

Appendix B: 2021 DIY Biology Community Survey

Q0 Consent Statement:

You are invited to participate in a research study titled '[DIY Biology Community Survey 2021](#)'. This study is conducted by Anna Verena Eireiner (Cambridge University).

You are selected to participate in this study because you self-identify as a member of the DIY biology community. **Your replies will be anonymous.**

When reporting on DIY biology, some media outlets focus on negative scenarios with little to no factual basis. The main purpose of this study is to address this issue by building a more holistic and empirically based understanding of the DIY biology community.

The research study seeks to achieve this purpose through two goals: The first is to understand the current state of DIY biology, including its membership, organization, capabilities, challenges and goals. The second goal of this survey is to see how the community has changed since it was last surveyed in 2013.

Participation in this study is completely voluntary. If you agree to take part in this study, you will be asked to complete an online survey. This survey includes basic demographic questions and questions about your interest and involvement in the DIY biology movement. It will take you approximately **15 minutes** to complete.

There are minimal risks associated with this research study. In full disclosure, risk of breach of confidentiality always exists in any interaction, whether online or in-person. However, the researchers have an approved protocol in place to make sure that submitted information is secure and anonymous.

In addition, you may rescind your consent for participating in this survey at any time. If you wish to rescind your consent for participation, have any research-related questions, or any questions related to the project, you may contact the researcher:

Anna Verena Eireiner (ave23@cam.ac.uk)

By clicking "I consent", you are indicating that you are at least 18 years old, have read the consent statement, and give consent to participate in this research study.

☐ I consent (1)

☐ I do not consent (2)

Skip To: End of Survey If Q0 = I do not consent

End of Block: Consent

Start of Block: 1 Demographics

Q1 What is your gender?

- ☐ Male (1)
- ☐ Female (2)
- ☐ Non-binary / third gender (3)
- ☐ Prefer not to say (4)

Q2 What is your age?

- ☐ 18-24 (1)
- ☐ 25-34 (2)
- ☐ 35-44 (3)
- ☐ 45-54 (4)
- ☐ 55-64 (5)
- ☐ 65+ (6)

Q3 In which country do you currently reside?

▼ Afghanistan (1) ... Zimbabwe (1357)

Q5 What is the highest level of education you have completed?

- ☐ Some High School Education (1)
- ☐ High School (2)
- ☐ Some College Education (3)
- ☐ Associate degree (4)
- ☐ Bachelor's degree (5)
- ☐ Some Graduate Education (6)
- ☐ Master's degree (7)
- ☐ PhD/MD/PsyD/JD or equivalent degree (8)
- ☐ Postdoc (9)
- ☐ Trade school (10)
- ☐ Prefer not to say (11)
- ☐ Other (please specify): (12) _____

Skip To: Q7 If Q5 = Some High School Education

Skip To: Q7 If Q5 = High School

Skip To: Q7 If Q5 = Trade school

Q6 If you have completed, or are currently completing, an academic degree, what describes your main field of study best?

- ☐ Natural Sciences: Biology (1)
- ☐ Natural Sciences: Chemistry (2)
- ☐ Natural Sciences: Physics (3)
- ☐ Natural Sciences: Biochemistry (11)
- ☐ Natural Sciences: Earth Sciences or Space Sciences (4)
- ☐ Natural Sciences: other (please specify) (5) _____
- ☐ Formal Sciences (e.g., Computer Science, Mathematics) (6)
- ☐ Applied Sciences (e.g., Business, Engineering & Technology, Medicine & Health) (7)
- ☐ Social Sciences (8)
- ☐ Humanities (9)
- ☐ Other (please specify): (10) _____



Q7 What profession from the following list best describes you?

- ☐ Mathematics & Computing (1)
 - ☐ Architecture & Engineering (2)
 - ☐ Biotechnology (3)
 - ☐ Healthcare & Medical Devices (4)
 - ☐ Education & Training (5)
 - ☐ Arts & Design (6)
 - ☐ Entertainment & Media (7)
 - ☐ Sports & Athletics (8)
 - ☐ Community & Social Services (9)
 - ☐ Office & Administrative Support (10)
 - ☐ Sales (11)
 - ☐ Business & Financial Operations (12)
 - ☐ Legal (13)
 - ☐ Installation, Construction, Maintenance & Repair (14)
 - ☐ Farming, Fishing & Forestry (15)
 - ☐ Prefer not to say (16)
 - ☐ Other (please specify): (17) _____
-

Q8 What is your employment status?

- ☐ Employed, working 40 or more hours per week (1)
- ☐ Employed, working less than 40 hours per week (2)
- ☐ Self-employed (3)
- ☐ Not employed, looking for work (4)
- ☐ Not employed, NOT looking for work (5)
- ☐ Student (6)
- ☐ Retired (7)
- ☐ Prefer not to say (8)
- ☐ Other (please specify): (9) _____

Q9 What is your annual income?

