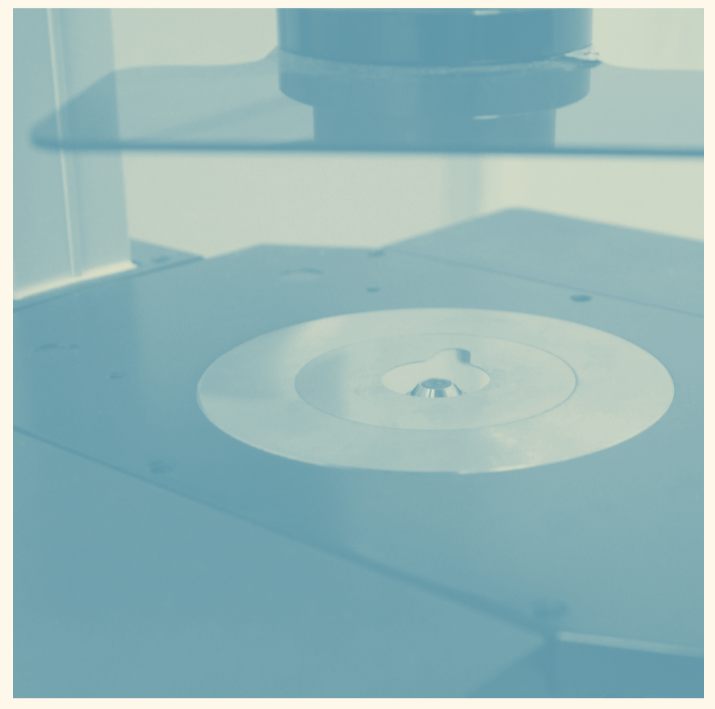
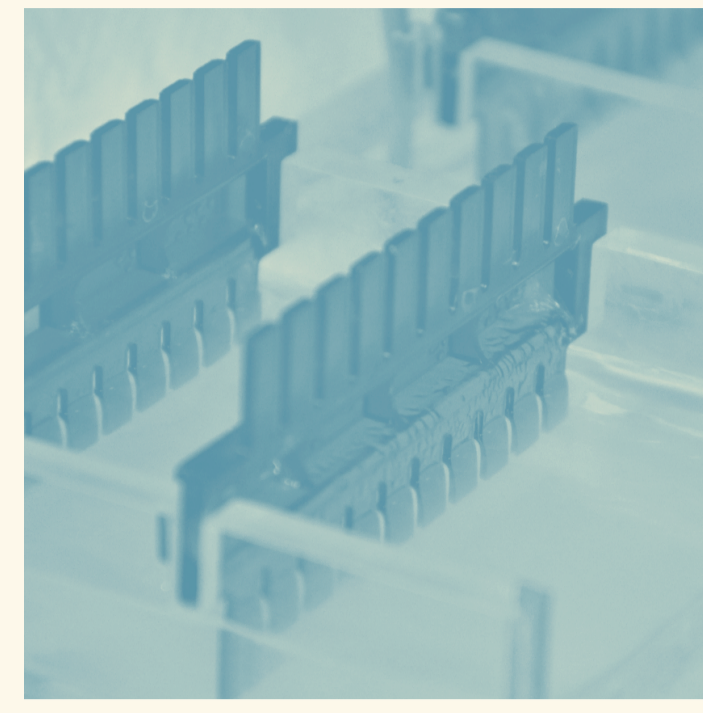


CELL

LEGO



LOGIC



BIO - ART DISPLAY

September.25th p.m.

光华楼东辅楼东侧空地

FUDAN IGEM



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合成生物学家都在干什么？
你能想象用细胞完成一次阿波罗登月吗？

What are the synthetic biologists doing?
Can you imagine using the cell to complete an Apollo moon landing?

SYNTHETIC BIOLOGY

合成生物学

合成生物学的一个分支使用当前已知的基因元件来进行不同形式组合，以达到期望的效果。在这一点上合成生物学与乐高玩具的理念不谋而和，这也是我们将LEGO加入到我们展览名称的原因之一。

作为21世纪生物学领域新兴的一门学科，合成生物学是集生物学、信息学、数学、计算机和工程学等多学科交叉的产物。发展迄今，已在生物能源、生物材料、医疗技术以及探索生命规律等诸多领域取得了令人瞩目的成就。

虽然合成生物学具有诸多好处，却也同时带来了一些安全风险和伦理问题。和世界上的任何工具一样，合成生物学也是一把双刃剑，不合理的使用会带来严重的后果。我们也想通过这次活动征集你们对于合成生物学的看法。

One branch of synthetic biology combines currently known genetic elements in multiple ways to achieve the desired effect. This concept of synthetic biology and Lego toys coincides with each other, which is one of the reasons why we added LEGO to the name of our exhibition.

As an emerging field of biology in the 21st century, synthetic biology is a cross-disciplinary product of biology, informatics, mathematics, computer, and engineering. So far, it has made remarkable achievements in many fields including bioenergy, biomaterial, medical technology and exploring the laws of life.

Although synthetic biology propose many benefits, it also brings forward security risks and ethical issues. As with any tool in the world, synthetic biology is a double-edged sword, and its uncontrolled use can have serious consequences. We also want to collect your views on synthetic biology through this event.

OUR PROJECT

项目介绍

阿兰·图灵，被认为是数字计算之父，他发现所有的计算问题都可以分解为一种非常简单的逻辑语言，这种语言就是二进制语言。在二进制语言中，只有0和1两种数字。而正是这种基本语言，实现了当今计算机复杂的计算。

我们的ENABLE项目致力于将这种基本语言引入生物学领域，给予单个细胞计算的能力，希望它们能够实现癌症治疗，生物计算机，人造器官等应用。

Alan Turing, considered the father of digital computing, found that all computational problems can be broken down into simple logical language—binary language. In binary language, there are only two numbers, 0 and 1. It is this basic language that implements the complex calculations done by today's computers.

Our ENABLE project is dedicated to bringing this basic language into the field of biology, giving individual cells the ability to calculate, in hope of achieving cancer treatment, biological computer, artificial organ and other applications.

OUR LAB

实验室

生物学是研究生命和生物有机体的自然科学，包括物理结构，化学过程，分子相互作用，生理机制，发育和进化。

不同的生物实验室从事的研究工作都不相同，内容囊括了结构生物学，生理学，系统进化等多个领域。虽然领域差之甚远，但是生物实验室中一些基本的实验工作却是相似的。生物实验室中最常见的操作有琼脂糖凝胶电泳、细菌培养、分子克隆等等。

Biology is the natural science that studies life and living organisms, including their physical structure, chemical process, molecular interaction, physiological mechanism, development and evolution.

Different biological laboratories are engaged in different research fields, such as structural biology, physiology, and system evolution. Although the fields are far from the same, some basical experimental work in biological laboratories is similar. The most common operations in biological laboratories are Agarose Gel Electrophoresis, bacterial culture, molecular cloning and so on.