

19th May 2006
NEWS RELEASE

Global Coalition Sounds the Alarm on Synthetic Biology, Demands Oversight and Societal Debate

Today, a coalition of thirty-five international organizations including scientists, environmentalists, trade unionists, biowarfare experts and social justice advocates called for inclusive public debate, regulation and oversight of the rapidly advancing field of synthetic biology – the construction of unique and novel artificial life forms to perform specific tasks. Synthetic biologists are meeting this weekend in Berkeley, California where they plan to announce a voluntary code of self-regulation for their work (1). The organizations signing the Open Letter are calling on synthetic biologists to abandon their proposals for self-governance and to engage in an inclusive process of global societal debate on the implications of their work (see attached Open Letter).

“The researchers meeting in Berkeley acknowledge the dangers of synthetic biology in the hands of ‘evildoers,’ but they naively overlook the possibility – or probability – that members of their own community won’t be able to control or predict the behavior of synthetic biology or its societal consequences,” said Jim Thomas of ETC Group.

“Scientists creating new life forms cannot be allowed to act as judge and jury,” explains Dr. Sue Mayer, Director of GeneWatch UK. “The possible social, environmental and bio-weapons implications are all too serious to be left to well-meaning but self-interested scientists. Proper public debate, regulation and policing is needed.”

In the last few years, synthetic biologists, by re-writing the genetic code of DNA, have demonstrated the ability to build new viruses and are now developing artificial life forms. In October last year, synthetic biologists at the US Center for Disease Control re-created the 1918 Spanish flu virus that killed between 50-100 million people (3) and last month scientists at the University of Wisconsin-Madison created a new version of *E. coli* bacteria (4). Meanwhile, genomics mogul Craig Venter, whose former company, Celera, led the commercial race to sequence the human genome, now heads a new company, Synthetic Genomics (5), that aims to commercialize artificial microbes for use in energy, agriculture and climate change remediation. It is one of around 40 synthetic biology companies undertaking gene synthesis and/or building artificial DNA.

“Biotech has already ignited worldwide protests, but synthetic biology is like genetic engineering on steroids,” says Dr. Doreen Stabinsky of Greenpeace International. “Tinkering with living organisms that could be released in the environment poses a grave biosafety threat to people and the planet,” adds Stabinsky.

In October 2004, an editorial in the journal *Nature* warned, “If biologists are indeed on the threshold of synthesizing new life forms, the scope for abuse or inadvertent disaster could be huge.” The editorial suggested that there may be a need for an “Asilomar-type” conference on synthetic biology – a reference to an historic meeting in 1975 where scientists met to discuss biosafety risks associated with genetic engineering and opted for self-governance which ultimately pre-empted and avoided government regulation. Following the Asilomar model the

“Synthetic Biology Community” intends to use their second conference (Synthetic Biology 2.0, 20-22 May 2006) to adopt a code of self-governance for handling the biosafety risks.

According to the Open Letter, the effect of the Asilomar declaration was to delay the development of appropriate government regulation and to forestall discussion on how to address the wider socio-economic impacts. Asilomar proved to be the wrong approach then, and Synthetic Biology 2.0 is the wrong approach now.

“We scientists must come to terms with the fact that science can no longer claim to be living in an abstract realm disconnected from the rest of society,” said Alexis Vlandas of International Engineers and Scientists (INES).

The signatories to the Open Letter urge the synthetic biologists meeting in Berkeley to withdraw their declaration of self-governance and join in seeking a wider, inclusive dialogue.

ENDS

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A background note for press is available from the ETC Group at www.etcgroup.org

Notes to Editors:

1. Go here to read about Synthetic Biology 2.0 Conference and proposals for self-governance: <http://syntheticbiology.org>
2. Tumpey, TM et al (2005) Characterization of the Reconstructed 1918 Spanish Influenza Pandemic Virus. *Science* 310: 77 – 80.
3. Pósfai, G et al (2006) Emergent Properties of Reduced-Genome *Escherichia coli*. Published online April 27 2006; 10.1126/science.1126439 (Science Express Reports).
4. <http://www.syntheticgenomics.com/>

Text of Open Letter

An Open Letter from Social Movements and other Civil Society Organizations to the Synthetic Biology 2.0 Conference May 20-22, 2006 Berkeley, California concerning the "community-wide vote" on Biosecurity and Biosafety resolutions (to be implemented Jan 1, 2007.)

