Researchers across food, fuel, drug industries seek standards for synthetic biology

Synthetic biologists have a vision. Researchers in this young field, who build 'devices' from engineered genes and other molecular components, imagine a future in which products such as drugs, chemicals, fuels and food are manufactured by microbes. These devices could even be wired up to create cellular computers, much as electronic transistors are wired up to make microprocessors (see Nature <a href="http://doi.org/3fz; 2013).

But if the dream is to be realized, those components need to perform more consistently and be more reproducible than they are now, especially as they move from the lab bench to the biofactory. Unlike silicon-based electronic devices, synthetic organisms assembled from genetic components do not always have predictable properties — at least not yet.

On March 31, representatives from industry, academic institutions and government met at Stanford University in California to launch the Synthetic Biology Standards Consortium, an initiative led by the US National Institute of Standards and Technology (NIST) to address issues preventing the field from reaching its potential.

"It's the signal of a maturing industry," says Patrick Boyle, who oversees the organism-design pipeline at Ginkgo BioWorks, a synthetic-biology company in Boston, Massachusetts. "As we get better at synthetic biology, we want to make sure we are comparing apples to apples."

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