- ☐ Under \$15,000 (1)
- ☐ Between \$15,000 and \$29,999 (2)
- ☐ Between \$30,000 and \$49,999 (3)
- ☐ Between \$50,000 and \$74,999 (4)
- ☐ Between \$75,000 and \$99,999 (5)
- ☐ Between \$100,000 and \$150,000 (6)
- ☐ Over \$150,000 (7)
- ☐ Prefer not to say (8)



Q10 Are you currently, or have you ever been, employed in academia?

- ☐ Yes, I am currently employed in academia (1)
- ☐ I used to be employed in academia in the past (2)
- ☐ No, never (3)

Skip To: Q15 If Q10 = No, never

Q11 What best matches your current or last academic job title?

- ☐ Research Assistant (1)
 - ☐ Graduate Student (Master's or PhD) (2)
 - ☐ Postdoctoral Research/Fellow/Scholar (3)
 - ☐ Research Associate/Scientist/Fellow (4)
 - ☐ Lecturer/Instructor (5)
 - ☐ Adjunct Professor (6)
 - ☐ Assistant/Associate Professor (7)
 - ☐ Full Professor (8)
 - ☐ Prefer not to say (9)
 - ☐ Other (please specify): (10)
-

Q12 Did you ever, or are you currently, thinking about leaving academia to work in DIY biology full time?

- ☐ Yes, left (or consider leaving) academia to work in DIY biology full time (1)
- ☐ Yes, but left (or consider leaving) academia for other reasons (2)
- ☐ No, will stay in academia (3)
- ☐ Prefer not to say (4)

Skip To: End of Block If Q12 = Prefer not to say

Skip To: End of Block If Q12 = Yes, but left (or consider leaving) academia for other reasons

Display This Question:

If Q12 = Yes, left (or consider leaving) academia to work in DIY biology full time

Q13 Why would you rather work in DIY biology than in academia?

Skip To: End of Block If Condition: Why would you rather work i... Is Displayed. Skip To: End of Block.

Display This Question:

If Q12 = No, will stay in academia

Q14 Why would you rather stay in academia than work in DIY biology full time?

Skip To: End of Block If Condition: Why would you rather ... Is Displayed. Skip To: End of Block.

Display This Question:

If Q10 = No, never



Q15 Are you currently, or have you ever been, employed in the life sciences industry or a directly related field?

- ☐ Yes, I am currently employed in the life sciences industry or a directly related field (1)
- ☐ I used to be employed in the life sciences industry or a directly related field in the past (3)
- ☐ No, never (2)

Skip To: End of Block If Q15 = No, never



Q16 Did you ever, or are you currently, think about leaving your industry job to work in DIY biology full time?

- ☐ Yes, left (or consider leaving) industry to work in DIY biology full time (1)
- ☐ Yes, but left (or consider leaving) industry for other reasons (2)
- ☐ No, will stay in industry (4)
- ☐ Prefer not to say (3)

Skip To: End of Block If Q16 = Prefer not to say

Skip To: End of Block If Q16 = Yes, but left (or consider leaving) industry for other reasons

Display This Question:

If Q16 = Yes, left (or consider leaving) industry to work in DIY biology full time

Q17 Why would you rather work in DIY biology than in industry?

Skip To: End of Block If Condition: Why would you rather work i... Is Displayed. Skip To: End of Block.

Display This Question:

If Q16 = No, will stay in industry

Q18 Why would you rather stay in industry than work in DIY biology full time?

Skip To: End of Block If Condition: Why would you rather stay i... Is Displayed. Skip To: End of Block.

End of Block: 2 Industry & Academia

Start of Block: 3 DIY Biology Activity



Q19 Why did you first become involved in DIY Biology? (select all that apply)

- ☐ to carry out independent research (1)
- ☐ to participate in an iGEM competition (2)
- ☐ to learn about biology/biotechnology (3)
- ☐ to experiment for fun or entertainment (4)
- ☐ I am not involved in DIY biology (5)
- ☐ Other (please specify): (6) _____

Skip To: End of Survey If Q19 = I am not involved in DIY biology



Q20 Where do you carry out your DIY biology work? (select all that apply)

- ☐ Academic Lab, such as university or school lab (1)
- ☐ Company Lab (2)
- ☐ University-based DIY Biology Lab (7)
- ☐ Independent Community Lab Space (3)
- ☐ My private Home Lab Space (4)
- ☐ Shared Home Lab Space (e.g., communal kitchen, garage, or bathroom) (5)
- ☐ Other (please specify): (6) _____

Skip To: Q22 If Q20 = Independent Community Lab Space

Q21 How interested are you in working in a community lab?

- ☐ Not at all interested (1)
- ☐ Not interested (2)
- ☐ Somewhat interested (3)
- ☐ Very interested (4)
- ☐ Extremely interested (5)

Q22 In a typical week, how many hours do you spend on...

