**NSF Principal Investigator**

**Computational Needs Assessment**

*Codebook*

*DNA Learning Center*

*Cold Spring Harbor Laboratory*

**ID**

Assigned respondent ID number

**Division**

1: Biological Infrastructure

2: Integrative Organismal Systems

3: Environmental Biology

4: Molecular and Cellular Biosciences

5: Emerging Frontiers

**Q1 – Q9: With what type(s) of data do you currently work in your research? *Please select all that apply*.**

Q1: DNA/RNA/protein sequence

0: unselected

1: selected

Q2: DNA/RNA/protein structure

0: unselected

2: selected

Q3: Ecological

0: unselected

3: selected

Q4: Images

0: unselected

4: selected

Q5: Microscopic

0: unselected

5: selected

Q6: Pathways/interactions/networks

0: unselected

6: selected

Q7: Phenotype

0: unselected

7: selected

Q8: Physiological/medical

0: unselected

8: selected

Q9: Other

0: unselected

Text: written-in

**Q10: Do you currently work with large data sets (Big Data)?**

1: Yes

2: No

**Q11: Do you think you will be working with large data sets sometime in the next three years?** *Note – only shown to individuals who answered “NO” in Q10.*

1: Yes

2: No

**Q15 – Q26:** **Consider each of the following data analysis needs and respond in each column accordingly.**

*The table below represents the matrix of items in this question. Each need was considered three times. For each of the following questions, the coding is as follows:*

1: Yes

2: No

3: I don’t know

|  |  |  |  |
| --- | --- | --- | --- |
|  | 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 | **Q15** | **Q16** | **Q17** |
| Multi-step analysis workflows or pipelines | **Q18** | **Q19** | **Q20** |
| High-performance or cluster computing | **Q21** | **Q22** | **Q23** |
| Cloud computing (remote, configurable, on-demand computers) | **Q24** | **Q25** | **Q26** |

**Q27 – Q38:** **Consider each of the following data storage, discovery, and sharing needs and respond in each column accordingly.**

*The table below represents the matrix of items in this question. Each need was considered three times. For each of the following questions, the coding is as follows:*

1: Yes

2: No

3: I don’t know

|  |  |  |  |
| --- | --- | --- | --- |
|  | 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 | **Q27** | **Q28** | **Q29** |
| Search for data and discover relevant data sets | **Q30** | **Q31** | **Q32** |
| Share data with colleagues | **Q33** | **Q34** | **Q35** |
| Publish data to the community and/or archives | **Q36** | **Q37** | **Q38** |

**Q39 – Q53:** **Consider each of the following computational support and training needs and respond in each column accordingly.**

*The table below represents the matrix of items in this question. Each need was considered three times. For each of the following questions, the coding is as follows:*

1: Yes

2: No

3: I don’t know

|  |  |  |  |
| --- | --- | --- | --- |
|  | 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 | **Q39** | **Q40** | **Q41** |
| Training on basic computing (Linux) and scripting (Python, R) | **Q42** | **Q43** | **Q44** |
| Training on data management and metadata | **Q45** | **Q46** | **Q47** |
| Training on integration of multiple data types | **Q48** | **Q49** | **Q50** |
| Training on scaling analysis to cloud or high performance computing | **Q51** | **Q52** | **Q53** |

**Q54 – Q86:** **In what academic discipline is your research? *Select all that apply*.**

Q54: Agriculture

0: unselected

1: selected

Q55: Biochemistry

0: unselected

2: selected

Q56: Bioengineering

0: unselected

3: selected

Q57: Biogeography

0: unselected

4: selected

Q58: Bioinformatics

0: unselected

5: selected

Q59: Biomechanics

0: unselected

6: selected

Q60: Biomedical research

0: unselected

7: selected

Q61: Biophysics

0: unselected

8: selected

Q62: Biotechnology

0: unselected

9: selected

Q63: Botany

0: unselected

10: selected

Q64: Cell biology

0: unselected

11: selected

Q65: Cognitive biology

0: unselected

12: selected

Q66: Conservation biology

0: unselected

13: selected

Q67: Developmental biology

0: unselected

14: selected

Q68: Ecology

0: unselected

15: selected

Q69: Environmental biology

0: unselected

16: selected

Q70: Epidemiology

0: unselected

17: selected

Q71: Evolutionary biology

0: unselected

18: selected

Q72: Genetics

0: unselected

19: selected

Q73: Integrative biology

0: unselected

20: selected

Q74: Marine biology

0: unselected

21: selected

Q75: Medicine

0: unselected

22: selected

Q76: Microbiology

0: unselected

23: selected

Q77: Molecular biology

0: unselected

24: selected

Q78: Neurobiology

`0: unselected

25: selected

Q79: Population biology

0: unselected

26: selected

Q80: Paleontology

0: unselected

27: selected

Q81: Pathology

0: unselected

28: selected

Q82: Physiology

0: unselected

29: selected

Q83: Phytopathology

0: unselected

30: selected

Q84: Psychobiology

0: unselected

31: selected

Q85: Structural biology

0: unselected

32: selected

Q86: Zoology

0: unselected

33: selected

Q87: Other

0: unselected

Text: written in

**Q88 – Q93: What position(s) do you currently hold? *Select all that apply*.**

Q88: Researcher (PI)

0: unselected

1: selected

Q89: Researcher (post-doc)

0: unselected

2: selected

Q90: Industry

0: unselected

3: selected

Q91: Faculty/educator

0: unselected

4: selected

Q92: Student

0: unselected

5: selected

Q93: Other

0: unselected

Text: written in

**Q94: How large is your research group?**

1: Small research project (one PI)

2: Small laboratory (fewer than five people)

3: Large research project (multiple PIs)

4: Large laboratory (greater than five people)

5: Individual researcher

6: Do not work in a research capacity

**Q95: Other (please specify)**

**Q96: What are your teaching responsibilities?**

1: One course per term

2: Two courses per term

3: Three courses per term

4: Four courses per term

5: I do not have any teaching responsibilities

**Q97: Other (please specify)**