

Can open-source strategy help synbio avoid controversial fate of GMOs?

Can you imagine a cancer treatment made just for you, in a day, for free? One with almost no side-effects? It sounds like science fiction but I believe it's within reach if we work together. Here's why.

So begins the [Pink Army Cooperative's](#) mission: to push the developing world of synthetic biology outside of the conventional framework of biotech and into open source domain. Instead of a paradigm that drives the capitalization of genetically engineered biotechnology products, Pink Army Cooperative and its creator Andrew Hessel want synthetic biology to fall firmly into the DIY category, much like software development.

They also believe keeping the field in the public domain will help it avoid the pitfalls and stigma that now plague genetically modified products [writes Harry J. Bentham at H+ Magazine:](#)

While there should be little public harm in the eventual ubiquity of the technologies and information required to construct synthetic life, the problems of corporate oligopoly and political lobbying are threatening synthetic biology's future as much as they threaten other facets of human progress. The best chance for an outcome that will be maximally beneficial for the world relies on synthetic biology taking a radically different direction to GM. That alternative direction, of course, is an open source future for synthetic biology.

The field, although very new, is being held up as the next extension of genetic engineering. With synthetic biology, humans can use their knowledge of genetics to build new or augmented lifeforms. To date, these have been kept simple — think yeast chromosomes and bacteria — but, the possibilities are endless.

Even big names in the field like J.Craig Venter, who stands to make a lot of money and has filed synthetic biology patents, seem to agree at least in part. Venter supports the largest annual synthetic biology innovation competition and is a proponent of [BioBricks](#), prepared and standardized pieces of genetics that can be easily 'snapped into' an organism. The bricks and the organization that runs them are open-source.

Keeping the technologies open-sourced may also help the scientific community police discovery to make sure it fits within the ethical code of the field, writes Katherine Xue at Harvard magazine:

Kenneth Oye, MIT political science professor and synthetic biology expert, says [the field] is on its way to developing what he calls a "culture of responsibility." It aims to augment rather than supplant traditional regulatory measures, he says, and can influence both the nature of regulation and how researchers think about the projects they pursue.

Whether or not synthetic biology could or would be spared some heady ethical debate by using open-source, bio-hacker approved DIY methods is unclear. But it is an interesting idea, and there is some indication it may fit the emerging cultural norms of today, [focused on transparency](#):

The truth is that there is a massive cultural transition taking place. We can see a growing hostility to patents, and an increasing popular enthusiasm for open source innovation, most promisingly among today's internet-borne youth... Affecting every facet of science and technology, the elite of today's youth are crying out for a more open, democratic, transparent and consumer-led future at every level.

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Additional Resources:

- [Can the same regulatory systems that now oversee GMOs work for synthetic biology as well?](#), Genetic Literacy Project
- [How scientists are creating synthetic life from scratch](#), Vox
- [Has the war on synthetic biology already begun?](#), Genetic Literacy Project