Interactive Code Notebooks Survey

Thank you for your interest in our survey. We are seeking feedback from researchers in the Computational Biology community on their practices with sharing computer code generated during their research and their views on a prototype interactive notebook created in collaboration with NeuroLibre.

ABOUT THE SURVEY

At the start of the survey you will be asked to look at a prototype interactive code notebook for approximately 5 minutes. You will then be asked questions about your own code practices and the prototype notebook you have looked at.

The survey questions should take less than 10 minutes to complete.

Your participation in this survey is completely voluntary, and you are free to withdraw from the study at any time until you submit the survey. Answers will never be associated with individual participants and the results will only be analyzed in aggregate.

If you have any questions about the survey, please contact Lauren Cadwallader or *PLOS Computational Biology*.

ABOUT PLOS

PLOS is a nonprofit, Open Access publisher empowering researchers to transform science. Find out more about PLOS.

DO YOU KNOW SOMEBODY WHO MIGHT WANT TO PARTICIPATE?

If you know someone who would be interested in participating in this study, please feel free to pass on the link to this survey!

Before you start

Before completing this survey, please take a few minutes to look at this prototype interactive code notebook.

Please look at the notebook as if you are interested in the paper and its associated code. We would like you to look at two or more figures and please explore any features or parts of the notebook that you want to.

About you

1. **Have you published in *PLOS Computational Biology*?** *

   ○ Yes

   ○ No

2. **Where are you located?** *

   Afghanistan
   Albania
   Algeria
   Andorra
   Angola
   Antigua and Barbuda
   Argentina
   Armenia
   Australia
   Austria
   Azerbaijan
   Bahamas, The
   Bahrain
   Bangladesh
   Barbados
   Belarus

Belgium

Belize

Benin

Bermuda,

Bhutan

Bolivia

Bosnia and Herzegovina

Botswana

Brazil

Brunei

Bulgaria

Burkina Faso

Burundi

Cambodia

Cameroon

Canada

Cape Verde

Central African Republic

Chad

Chile

China

Colombia

Comoros

Congo, Democratic Republic of the

Congo, Republic of the

Costa Rica

Cote d'Ivoire

Croatia

Cuba

Curacao

Cyprus

Czech Republic

Denmark

Djibouti

Dominica

Dominican Republic

East Timor (see Timor-Leste)

Ecuador

Egypt

El Salvador

Equatorial Guinea

Eritrea

Estonia

Ethiopia

Fiji

Finland

France

Gabon

Gambia, The

Georgia

Germany

Ghana

Greece

Grenada

Guatemala

Guinea

Guinea-Bissau

Guyana

Haiti

Holy See

Honduras

Hong Kong

Hungary

Iceland

India

Indonesia

Iran

Iraq

Ireland

Israel

Italy

Jamaica

Japan

Japan
Jordan
Kazakhstan
Kenya
Kiribati
Kosovo
Kuwait
Kyrgyzstan
Laos
Latvia
Lebanon
Lesotho
Liberia
Libya
Liechtenstein
Lithuania
Luxembourg
Macau
Macedonia
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Marshall Islands
Mauritania
Mauritius
Mexico
Micronesia
Moldova
Monaco
Mongolia
Montenegro
Morocco
Mozambique
Myanmar

Namibia

Nauru

Nepal

Netherlands

Netherlands Antilles

New Zealand

Nicaragua

Niger

Nigeria

North Korea

Norway

Oman

Pakistan

Palau

Palestinian Territories

Panama

Papua New Guinea

Paraguay

Peru

Philippines

Poland

Portugal

Qatar

Romania

Russia

Rwanda

Saint Kitts and Nevis

Saint Lucia

Saint Vincent and the Grenadines

Samoa

San Marino

Sao Tome and Principe

Saudi Arabia

Senegal

Serbia

Seychelles

Sierra Leone

Singapore

Slovakia

Slovenia

Solomon Islands

Somalia

South Africa

South Korea

South Sudan

Spain

Sri Lanka

Sudan

Suriname

Swaziland

Sweden

Switzerland

Syria

Taiwan

Tajikistan

Tanzania

Thailand

Timor-Leste

Togo

Tonga

Trinidad and Tobago

Tunisia

Turkey

Turkmenistan

Tuvalu

Uganda

Ukraine

United Arab Emirates

United Kingdom

United States

Uruguay

Uzbekistan

Vanuatu
Venezuela
Vietnam
Yemen
Zambia
Zimbabwe

LOGIC Show/hide trigger exists.

3. **What is your research field?** *

Computational Biology
Bioinformatics
Biology and Life Sciences
Ecology and Environmental Sciences
Engineering and Technology
Medicine and Health Sciences
Physical sciences
Social sciences
Other (please specify)

What is your research field?

4. **State your research field:** *

[   ]

5. **Approximately how many research papers have you published?** *

- ○ 0

- ○ 1-5

- ○ 6-20

- ○ 21-50

- ○ 51-100

- ○ 100+

Reading articles with associated code

Page description:
These questions are about you as a **reader** of research articles.

Show/hide trigger exists.

