



# The Tribe of Light: Interview with the Tree of Knowledge Crew

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INTERVIEW      Friday, April 18, 2014



(<http://ignitechannel.com/articles/artist-interviews/tribe-light-interview-tree-knowledge-crew>)

Image courtesy of Tribe of Light(<http://www.tribeoflight.org/>)

**Vibrio Fischeri**

Knowledge is magic. It's art and science and collaboration between people who are filled with that inner light that comes from an open mind and a creative spirit. The Tribe of Light is creating magic with the Tree of Knowledge(<http://www.tribeoflight.org/>), but they are also giving us a full view behind the curtain.

The Tree of Knowledge is a collaborative project and the creators are spread across the globe. The tribe is a group of artists, scientists, and innovators from Harvard University, Creative Commons, the Open Design + Hardware Network at the Open Knowledge Foundation and the Open Tech Collaborative.

The fruit of the Tree of Knowledge is being created through illumination biohacking, using bioluminescent organisms, but the glow comes from the brilliant minds and generous hearts of the Tribe of Light.



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**The Tree of Knowledge**

The Ignite team had the pleasure of speaking with the Tree of Knowledge crew to learn about their philosophy and the coalescence of art and science.

**The Tree of Knowledge is probably one of the most ambitious and magical projects I have ever seen. How did the Open Design + Hardware Working Group come up with the idea for this project?**

The original idea came about from talks between Matt Blumberg and Primavera De Filippi, both researchers at Harvard University in Cambridge, MA. Primavera is a legal expert for Creative Commons in France, but also one of the coordinators of the Open Design & Hardware Network, so the connection was quickly made to include other core members, such as Christian Villum (Open Knowledge), Kat Braybrooke (Mozilla Foundation) and Tristan Copley Smith (Open Tech Collaborative). In order to ensure the success of the project, we also invited Cameron (research at the Harvard Medical school, specializing in bio-engineering) and Jeremy Nicholas (an artist specializing in meta-mechanical engineering). The project idea was then slowly during many iterations shaped into what it is today; the Tree of Knowledge.



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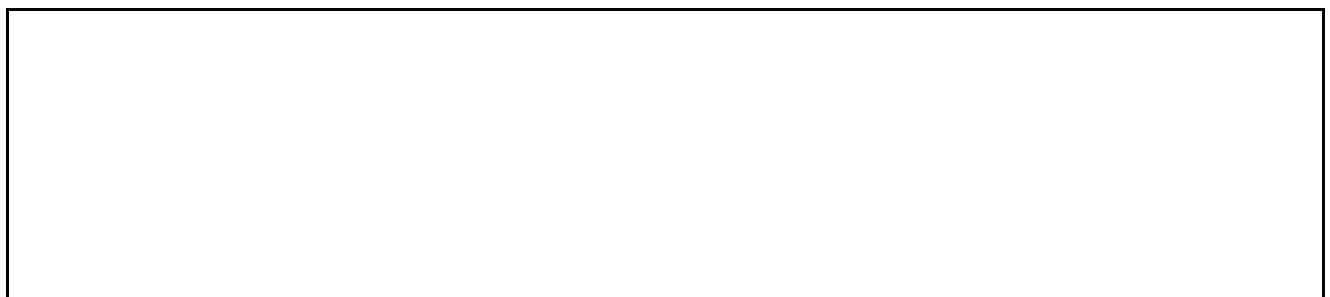
Algae

**Who are the creative people in your tribe? I know you come from all over the world and have such a collaborative group with so many talents.**

The core of our group are researchers at Harvard University, coupled with a handful of advocates from the free culture movement - specifically active members and representatives of Creative Commons(<http://creativecommons.org/>), Mozilla(<http://www.mozilla.org/>) and the Open Knowledge Foundation(<http://okfn.org/>). The team includes members with expertise in bioengineering, in large scale art installations (previous works can be seen at O'Khaos Creations([www.okhaos.com](http://www.okhaos.com))), in research, design and overall project management. You can find a detailed description of our team here([www.autofunk.dk/burningman2014/the-team](http://www.autofunk.dk/burningman2014/the-team)).

