eResearch infrastructure, practices and requirements

## 1. I wish:

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| View Participant Information Statement |  | 12.8\% | 96 |
| Start Survey |  | 87.2\% | 656 |
|  |  | answered question | 752 |
|  |  | skipped question | 10 |

## 2. Please select your current institution

|  |  | Response <br> Percent | Response <br> Count |
| ---: | ---: | ---: | ---: |
| Australian Catholic University |  |  | $0.0 \%$ |


| 2 | answered question | 603 |
| :--- | :--- | :--- |
|  | skipped question | 159 |

3. Please identify your major disciplinary area(s). Tick all that apply.

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| 21 - Science (General) | $\square$ | 4.8\% | 30 |
| 22 - Social Sciences, Humanities and Arts (General) |  | 11.1\% | 70 |
| 23 - Mathematical Sciences | $\square$ | 3.0\% | 19 |
| 24 - Physical Sciences | $\square$ | 3.7\% | 23 |
| 25-Chemical Sciences | $\square$ | 4.0\% | 25 |
| 26 - Earth Sciences | $\square$ | 3.5\% | 22 |
| 27 - Biological Sciences |  | 8.0\% | 50 |
| 28 - Information, Computing and Communication Sciences |  | 10.0\% | 63 |
| 29 - Engineering and Technology | $\square$ | 8.0\% | 50 |
| 30-Agricultural, Veterinary and Environmental Sciences | $\square$ | 4.5\% | 28 |
| 31 - Architecture, Urban Environment and Building | $\square$ | 1.4\% | 9 |
| 32 - Medical and Health Sciences | $\square$ | 21.2\% | 133 |
| 33 - Education | $\square$ | 12.9\% | 81 |
| 34 -Economics | $\square$ | 3.3\% | 21 |
| 35 - Commerce, Management, Tourism and Services |  | 6.5\% | 41 |
| 36 - Policy and Political Science | $\square$ | 1.4\% | 9 |
| 37 - Studies in Human Society | $\square$ | 4.6\% | 29 |
| 38 - Behavioural and Cognitive <br> Sciences |  | 8.4\% | 53 |
| 39 - Law, Justice and Law Enforcement | $\square$ | 5.3\% | 33 |
| 40 - Journalism, Librarianship and Curatorial Studies | [ | 1.0\% | 6 |


5. Please indicate your current primary role.

|  | Response Percent | Response Count |
| :---: | :---: | :---: |
| Postgraduate research student $\square$ | 20.6\% | 130 |
| Academic/research staff: Early $\square$ career | 26.0\% | 164 |
| Academic/research staff: Middle career | 22.8\% | 144 |
| Academic/research staff: Senior/long experience | 21.4\% | 135 |
| Emeritus, honorary, visiting or adjunct appointment | 3.2\% | 20 |
| Other $\quad \square$ | 6.0\% | 38 |
|  | If other, please specify | 38 |
|  | answered question | 631 |
|  | skipped question | 131 |

6. Prior to this survey, had you heard of the term "eResearch"?

|  | Response Percent | Response Count |
| :---: | :---: | :---: |
| Yes | 52.2\% | 331 |
| No | 47.8\% | 303 |
|  | answered question | 634 |
|  | skipped question | 128 |

7. Which of the following types of software do you use for data handling and analysis?
$\left.\begin{array}{rllllll}\hline \text { Spreadsheets } & \text { Don't use } & \text { Use } \\ \text { occasionally }\end{array}\right)$

If other, please describe
8. List up to 3 main digital research methods or tools you don't use, but would use, if you had support. Note: These methods and tools may be from the question above

9. Do you use any High Performance Computing (HPC) facilities in your research? E.g. parallel or cluster systems

|  |  | Response <br> Percent | Response <br> Count |
| ---: | :--- | ---: | :--- |
| Yes |  |  | $9.2 \%$ |

10. How much of your research is collaborative?

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| Nearly all collaborative | $\square$ | 44.2\% | 260 |
| About half | $\square$ | 31.5\% | 185 |
| Nearly all individual | $\square$ | 24.3\% | 143 |
|  |  | answered question | 588 |
|  |  | skipped question | 174 |

11. Indicate where your research collaborations occur. Tick all that apply.

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| Within my research group | $\square$ | 70.1\% | 405 |
| Outside my research group within my faculty | $\square$ | 36.9\% | 213 |
| With other faculties within my university | $\longrightarrow$ | 33.9\% | 196 |
| With other universities within Australia |  | 52.6\% | 304 |
| With universities or institutions in other countries |  | 48.8\% | 282 |
| With non-university research agencies (e.g. CSIRO) | $\square$ | 18.2\% | 105 |
| Beyond academia, with industry partners | $\square$ | 38.8\% | 224 |
| None (i.e. I am not involved in collaborative research) | $\square$ | 7.3\% | 42 |
| Other | $\square$ | 3.5\% | 20 |

