



Cold Spring Harbor Laboratory
DNA LEARNING CENTER

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**NSF Principal Investigator
Computational Needs Assessment**

Survey Questions

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With what type(s) of data do you currently work in your research? *Please select all that apply.*

DNA/RNA/protein sequence
DNA/RNA/protein structure
Ecological
Images
Microscopic
Pathways/interactions/networks
Phenotype
Physiological/medical
Other

Do you currently work with large data sets (Big Data)?

Yes
No

IF NO:

Do you think you will be working with large data sets sometime in the next three years?

Yes
No

In terms of computational resources, what do you feel you need to remain a competitive researcher?

Free response

How do you think your data analysis needs will change over the next three years?

Free response

What do you see as the biggest data challenge facing biologists in the future?

Free response

Consider each of the following data analysis needs and respond in each column accordingly.

	Is this currently important in your research?	Does your institution meet this need for researchers?	Do you think this will be important to your research in three years?
Updated analysis software	Yes/No	Yes/No/I don't know	Yes/No/I don't know
Multi-step analysis workflows or pipelines	Yes/No	Yes/No/I don't know	Yes/No/I don't know
High-performance or cluster computing	Yes/No	Yes/No/I don't know	Yes/No/I don't know
Cloud computing (remote, configurable, on-demand computers)	Yes/No	Yes/No/I don't know	Yes/No/I don't know

Consider each of the following data storage, discovery, and sharing needs and respond in each column accordingly.

	Is this currently important in your research?	Does your institution meet this need for researchers?	Do you think this will be important to your research in three years?
Sufficient data storage	Yes/No	Yes/No/I don't know	Yes/No/I don't know
Search for data and discover relevant data sets	Yes/No	Yes/No/I don't know	Yes/No/I don't know
Share data with colleagues	Yes/No	Yes/No/I don't know	Yes/No/I don't know
Publish data to the community and/or archives	Yes/No	Yes/No/I don't know	Yes/No/I don't know

Consider each of the following computational support and training needs and respond in each column accordingly.

	Is this currently important in your research?	Does your institution meet this need for researchers?	Do you think this will be important to your research in three years?
Support for bioinformatics and analysis	Yes/No	Yes/No/I don't know	Yes/No/I don't know
Training on basic computing (Linux) and scripting (Python, R)	Yes/No	Yes/No/I don't know	Yes/No/I don't know
Training on data management and metadata	Yes/No	Yes/No/I don't know	Yes/No/I don't know
Training on integration of multiple data types	Yes/No	Yes/No/I don't know	Yes/No/I don't know
Training on scaling analysis to cloud or high performance computing	Yes/No	Yes/No/I don't know	Yes/No/I don't know

In what academic discipline is your research? *Select all that apply.*

Agriculture
 Biochemistry
 Bioengineering
 Biogeography
 Bioinformatics
 Biomechanics
 Biomedical research
 Biophysics
 Biotechnology
 Botany
 Cell biology
 Cognitive biology
 Conservation biology
 Developmental biology
 Ecology
 Environmental biology
 Epidemiology
 Evolutionary biology
 Genetics
 Integrative biology
 Marine biology
 Medicine
 Microbiology
 Molecular biology
 Neurobiology
 Population biology

Paleontology
Pathology
Physiology
Phytopathology
Psychobiology
Structural biology
Zoology
Other

What position(s) do you currently hold? *Select all that apply.*

Researcher (PI)
Researcher (post-doc)
Industry
Faculty/educator
Student
Other

How large is your research group?

Small research project (one PI)
Small laboratory (fewer than five people)
Large research project (multiple PIs)
Large laboratory (greater than five people)
Individual researcher
Do not work in a research capacity
Other (please specify)

What are your teaching responsibilities?

One course per term
Two courses per term
Three courses per term
Four courses per term
I do not have any teaching responsibilities
Other (please specify)