UNIVERSITY OF ALBERTA

Synthetic biology projects like the 2009 U of A iGEM project are rapidly changing the future of science and engineering. It's your society and maybe could be your career – do you think we should be investing in synthetic biology?

Keep reading to discover what its all about!

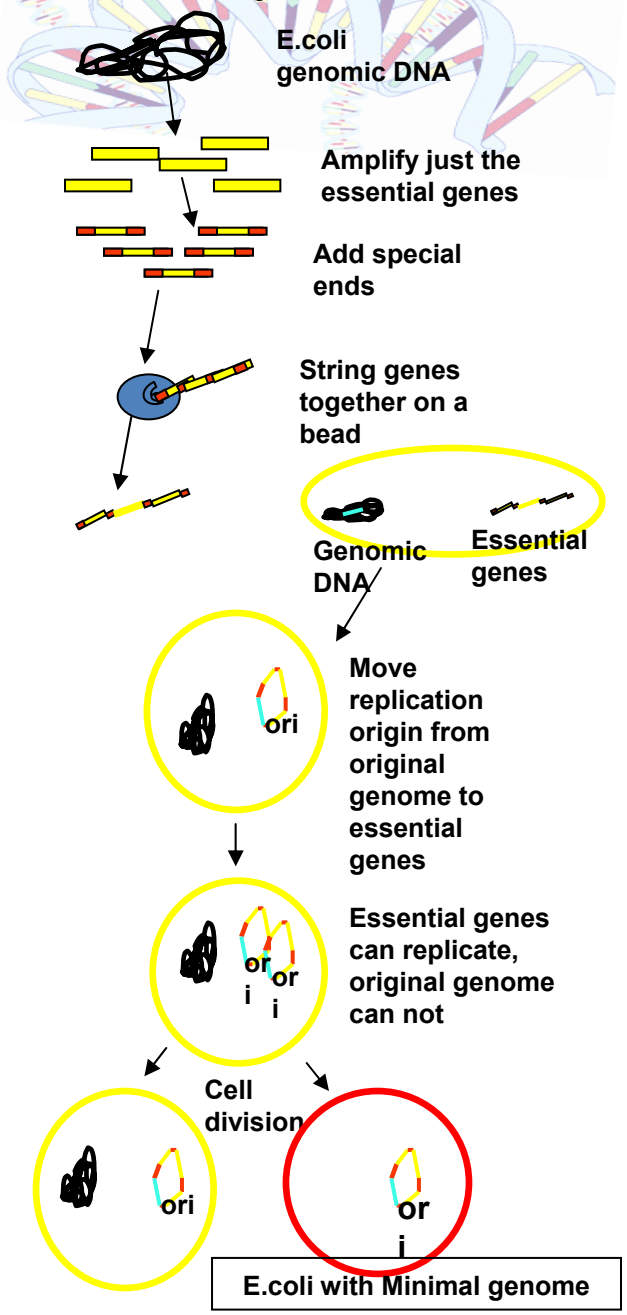
So what's Project REcoli?

Proteins are molecular machines inside a cell. A gene is a sequence of DNA that instructs how to make a protein. All the genes in an organism make up its genome. However, only some genes encode information essential for life. We're creating E.coli that only possesses genes we think are essential, thus testing the requirements for life. We'll be reducing the genome to about 10% of its original size.

To build the minimal genome, we're developing a new means of assembling multiple DNA pieces quickly and reliably. Our easily assemblable parts will be compiled into a kit to help other scientists 'build their own bugs'.

Once the minimal genome is assembled, it will be transformed into E.coli. To allow only the minimal genome to replicate, the origin of replication will be transferred from the original genome to the minimal genome. Cell division will then produce some E.coli with just the minimal genome.

How do you DO that?



Why it matters to you:

Interested in a career in biology or engineering? Synthetic biology is a promising emerging field.

Want to do science? High school students and early undergraduates can do great research that matters. iGEM is just one of many opportunities.

Considering the societal impact? Businesses and governments are increasingly debating the implications of synthetic biology. Play a role in how our society manages synthetic biology through your consumer choice, your vote, or your career.