We are writing to express our deep concerns about the rapidly developing field of Synthetic Biology that is attempting to create novel life forms and artificial living systems. We believe that this potentially powerful technology is being developed without proper societal debate concerning socio-economic, security, health, environmental and human rights implications. We are alarmed that synthetic biologists meeting this weekend intend to vote on a scheme of voluntary self-regulation without consulting or involving broader social groups. We urge you to withdraw these self-governance proposals and participate in a process of open and inclusive oversight of this technology.

Asilomar 2.0? In 1975 a group of scientists convened at Asilomar to try to address the safety hazards associated with genetic engineering. The Asilomar meeting promoted self-regulation that had the result of preempting public debate and preventing government action. Synthetic Biology 2.0 follows down the same self-regulation road. The scope of discussion at Asilomar was narrowly limited to questions of safety hazards – explicitly excluding broader socio-economic and ethical issues. The effect of the Asilomar declaration was to delay the development of appropriate government regulation and to forestall discussion on how to address the wider socio-economic impacts. Asilomar proved to be the wrong approach then, and Synthetic Biology 2.0 is the wrong approach now.

We recognize that you are justifiably concerned about certain risks of Synthetic Biology, but society requires strong mandatory measures in accordance with the precautionary principle to curtail these risks. As the chair of the recent Boston ‘Town Hall Meeting’ speaking about the recent proposals said: “I don’t think this will have a significant impact on the misuse of this technology.” We agree that these proposals will be ineffectual. Moreover, the social, economic, ethical, environmental and human rights concerns that arise from the field of synthetic biology go far beyond deterring bioterrorists and “evildoers.” Issues of ownership (including intellectual property), direction and control of the science, technology, processes and products must also be thoroughly considered.

Society – especially social movements and marginalized peoples – must be fully engaged in designing and directing dialogue on the governance of synthetic biology. Because of the potential power and scope of this field, discussions and decisions concerning these technologies must take place in an accessible way (including physically accessible) at local, national and global levels.

In the absence of effective regulation it is understandable that scientists are seeking to establish best practices but the real solution is for them to join with society to demand broad public oversight and governmental action to ensure social wellbeing. Moreover, in the years since Asilomar, science has become more strongly linked to commercial interests, so this can appear as an industry saying that it should only police itself. We urge you therefore to withdraw your declaration of self-governance and join with us in seeking a wider inclusive dialogue.

List of Organizations Signing the Open Letter

Acción Ecológica (Ecuador) - www.accionecologica.org
California for GE Free Agriculture - www.calgefree.org
Centro Ecológico (Brazil)
Clean Production Action – www.cleanproduction.org
Corporate Europe Observatory - www.corporateeurope.org
Corporate Watch (UK) – www.corporatewatch.org
Edmonds Institute - www.edmonds-institute.or/
ETC Group – www.etcgroup.org
Farmers Link - www.farmerslink.org.uk
Friends of the Earth International – www.foe.org
Foundation on Future Farming (Germany) - www.zs-l.de
Foundation Science Citoyennes (France) – www.sciencescitoyennes.org
Gaia Foundation - www.gaiafoundation.org
GeneEthics Network (Australia) - www.geneethics.org
Genewatch (UK) – www.genewatch.org
GRAIN – www.grain.org
Greenpeace International – www.greenpeace.org
Henry Doubleday Research Association (UK) – www.gardenorganic.org.uk
Indigenous People's Biodiversity Network
International Center for Technology Assessment – www.icta.org
International Network of Engineers and Scientists - www.inesglobal.com
Institute for Social Ecology - www.social-ecology.org
Institute for Bioethics, Culture and Disability - www.bioethicsanddisability.org
International Union of Food and Agricultural Workers – www.iuf.org
Lok Sanjh Foundation (Pakistan) - www.loksanjh.org
National Farmers Union (Canada) - www.nfu.ca
Oakland Institute - www.oaklandinstitute.org
Polaris Institute - www.polarisinstitute.org
Pakistan Dehqan Assembly
Practical Action - www.practicalaction.org
Quechua Ayamara Association for Sustainable Livelihoods, (Peru) - www.andes.org.pe
Research Foundation for Science, Technology and Ecology (India) - www.navdanya.org/
Soil Association – www.soilassociation.org
Sunshine Project - www.sunshine-project.org
Third World Network - www.twinside.org.sg