If other, please specify

|  |  | answered question |
| :--- | :--- | :--- |
|  | skipped question | 184 |

## 12. When you collaborate, how often do you use the following technologies for communication and project management?

|  | Don't use | Use occasionally | Use often | Rating <br> Average | Rating Count |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Face to face meetings | 2.7\% (15) | 38.5\% (214) | 58.8\% (327) | 2.56 | 556 |
| Telephone calls | 9.2\% (50) | 41.8\% (228) | 49.1\% (268) | 2.40 | 546 |
| Email | 1.8\% (10) | 5.0\% (28) | 93.2\% (517) | 2.91 | 555 |
| Discussion fora (e.g. e-lists) | 57.9\% (305) | 32.8\% (173) | 9.3\% (49) | 1.51 | 527 |
| Audio conferencing, audio meetings | 37.5\% (200) | 44.8\% (239) | 17.6\% (94) | 1.80 | 533 |
| Video conferencing via desktop or laptop software (e.g. Skype) | 34.1\% (183) | 42.6\% (229) | 23.3\% (125) | 1.89 | 537 |
| Video conferencing in a dedicated room or facility (e.g. Access Grid) | 71.0\% (373) | 22.9\% (120) | 6.1\% (32) | 1.35 | 525 |
| Web 2.0 content management tools (e.g. wiki, blog) | 67.9\% (355) | 24.5\% (128) | 7.6\% (40) | 1.40 | 523 |
| File and document sharing tools (e.g. file repositories) | 39.2\% (208) | 40.9\% (217) | 19.8\% (105) | 1.81 | 530 |
| Collaborative document writing tools (e.g. Google Docs) | 64.3\% (339) | 26.8\% (141) | 8.9\% (47) | 1.45 | 527 |
| Special project and task management tools (e.g. trac, dotProject) | 92.1\% (477) | 6.6\% (34) | 1.4\% (7) | 1.09 | 518 |
| Virtual research environments <br> (VRE) | 93.1\% (486) | 5.4\% (28) | 1.5\% (8) | 1.08 | 522 |
| Social networking software (e.g. Facebook) | 72.8\% (382) | 19.8\% (104) | 7.4\% (39) | 1.35 | 525 |
| Other | 89.1\% (164) | 4.9\% (9) | 6.0\% (11) | 1.17 | 184 |
|  |  |  | If other, please describe |  | 16 |
|  |  |  | answered question |  | 561 |
|  |  |  | skipped question |  | 201 |

13. Which of the following methods and technologies do you use to disseminate research findings?

14. List up to 3 main areas of research collaboration and dissemination that would most benefit from ICT support. Note: These areas may be from the questions above (12-13)

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| Collaboration and dissemination area 1 | $\square$ | 100.0\% | 303 |
| Collaboration and dissemination area 2 | $\square$ | 61.4\% | 186 |
| Collaboration and dissemination area 3 | $\square$ | 31.7\% | 96 |
| answered question |  |  | 303 |
| skipped question 459 |  |  |  |

15. List up to 3 phrases that describe the nature of your main digital and non-digital data sets E.g. laboratory measurements, survey data, interview transcripts, behavioural observations, news data, X-rays, photographs, genotyping or sequencing data, linguistic corpora

|  | Response Percent | Response Count |
| :---: | :---: | :---: |
| Data type 1 | 100.0\% | 493 |
| Data type 2 | 85.2\% | 420 |
| Data type 3 | 51.3\% | 253 |
|  | answered question | 493 |
|  | skipped question | 269 |

16. How often do you use data obtained in the following ways?

|  | Don't use | Use occasionally | Use often | Rating <br> Average | Rating Count |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Collected or created by yourself | 4.7\% (26) | 18.4\% (102) | 76.9\% (426) | 2.72 | 554 |
| Collected or created as part of a team | 11.8\% (64) | 34.6\% (188) | 53.6\% (291) | 2.42 | 543 |
| Acquired directly from another researcher or team | 34.6\% (184) | 50.9\% (271) | 14.5\% (77) | 1.80 | 532 |
| Acquired from academic data archives or repositories | 45.6\% (243) | 35.3\% (188) | 19.1\% (102) | 1.74 | 533 |
| Acquired from third party research organisations (e.g. the Australian Bureau of Statistics, OECD) | 41.5\% (220) | 41.5\% (220) | 17.0\% (90) | 1.75 | 530 |
| Acquired from commercial online sources (e.g. Lexis-Nexis, Financial Times, Euromonitor) | 72.9\% (380) | 17.9\% (93) | 9.2\% (48) | 1.36 | 521 |
| Other | 88.1\% (170) | 6.2\% (12) | 5.7\% (11) | 1.18 | 193 |
|  |  |  | If other, please describe |  | 19 |
|  |  |  | answered question |  | 557 |
|  |  |  | skipped question |  | 205 |