6. How often do you look at code associated with research articles? *

○ Very frequently

○ Frequently

○ Occasionally

○ Rarely

○ Never

Hidden unless: #6 Question "How often do you look at code associated with research articles?" is one of the following answers ("Very frequently","Frequently","Occasionally","Rarely")

7. Why do you look at code associated with research articles? *

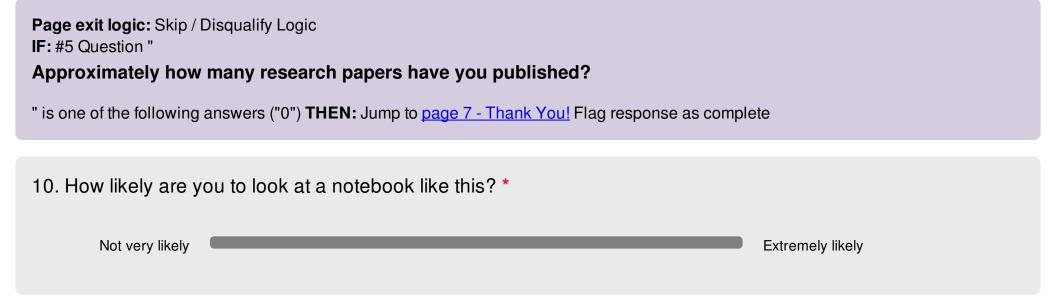8. In the last 6 months, how useful did you find the following methods of accessing code? *

	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful	I have not encountered this method of sharing
available on request	○	○	○	○	○	○
link to code repository (e.g. github or bitbucket)	○	○	○	○	○	○
link, e.g. DOI, to code archived in a open access repository, e.g. Zenodo	○	○	○	○	○	○
link to website (personal/group/lab)	○	○	○	○	○	○
link to a code notebook	○	○	○	○	○	○
presented in the research article in an executable code capsule	○	○	○	○	○	○

9. Please explain which code sharing method you find most useful and why.

Prototype notebook

Page description:
The next questions relate to the prototype notebook you looked at. We are still asking you about your views from the perspective of a **reader** of research articles.

10. How likely are you to look at a notebook like this? *

Not very likely �_____ Extremely likely

11. How important do you consider the following features of the **prototype notebook** that you looked at? *

	Not at all important	Slightly important	Moderately important	Very important	Extremely important	I did not use this feature
Ability to change the parameters of the figure using drop downs (e.g. Fig. 3) or sliding bars (e.g. Fig. 3 extra figure)	○	○	○	○	○	○
Ability to uncover the data point by hovering over the points on the graph	○	○	○	○	○	○
Ability to zoom in/out on the figures	○	○	○	○	○	○
Having all the code, data and figures in one place	○	○	○	○	○	○
Ability to interact inline with the code in the browser	○	○	○	○	○	○
Ability to open up the code as a Jupyter notebook	○	○	○	○	○	○
Knowing the code is running in the right environment	○	○	○	○	○	○
Having extra figures included that were not in the original paper	○	○	○	○	○	○

12. Are the any features that you thought were missing from the notebook?
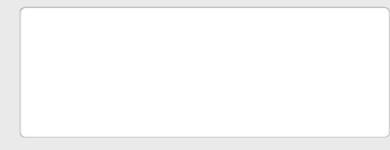
Sharing your own code

13. How important are the following factors to you when you are preparing to share code that is associated with a publication? *

	Not at all important	Slightly important	Moderately important	Very important	Extremely important	I do not know
Ability to share the code in my preferred form, e.g. as zip file or executable code capsule	○	○	○	○	○	○
Ability to share the code in my preferred location/platform	○	○	○	○	○	○
Ability to share my code with good accompanying documentation	○	○	○	○	○	○
Spend less time on the preparing my code for sharing, e.g. cleaning code, writing documentation	○	○	○	○	○	○
Spend less time on uploading the code and documentation to a repository	○	○	○	○	○	○
Depositing my code in a permanent archive	○	○	○	○	○	○
Curation checks are run on my code by a third party	○	○	○	○	○	○
Readers can easily run the code in the correct environment	○	○	○	○	○	○
The data and code are in the same place	○	○	○	○	○	○

14. How satisfied are you with your ability to do the following when you are preparing to share your code that is associated with a publication? *

	Completely dissatisfied	Mostly dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Mostly satisfied	Completely satisfied	I do not know
Share your code in your preferred form, e.g. as zip file or executable code capsule	○	○	○	○	○	○	○	○
Share your code in your preferred location/platform	○	○	○	○	○	○	○	○
Share your code with good accompanying documentation	○	○	○	○	○	○	○	○
Preparing your code for sharing, e.g. cleaning code, writing documentation	○	○	○	○	○	○	○	○
Uploading your code and documentation to a repository	○	○	○	○	○	○	○	○
Depositing your code in a permanent archive	○	○	○	○	○	○	○	○
Ensure readers can easily run your code in the correct environment	○	○	○	○	○	○	○	○
Deposit your data and code in the same place	○	○	○	○	○	○	○	○

15. Please provide any comments you have on what you consider to be important when it comes to sharing your code associated with a publication.

16. Approximately how much time did you spend in total preparing and sharing the code associated with your last publication? *

- ○ I didn't prepare and share any code
- ○ Less than an hour
- ○ A couple of hours
- ○ Half a day
- ○ A day
- ○ More than one day
- ○ More than one week

17. How much extra time would you consider spending on using a new tool to make your code easier to read and run? *

○ Less than an hour

○ A couple of hours

○ Half a day

○ A day

○ More than one day

18. **Do you have any additional thoughts you would like to share?**

Thank You!

Your survey is now complete. Thank you very much for your time!
Please contact Lauren Cadwallader if you have questions.