

## ***Biotech Hobbyism - Tinkering, Treacherous, or Transformative?***

Spring Science Studies Colloquium: Normative Claims for a Democratic Science

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From Dictionary.com

*Democracy*: government by the people; a form of government in which the supreme power is vested in the people and exercised directly by them or by their elected agents under a free electoral system; the common people of a community as distinguished from any privileged class; the common people with respect to their political power.

*Science*: a branch of knowledge or study dealing with a body of facts or truths systematically arranged and showing the operation of general laws; systematic knowledge of the physical or material world gained through observation and experimentation; skill, esp. reflecting a precise application of facts or principles; proficiency.

*Hobby*: an activity or interest pursued for pleasure or relaxation and not as a main occupation

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“DIYbio [DIYbio.org] is an organization that aims to help make biology a worthwhile pursuit for citizen scientists, amateur biologists, and DIY biological engineers who value openness and safety. This will require mechanisms for amateurs to increase their knowledge and skills, access to a community of experts, the development of a code of ethics, responsible oversight, and leadership on issues that are unique to doing biology outside of traditional professional settings.”

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### **QUESTIONS**

- What is DIY Biology for? Who is it for?
- Is DIYBio “science” or “hobby”? What distinguishes these categories – is it intent, locale, training, expertise, regulatory oversight, or what?
- In what ways is DIYBio a form of scientific democratization? What can be achieved in a “garage” that cannot be achieved in an academic (or industry-sponsored) laboratory?
- How does “citizen science” differ from “participatory research”? Is it the explicit involvement of an academic partner or something else?
- Is it appropriate to call a professional scientist who tinkers with DIYBio in the evenings a “citizen scientist” or is professional expertise incompatible with regular citizenry? And does such a distinction mean anything in a domain demarcated as “hobby”?
- Thacker writes that “ethics will have to be a foundational element of biotech hobbyism” (44) (implying that this element was missing or unnecessary in the earlier age of computer hobbyism). Are we right to see “personal biotechnology” as bringing with it fundamentally different normative concerns than “personal computing”? What might the recommended “ethics” look like in practice?