From: Boris Nikolic <[redacted]>
To: Jeffrey Epstein <jeevacation@gmail.com>
Subject: follow up 3 - codons
Date: Wed, 06 Jan 2010 05:35:15 +0000
Attachments: Biosecurity_and_Registries_of_Standard_Biological_Parts.pdf; Wheelis.pdf

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During our discussion yesterday we briefly mentioned syntethic biology and viruses. During last few years some new great tools were generated, common repository of tools/sequences created, and common platform established – most of that without regulatory framework (look below).

I am attaching you some relevant basic references to learn more. I do have friends working in these area – Biosecurity paper is written by my dear friend Jonathan - let me know if you want to dig into more details.

It addition, availability of information, as well as cheap, used instruments is like never before.

It is question of time when the critical mass is reached and when something will go wrong. I bet that most likely something will go bad not because of bad intention to hurt people (terrorism and such) but rather because of the fact that biology is much more unpredictable (and thus, uncontrollable) and that often consequences are opposite what we initially expected.

Please note several interesting sites such as MIT - http://syntheticbiology.org/Who_we_are.html

That are devoted to building "The Registry of Standard Biological Parts is a collection of parts: sequences of DNA with specific function that can be combined together to implement more complex functions. These parts are called BioBricks. You can place order for various biobricks (CHECK IT OUT, very cool) - http://partsregistry.org/Main_Page

http://openwetware.org/wiki/Main_Page that provides open source for sharing of information, know how, protocols for people interesting in biological engineering.

Still – it is too early for real design and bioengineering of lethal weapons, even for a large biotech company with a number of professionals. The fact is that the level of complexity is much higher in biology than in many other disciplines so barrier of entry is high. Nonetheless, with new tools, shared platforms and protocols, various sequences ready-to-order, perhaps some super smart undergraduate or graduate student with a lot of time, will design/create something much quicker than most of us expect.

Boris