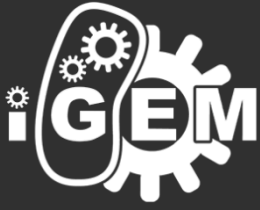
# Whole iGEM Community is waiting

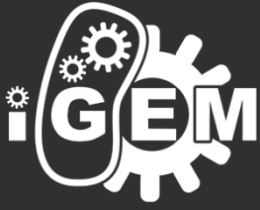


- IIT's and IISc Bangalore in india
- Collaborations with international universities



# Visit to MIT and Harvard





# Starting the team

# iGEM Team Requirements



**Creative and Web Development**



**Lab and Research**



**Marketing**



**Mathematical Modelling**



**Prototype**



**Public Relationship**



# INDIAN BIOLOGICAL ENGINEERING COMPETITION



सत्यमेव जयते

Department  
of Biotechnology  
Govt. of India

iBEC

2016



Thank you