**You have this quote on your website which really seems to distill your message into this beautiful sentence -- “He who lights his taper at mine receives light without darkening me” — Thomas Jefferson. Not only are you sharing ideas and light, but the light you are sharing is truly special. What is biohacking and how are you developing this amazing bioluminescent light that will fill the fruit of the tree?**

The light illuminating the tree is produced by organisms which have been engineered for bioluminescence. The genetics of bioluminescence are well understood. Most of us don't have a biotech background, but we are “learning-by-doing”. We are also working together with researchers from the Harvard Medical School and the MIT Center for Bits & Atoms, in order to better understand the fundamentals of biology and engineering. Finally, we are then experimenting and refining our knowledge at BossLab in Sommerville, which is a DIY BioHackLab aiming at creating a public forum for the discussion and deployment of Citizen Science. Biohacking is the practice of engaging biology with the hacker ethic. In line with the principles of Hackerspaces or HackLabs, the BossLab attempts to make available the tools and resources necessary for anyone, including non-professionals, to conduct biological engineering. It promotes DIY genetic experiments and open access to scientific and specifically genetic material.





**You say you want to illustrate the way knowledge spreads, but what kind of knowledge are you spreading? Do you plan on actually giving people knowledge about the work you are doing and the underlying science of bio-engineering?**

The project works on two levels; on one hand we want to teach people about actual DIY bio-engineering, but on the other hand also about the principles of open sourcing information. In other words this is open source art: We want to transfer knowledge by explaining to people what is going on and by giving them the source code of our project to inspire them to not only make it their own, but also to pass it on - as a knowledge virus. With this project we seek to represent the ways in which knowledge spreads: We represent knowledge with organic light. Visitors can “pick” the light, learn how it is created and take it with them. On their journeys, friends may see the illuminated fruit and ask about it; and some number of these will seek out the origin too, to get a bit of their own; and this in turn they will show to their friends. In this way, we make tangible representations of knowledge, openness, and sharing.





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**The Tree of Knowledge**

**The project seems biblical in proportions (no pun intended). You are magically merging art, science, technology and nature in the Tree of Knowledge. I love**

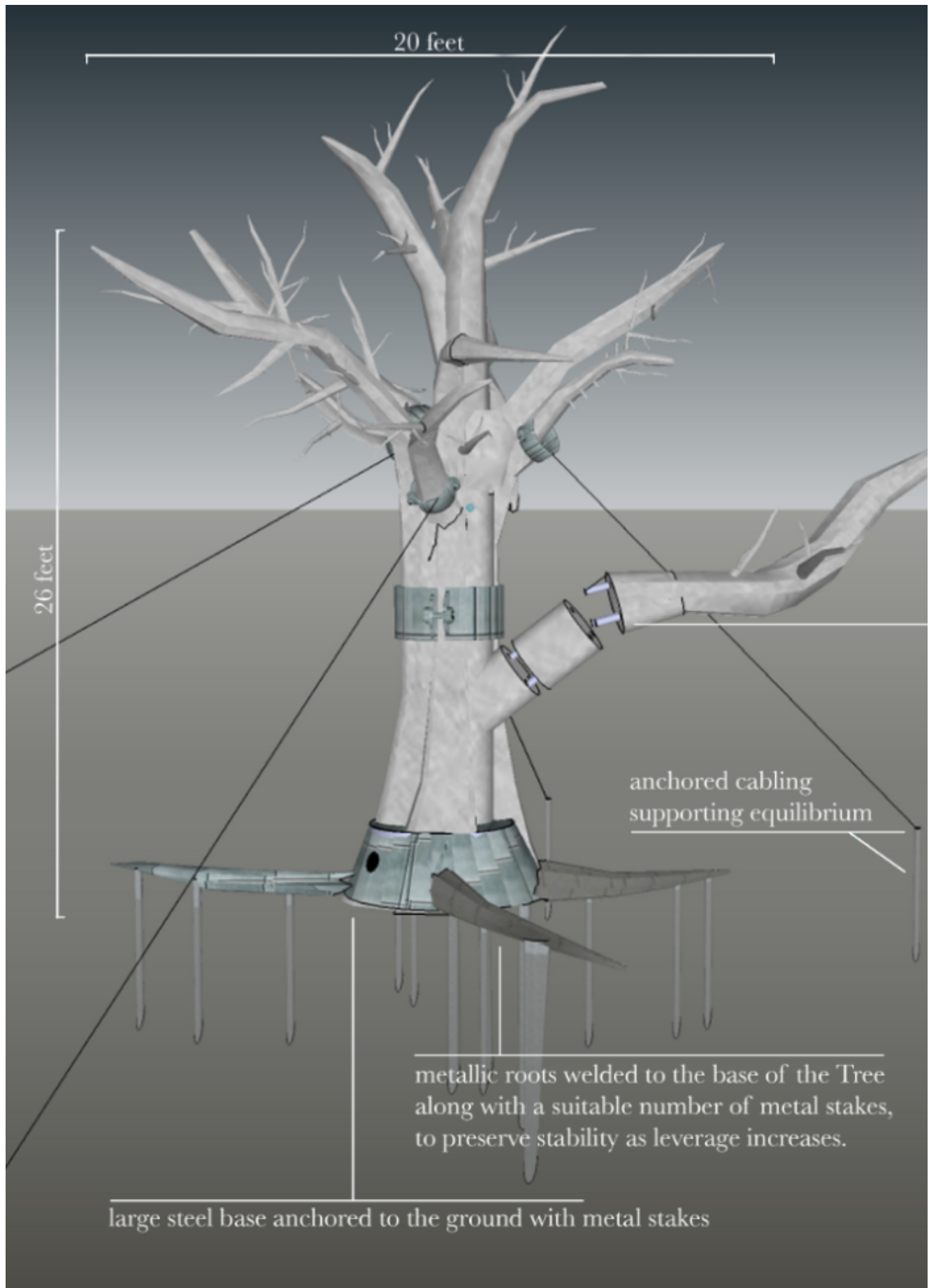
that you are also sharing that knowledge and the impact of what you are doing can reach much farther than the site of the installation. Sharing information seems to be the strong foundation your tribe has built upon, with Kat's work with the Mozilla Foundation and Primavera's work with Creative Commons, and other open source initiatives. Do you have any events coming up or how can people get involved?

