

TEMPLATE FOR COMMENTS

Contact information		
Surname:	Kahl	
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Government (if applicable):		
Organization:	The BioBricks Foundation	
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Title of document reviewed:	The Emergence and Growth of Digital Sequence Information in Research and Development: Implications for the Conservation and Sustainable Use of Biodiversity, and Fair and Equitable Benefit-Sharing – A Fact-Finding and Scoping Study Undertaken for the Secretariat of the Convention on Biological Diversity	
Comments on the draft fact-finding and scoping study		
Page #	Para #	Comment
29	lines 9-15	Please revise this section as indicated on the attached document to reflect the current information on the biobricks.org website.
40	lines 16-26	Please revise this section as indicated on the attached document to avoid confusion between the BiOS-compatible MTAs developed by CAMBIA and the OpenMTA developed by BioBricks Foundation and OpenPlant Synthetic Biology Research Centre
40	lines 33-37	Please revise this section as indicated on the attached document to clarify that the statements were made by Drew Endy, President of the BioBricks Foundation.
40	lines 38-39	Please revise this section as indicated on the attached document to clarify names.
41	line 4	Please revise this section as indicated on the attached document to avoid confusion between the BiOS-compatible MTAs developed by CAMBIA and the OpenMTA developed by BioBricks Foundation and OpenPlant Synthetic Biology Research Centre
41	line 15	Please revise this section as indicated on the attached document to avoid confusion between the BiOS-compatible MTAs developed by CAMBIA and the OpenMTA developed by BioBricks Foundation and OpenPlant Synthetic Biology Research Centre
41	lines 28-31	Please revise this section as indicated on the attached document to clarify names and content
41	line 32	Delete space between Open and MTA (OpenMTA, not Open MTA)
50	line 18	Please delete “Biobricks” from this sentence. The legal frameworks created by the BioBricks Foundation actually rely on a public domain approach.
58	lines 32-34	Please revise this section as indicated on the attached document to correct the information.
82	Footnote 21	Please revise this section as indicated on the attached document to correct the information.

Revisions requested by the BioBricks Foundation

Please revise as follows:

Page 29, lines 9-15

The BioBricks Foundation, a non-profit founded in 2006, and leader in this movement, was established with a mission to ensure that the engineering of biology is conducted in an open and ethical manner to benefit all people of the planet. The goal is for people to have the tools and infrastructure to work with one another as partners with biology to meet global needs for food, medicine, shelter, clean water and air (www.biobricks.org). They have managed numerous initiatives to promote the sharing of information, materials, know-how and wisdom among researchers working in biology and biological engineering, including OpenWetWare, the BioBricks® Public Agreement, Public Domain Chronicle, and OpenMTA.

Page 40, lines 16-26

Open source agreements grew from a desire within the scientific community to facilitate the exchange of methods and materials that underpin basic research without the costs associated with traditional material transfer agreements (MTAs) or other forms of licensing agreements.

Traditional MTAs and licensing agreements are seen as overly burdensome, costly, time-consuming, and restrictive, resulting in delays for research. While these agreements might be manageable for larger research institutions and companies, they are considered out of reach for smaller research institutions and individuals. Based on experiences in the open software movement, the BiOS-compatible MTAs and licensing agreements are intended to support both “freedom to operate and freedom to cooperate”. In open source software agreements, the source code for computer programs is available under the terms of the license to others who agree to these terms, so that the program can rapidly evolve with many users involved in debugging and modifying it to develop other products and improvements (www.bios.net).

Page 40, lines 33-37

intellectual property laws. As Drew Endy, President of the BioBricks Foundation, notes: “Today, it is difficult to share and reuse genetically encoded functions due to high transaction costs associated with patent-based licensing (i.e., time and money). We aren’t against patents *per se*. But we believe that biotechnology must move towards a free-to-use “dictionary” of biological functions that allow many people to benefit from all the potential creative and constructive uses of biology...”(www.biobricks.org).

Page 40, lines 38-39

Following are three examples of initiatives to develop open source agreements: BiOS, Open Source Drug Discovery, and a collaboration between the BioBricks Foundation and the OpenPlant Synthetic Biology Research Centre:

Page 41, line 4

CAMBIA materials (www.BiOS.net; www.cambia.org). With these BiOS-compatible agreements, everyone knows the

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Revisions requested by the BioBricks Foundation

Page 41, line 15

further negotiation. BiOS-compatible MTAs also do not involve fees or royalties for the use of material or

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Page 41, lines 28-31

The BioBricks Foundation and OpenPlant Synthetic Biology Research Centre have led the development of the OpenMTA, which incorporates many of the protections of traditional MTAs, such as protection from liability and no warranties, but also includes provisions that reflect the values of open communities including access, attribution, reuse, redistribution and non-discrimination. They describe these provisions as follows (www.biobricks.org/openmta/):

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Page 41, line 32

Delete space between Open and MTA (OpenMTA, not Open MTA)

Page 50, line 18

approach – e.g., BiOS - that can include conditions (e.g., materials must be available for

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Page 58, lines 32-34

of contributors. The BioBrick[®] Public Agreement similarly aims to create a community amongst contributors and users. To prevent misuse of personal information, the BioBricks Foundation only keeps records of the time- and date-stamped contributions and does not store user information (www.biobricks.org).

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Page 82, footnote 21

The BioBricks Foundation has also developed the BioBrick[®] Public Agreement (BPA) for sharing the uses of standardized genetically encoded functions – e.g., BioBrick parts – or any genetically encoded function that contributors might own or make anew (www.biobricks.org/bpa/). The BPA is a contract between contributors and users, which - like the BiOS agreements - provides immunity from the assertion of IP, provides attribution for use of materials, requires respect for biosafety and other laws, and ensures contributors can't claim future rights against users who develop a new material or product. Contributors must provide usernames and passwords, disclose any IP associated with the parts, and get sign off from their employer in some cases if required to release materials into the public domain. There is no “give back” clause as with open software or the BiOS-compatible MTAs, so future parts and products are not required to be contributed under the BPA.

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