



Living clothing, bioweapons, and edited twins - synthetic biology 2019

It's happening right now. Many scientists, technology-enthusiasts, and corporations hope to *create novel life forms*. They seek to move from evolution through natural selection into a moment of ever more human-conceived and designed life.

Once a year we round up and share stories making headlines in the weird world of synthetic biology. We're pleased to launch the 2019 update. These updates are not technical and don't demand any science background.

Inside you'll find:

- Editing humans: He Jiankui's edits of twin babies born last year, who else was involved, the health implications for the twins, what the responses have been to date, and what other human editing may lie on the horizon.
- Gene drives: updates on attempts to crash populations of mosquitoes and mice in the wild, conversations about regulation of this type of research, and ensuring free, prior, and informed consent.

- **Bioweapons**: from creating a potent virus with mail-order DNA and explaining how to do it, to US military research into editing bacteria to track enemy submarines.
- Skin products: yeast-secreted synthetic biology sunscreen and skincare products.
- Patents: a recent study highlighting the corporate control of genetic information.
- **Clothes**: plans for clothes that sense and communicate, an artist's project using leather from lab-made human skin.
- **Plants**: reflecting on claims about the need to genetically edit crops and other plants, highlighting several current areas of research.

Download the 2019 synthetic biology update (PDF).



Open letters on Indigenous rights

Canadian Friends Service Committee recently worked with many partners to issue a joint statement about Canada's free, prior, and informed consent (FPIC) obligations. The statement highlights many ways in which Canada is falling short of its legal and moral obligations. For instance, it explains that governments cannot pick and choose when to respect FPIC, and that agreements entered into under duress do not constitute consent. The letter makes specific recommendations to address these issues. Find out more at https://quakerservice.ca/FPIC

We also joined church partners to issue an open letter to Canada's Senators, again reminding them of the urgency of passing Bill C-262: *The United Nations Declaration on the Rights of Indigenous Peoples Act*, which is a critically important step towards reconciliation. https://quakerservice.ca/news/churches-urge-senators-to-support-c-262/



Photo CC-BY US Army Africa

How serious is Canada about regulating the arms trade?

Newly passed legislation will make significant changes to Canada's regulation of exports and imports. The Minister of Foreign Affairs recently responded to a letter we sent her by highlighting these changes. She argued they are a sign of Canada's commitment to controlling the arms industry.

But in spite of some welcome changes, there appear to be very serious gaps remaining in Canada's regulation of arms exports.

Major players in the arms trade aren't referenced at all in the new or existing regulations, and arms sold to the US (by far the biggest buyer of Canadian weapons) could be sent on from there to anywhere else in the world. We don't even know what the extent of the arms sales to the US are, because they're exempt from oversight and reporting. Find out more: https://quakerservice.ca/ArmsTradeTreaty

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