The Tree itself can be installed in any urban setting with appropriate climate-- indoors or outdoors. And while we did not receive a grant for Burning Man, we have received a grant in support of a preliminary installation in Cambridge, MA this spring. We intend this as a trial run of the bioluminescence and containment: in this initial installation, we will not be building the structure of the Tree; we will hang the fruit in a natural setting within the canopy of a living tree.

In this way, the *Tree of Knowledge* can be installed anywhere and its fruit can be hung on any tree (constructed or living, though using a living tree of course makes the project much easier to set up.)

Our message is universal. This installation only requires the understanding of how bioluminescence can be created. Once the underlying logistics have been dealt with, we plan to deploy it at a variety of art festivals, municipal events, or any other events hosted by the aforementioned communities (Creative Commons, Mozilla, OKFN) who are building upon the ideas of sharing and free dissemination of knowledge.





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**Prototype of the Tree of Knowledge**

## **This must be an expensive project. Are you planning any fundraisers or crowdfunding campaigns?**

We have already received a grant in support of R&D for the project, enabling us to develop and test the organisms and containment. The deliverable for this grant is a small installation in Cambridge, MA this spring. (In this initial installation we will use a live tree, rather than building one.) Additional support has been provided by BossLab/Sprout, who are providing laboratory facilities.

We have set up a website, Tribe of Light([www.tribeoflight.org](http://www.tribeoflight.org)) in order to widely communicate about our project. Every step of the process will be documented on the blog, including pictures and videos of the on-going work. We hope the website will attract visitors interested in bio-hacking, and generate support from like-minded individuals. We will set up a donation button and will run a donation campaign on forums and social media related to DIY-bio. We will set up a Bitcoin wallet for donations, with the hope that we will see the value of our donations raise together with Bitcoin's deflationary value.

We may also run a crowdfunding campaign on Kickstarter and/or Indiegogo, which we will extensively advertise in the Bio-hacking community. (The website/blog photos and videos will be invaluable in producing the crowdfunding campaign.)

Finally, we will use the initial installation in Cambridge as a fundraising tool: {1} to advertise our crowdfunding campaign, and {2} as a site for fundraising parties in support of the project. We'd love to hear from those interested in getting involved -- feel free to get in touch at [opendesign@okfn.org](mailto:opendesign@okfn.org)(<mailto:opendesign@okfn.org>) !

Thank you, wonderful people of the Tree of Knowledge, for sharing your knowledge and inspiration.

Everyone, please share some kind words with the tribe in the comment box below.

**By Pamela Stewart**

(/author/pamela-s/)

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