17. What proportion of your research data and material is in digital format?

18. How much digital research data do you currently store? Note: 1 gigabyte is about 1000 megabytes and can be stored on less than 2 CDs

|  | Response Percent | Response Count |
| :---: | :---: | :---: |
| None $\quad \square$ | 3.4\% | 19 |
| Less than 10 gigabytes | 40.2\% | 223 |
| Less than 1 terabyte | 38.4\% | 213 |
| Less than 10 terabytes | 13.2\% | 73 |
| More than 10 terabytes $\quad \square$ | 4.9\% | 27 |
|  | answered question | 555 |
|  | skipped question | 207 |

19. Do you need more storage for your research data?
$\left.\begin{array}{rlrl} & & \begin{array}{r}\text { Response } \\ \text { Percent }\end{array} \\ \text { Response } \\ \text { Count }\end{array}\right\}$

If yes, how much do you need in total? (e.g. 500 gigabytes)
20. Do you allow researchers from outside your team/project to access your research data?

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| No, none of the data (skip next two questions and go to Question 23) | $\square$ | 54.7\% | 296 |
| Yes, some of the data | $\square$ | 36.4\% | 197 |
| Yes, most of the data | $\square$ | 8.9\% | 48 |
|  |  | answered question | 541 |
| skipped question |  |  | 221 |

21. If yes, in which of the following ways do you typically provide access to your data? Tick all that apply.

|  | Response <br> PercentResponse <br> Count |  |  |
| ---: | ---: | ---: | ---: |
| Publish data online (e.g. on a public <br> project website) |  |  | $31.9 \%$ |


|  | answered question | 248 |
| :---: | :---: | :---: |
|  | skipped question | 514 |

22. If there are restrictions on accessing your data, what are the reasons for these restrictions? Tick all that apply.

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| Competitive research advantage | $\square$ | 39.9\% | 129 |
| Commercialisation potential |  | 18.3\% | 59 |
| Privacy and confidentiality issues | $\square$ | 59.1\% | 191 |
| Other ethical issues |  | 29.1\% | 94 |
| Licensing issues | $\square$ | 9.9\% | 32 |
| Technical difficulty of making data available |  | 22.9\% | 74 |
| Lack of incentive to make data available |  | 21.1\% | 68 |
| Lack of usefulness of my data to others |  | 14.2\% | 46 |
| Other reasons | $\square$ | 6.2\% | 20 |
| None | $\square$ | 8.7\% | 28 |
|  |  | If other, please describe | 22 |
|  |  | answered question | 323 |
|  |  | skipped question | 439 |

23. Do you face any data management or preservation issues in your research?

|  |  | Response <br> Percent | Response <br> Count |
| ---: | :--- | ---: | :--- |
|  | No | $\square$ | $42.1 \%$ |

If yes, please describe them

|  | answered question | 546 |
| :--- | :--- | :--- |
|  | skipped question | 216 |

24. Do you or your research team have an explicit research data management plan?

|  |  | Response <br> Percent <br> Response <br> Count |  |
| ---: | :--- | ---: | :--- |
| Yes |  |  | $27.5 \%$ |

25. Where do you store your data during a project? Tick all that apply
$\left.\begin{array}{rlrl} & & \begin{array}{c}\text { Response } \\ \text { Percent }\end{array} & \begin{array}{c}\text { Response } \\ \text { Count }\end{array} \\ \hline \text { USB/flash drives } & & & 28.4 \%\end{array}\right] 155$

If other, please describe
26. Who typically stores and cares for your data after the end of a project?

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| Nobody | $\square$ | 3.3\% | 18 |
| Me or other project/team member | $\square$ | 81.2\% | 446 |
| An internal faculty or university service | $\square$ | 8.0\% | 44 |
| A state or national data centre or repository | ] | 0.5\% | 3 |
| A disciplinary data centre or repository | ] | 0.4\% | 2 |
| Not sure/don't know | $\square$ | 5.6\% | 31 |
| Other | $\square$ | 0.9\% | 5 |
| If other, please describe |  |  |  |

27. Who typically provides you with ICT-related support for your research? Tick all that apply.

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| Central university IT services | $\square$ | 55.7\% | 303 |
| IT staff within a school/faculty | $\square$ | 38.2\% | 208 |
| IT staff within a research centre/group |  | 13.2\% | 72 |
| IT personnel on a project | $\square$ | 3.1\% | 17 |
| Research personnel on a project | $\square$ | 15.8\% | 86 |
| Project partners |  | 7.7\% | 42 |
| Colleagues | $\square$ | 18.8\% | 102 |
| PhD or graduate students | $\square$ | 11.2\% | 61 |
| Nobody | $\square$ | 16.7\% | 91 |
| Other | $\square$ | 4.8\% | 26 |
| If other, please describe |  |  | 37 |

answered question 544
28. How well does present ICT support match your research needs?