- _____ ...working with other DIY biologists? (1)
- _____ ...getting DIY biology supplies or equipment? (2)
- _____ ...literature research for your projects? (3)
- _____ ...hands-on DIY biology lab work? (4)

Q23 In the last two years I have (select all that apply):

- ☐ Been to a DIY biology Event (e.g., Conference or Meet-up) namely: (1)

- ☐ Build my own Lab Equipment, for example: (2)

- ☐ Purchased Lab Equipment (3)
- ☐ Repurposed Common Household Items or Substances (4)
- ☐ Got access to Lab Equipment through a Person or Community (5)
- ☐ Purchased Reagents to Conduct Projects (6)
- ☐ Created my own Reagents, namely: (7)

- ☐ Acquired Reagents from another Person or Community (8)
- ☐ Used a Kit Designed for Biotechnology Education (tell us here if you know the name/manufacturer): (9) _____
- ☐ Used Online Bioinformatics Tools and Databases (10)
- ☐ Used a BioBrick Standard Biological Part (11)
- ☐ Acquired my Own Samples (12)
- ☐ Received Samples to Analyze from Others (13)
- ☐ Prepared Samples for Gene Sequencing (14)
- ☐ Extracted DNA from a Sample (15)
- ☐ Completed Gene Sequencing Samples in my own Lab (16)
- ☐ Done the Polymerase Chain Reaction (PCR) (17)

- ☐ Made recombinant DNA molecules (18)
 - ☐ Inserted recombinant DNA into another Organism (19)
 - ☐ Used a Genomic Sequencing Kit to Sequence my Genome (20)
 - ☐ Ran some Form of Gel Electrophoresis (21)
 - ☐ Grown Microbes Independently (22)
 - ☐ Used Microbes to Tinker or Experiment with (23)
 - ☐ Done Traditional Plant or Animal Breeding Activities (24)
 - ☐ Done DIY Food Processing (25)
 - ☐ Made Bio-Artwork (26)
 - ☐ Other (please specify): (27) _____
-



Q24 How do you pay for your DIY biology activities? (select all that apply)

- ☐ Self-Funded (1)
 - ☐ Public Funds or Grants (12)
 - ☐ Sponsorship (Industry or Corporate) (2)
 - ☐ Sponsorship (Philanthropist/Individuals/Angel Investors) (3)
 - ☐ Investment (Venture Capital) (4)
 - ☐ Crowdfunding/Crowdsourcing (5)
 - ☐ Community Membership Fees (6)
 - ☐ Revenue Through Paid Workshops or Training (7)
 - ☐ Revenue Through Product Sales (8)
 - ☐ Bank Loan (9)
 - ☐ Prefer not to say (10)
 - ☐ Other (please specify): (11) _____
-



Q25 What are some of the challenges you've faced doing independent DIY biology work and activities? (select all that apply)

- ☐ Difficulties paying for DIY biology equipment, supplies, membership etc. (1)
- ☐ Not enough time (2)
- ☐ No community lab nearby (3)
- ☐ Difficulties with local and national laws and regulations (biosecurity, biosafety) (4)
- ☐ Supply issues (e.g., reagents) (5)
- ☐ Others (please specify): (6) _____

End of Block: 3 DIY Biology Activity

Start of Block: 4 Safety and Openness

Q26 Have you done any wet lab training?

- ☐ Yes, at university (1)
- ☐ Yes, at an industry cooperation (2)
- ☐ Yes, through another institution or program (please specify): (3)

- ☐ No, but I plan to do so in the future (4)
- ☐ No (5)

Q28 How safe do you feel your DIY biology space is?

- ☐ Very safe (1)
- ☐ Somewhat safe (2)
- ☐ Neither safe nor unsafe (3)
- ☐ Somewhat unsafe (4)
- ☐ Very unsafe (5)
- ☐ I am not sure (6)
- ☐ Prefer not to say (7)

Q29 How comfortable do you feel when you are in contact with biosecurity and/or law oversight agencies concerning your DIY biology activities?

- ☐ Very comfortable (1)
 - ☐ Somewhat comfortable (2)
 - ☐ Neither comfortable nor uncomfortable (3)
 - ☐ Somewhat uncomfortable (4)
 - ☐ Extremely uncomfortable (5)
 - ☐ Prefer not to say (6)
 - ☐ I do not interact with law enforcement or other oversight agencies (7)
-

Q30 Can you name some resources that guide your safety practices?

End of Block: 4 Safety and Openness

Start of Block: 5 Logistics

Q36

Can we contact you for a follow-up interview? During this telephone or video-call interview we would like to learn more about your journey and experience in DIY biology. If so, please enter your e-mail-address in the box below to give us permission to contact you for an interview:

☐ Yes, I would like to participate in an online interview. My e-mail-address: (4)

☐ No, I do not want to participate (6)

Q32 Would you like to be added to the survey prize raffle? If so, please enter your email-address. By entering your e-mail-address, you are giving permission that the researchers can contact you if you win.

☐ Yes, I would like to be entered into the raffle: (6)

☐ No, I do not want to participate in the raffle (7)

Q33 Do you have any additional comments, suggestions, or insights you would like to add? If so, please feel free to add them in the comment box below.