|  |  | Response Percent | Response Count |
| :---: | :---: | :---: | :---: |
| Not at all | $\square$ | 5.7\% | 31 |
| Minimally | $\square$ | 26.2\% | 142 |
| Moderately | $\square$ | 33.0\% | 179 |
| Quite well |  | 21.6\% | 117 |
| Very well | $\square$ | 8.7\% | 47 |
| Not applicable (I don't need ICT support) | $\square$ | 4.8\% | 26 |

Please, explain your answer

|  |  |  | answered question | 542 |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | skipped question | 220 |
| 29. Have you heard about or used services provided by the following Australian bodies? |  |  |  |  |
|  | Never heard of them | Heard of them | Used their services | Rating Count |
| AAF - Australian Access Federation | 91.9\% (496) | 7.0\% (38) | 1.1\% (6) | 540 |
| ANDS - Australian National Data Service | 77.5\% (417) | 20.6\% (111) | 1.9\% (10) | 538 |
| ARCS - Australian Research Collaboration Service | 77.4\% (417) | 20.4\% (110) | 2.2\% (12) | 539 |
| Intersect - an eResearch Consortium of NSW Universities | 64.8\% (350) | 29.3\% (158) | 5.9\% (32) | 540 |
| NCI - National Computational Infrastructure | 82.4\% (444) | 15.0\% (81) | 2.6\% (14) | 539 |
| NCRIS - National Collaborative Research Infrastructure Strategy | 76.6\% (407) | 21.3\% (113) | 2.1\% (11) | 531 |
| answered question |  |  |  | 546 |
| skipped question |  |  |  | 216 |

30. List up to 3 specific ICT technical or human support areas that would enhance your research capacities. E.g., this could include access to specific research software and collaboration platforms, data management services and expertise in data analysis

| ICT service or support 1 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| ICT service or support 2 |  |  |  |  |

31. How important, do you think, is eResearch for the future progress of your research field?

|  |  | Response <br> PercentResponse <br> Count |  |
| ---: | :--- | ---: | :--- |
| Very important |  |  | $41.7 \%$ |

Briefly explain your answer

|  | answered question | 539 |
| :--- | :--- | :--- |
|  | skipped question | 223 |

32. Write up to 3 phrases that describe the most important future applications of ICT in your research field.

33. Write up to 3 phrases that describe the most important challenges for the application of ICT in your research field now and in the near future.

34. Would you be willing to participate in a follow-up focus group? IMPORTANT NOTE: Your participation is entirely voluntary. Even if you answer "yes" now, you may change your mind at a later time.

|  | Response Percent | Response Count |
| :---: | :---: | :---: |
| Yes | 36.0\% | 192 |
| No | 64.0\% | 341 |
|  | answered question | 533 |
|  | skipped question | 229 |

35. Would you be willing to participate in discussions with a group aimed at developing eResearch support and services in NSW? IMPORTANT NOTE: These discussions are not a part of this study. If you answer "Yes", your survey answers and contact details could be used by Intersect and your university's IT division to organise further meetings and discussions with you. Your answers will remain confidential, only authorised individuals will have access to them, and will be used strictly for eResearch development purposes.

|  | Response <br> Percent <br> Response <br> Count |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No | $\square$ | $32.3 \%$ | 170 |  |
|  |  |  | answered question | 526 |

36. Would you like to receive a brief report of the survey?

|  | Response Percent | Response Count |
| :---: | :---: | :---: |
| Yes | 57.8\% | 307 |
| No | 42.2\% | 224 |
|  | answered question | 531 |
|  | skipped question | 231 |

37. Would you like to receive announcements about other eResearch activities from Intersect (an eResearch consortium of NSW universities)?

|  | Response Percent | Response Count |
| :---: | :---: | :---: |
| Yes | 49.0\% | 257 |
| No | 51.0\% | 268 |
|  | answered question | 525 |
|  | skipped question | 237 |

38. Would you like to receive announcements about other eResearch activities from your university?
$\left.\begin{array}{lllll} & & \begin{array}{r}\text { Response } \\ \text { Percent }\end{array} \\ \text { Response } \\ \text { Count }\end{array}\right\}$
39. If you answered "yes" to one or more questions above, please indicate your email address. IMPORTANT NOTE: The email will be used strictly for the purposes that you indicated in the answers to Questions 34-38 above.
40. If you have any comments about this survey, or would like to provide more information or comments about the use of digital technologies in your research, please use the space below.
