

**E-Science Institute Self-Assessment Questionnaire**

The following questionnaire should be completed by E-Science Institute team members with the help of colleagues both inside and outside the library. It is intended for your own use, as a tool to help you understand your institution’s involvement in e-research, and there are no right (or complete) answers. There is also no expectation that you will need to, or be able to, answer every question. The questionnaire is meant to be done iteratively, so that you answer more questions or add more information to your answers as you progress through the modules (particularly from the interviews in Module 2).

A question to ask yourselves as you approach the questionnaire is: at my institution, where can I find the information to answer this question? Some questions can be answered with straightforward library research (e.g. using the institution’s website) while others may require asking another department (e.g. your sponsored research office) or a person (e.g. CIO or Associate Dean for Research). As you answer each question, think about and keep track of who you might want to follow up with to get additional information about the topic. This list of people could then be used to identify possible interview prospects and help you prepare for the next module.

**Part 1: Background Research**

A first step in your self-assessment is to understand your institution’s current e-research landscape. This section is intended to be an introduction to that landscape, both technological and cultural. These questions are designed to be answered with library/web research alone, and to help you prepare for the more detailed research and interviews in the second module of the Institute.

**Organization Questions**

1. What is the organizational structure for research at your institution? Is it under the Provost? Is there a Vice Provost/President/Dean in charge of research, or the equivalent? Is there a sponsored research, programs, or grant administration office? Identify the major players/offices and briefly describe their roles.
2. What is the organizational structure for technology support at your institution? Include enterprise/administrative computing, academic/educational computing, and research computing components. Where do these groups report? Are they linked to your institution’s research enterprise? Are they distributed or centralized in one department? Identify the major players/offices and briefly describe their roles.

These questions will help you understand where the research enterprise of your institution sits and who controls/supports it. These will help you identify where to find answers to other questions, and possible candidates to interview later in the Institute.

1. Identify your institution’s administrative agencies, polices and normative practices for supporting its research programs and activities, paying special attention to e-science support.

This question gets at the policy and decision-making process at your institution, which is relevant for defining new e-research support services. If the library decides to focus on a given type of service, the answer to this will help you understand who needs to be consulted and how difficult or long a process that might be. You might start with your institution’s high-level strategic plan. Then investigate whether your institution has an intra-institutional standing committee, task force or equivalent group to make research-related policy decisions on issues like data ownership, sharing, and long-term access? Is the library involved with that group? If so, in what context and to what extent?

1. What is the total volume of research funding that your institution received last year? How many grants did your institution receive last year from each of the following funding agencies: NSF, NIH, DOE, NASA, DoD, EPA, NOAA, other US government agency, state agency, corporations and other non-governmental organizations? Which departments received the most grants and/or largest amount of funding? Who tracks this information?

Research funding often drives research priorities and support needs for an institution, so this question helps describe what your institution’s priorities might be , and which disciplines, departments, and/or individuals to focus attention on. For example, if your institution receives 90% of its research funding from the NIH, then life/health science is probably the highest priority needing support over other disciplines that your institutions covers (even ones that get more attention around campus). The office or department that tracks this information is likely to be a key stakeholder for e-research support as well as a good source of other information about your institutions e-research policies and existing support. This is a complex question that may be difficult to answer but will yield valuable information even in discovering who has the answers.

1. Are there any large research programs or centers (e.g., receiving large grants, employing large numbers of people, receiving national media attention, etc.) at your institution? For example, does your institution have an NSF Center of Excellence or Cooperative Agreement? Does it have an NIH CTSA award or similar large health science center? In what subject(s)?

Centers of Excellence and similar large-scale research initiatives tend to indicate high priority research domains and are often led by people with significant influence on the research enterprise of your institution. These centers might field useful interview candidates and/or make good partners for new services you envision.

1. Who are the key researchers at your institutions, e.g., the directors of large centers or labs you identified in the last question, deans or department heads, prominent faculty (e.g. Nobel prize winners, Fields medalists, Turing awardees).

Beyond formal Centers of Excellence or similar, most universities have several large-scale research initiatives with dedicated labs or centers, and these often have significant influence on research priorities for the institution. Prominent faculty are also often key influencers on research priorities and policies. These individuals could be important interview candidates and/or important to consult on plans for e-research support.

1. Does your institution collaborate with other institutions; (inter)national labs; supercomputer centers; regional facilities; large research consortia? If so, in what capacity?

Most institutions are involved in collaborative research with other research universities, government entities, etc., or depend on external organizations for e-research support (e.g. for computing infrastructure, expensive research equipment, programming support). These existing relationships may suggest possible collaborations with the library, areas where more research support is unnecessary since the existing partnership is working well, and areas that are currently under-supported by the partner organizations and additional support from the library would be valued at your institution.

**Cyberinfrastructure Questions**

1. Does your institution provide centralized research support services, or at the division/department level? Examples include grant proposal development and budget management, high-performance computing equipment (i.e. server clusters, Grid, Massively Parallel Processing, etc.), MPP programming, research data storage and/or management systems, data visualization, data curation, and virtual organizations (e.g. Access Grid videoconferencing system).

Research computing support (e.g. High-Performance Computing facilities and support staff, software packages and programmers, large-scale data storage or visualization facilities, virtual organization and videoconferencing systems) is sourced, funded and managed differently at every institution. How your institution approaches cyberinfrastructure and research computing will greatly inform where the library might get involved.

1. Is your institution part of a consortium specifically supporting research or e-science? e.g. the Northeast Cyberinfrastructure Consortium, the RENCI consortium of the North Carolina Research Triangle institutions, the Calit2 initiative in California, etc. (see also question #7 from the section above).

Current cyberinfrastructure collaborations illustrate which research disciplines are well-established at your institution, and what support is already provided to your researchers that may not be obvious from what is provided directly on campus (e.g. large-scale data storage facilities). These existing collaborations may also point to good opportunities for library collaborations.

1. Are there existing facilities on your campus to support team science, such as videoconferencing rooms, visualization and/or collaboration rooms (e.g. the UNC Health Science Library’s Collaboration Center)?

An area that many researchers struggle with is effective and efficient collaboration with colleagues at other institutions or research organizations, world-wide. These can be formal and long-standing (e.g. in High Energy Physics project involving use of CERN) or informal and temporary, but they all require technical infrastructure to allow researchers to communicate and share research findings and other materials (data, papers, etc.)

1. Building on question #1 above, does your institution host a national, state-wide, consortial or institutional supercomputer center? Does the library have any existing connection to it?

Areas of research to pay particular attention to include disciplines in which large investments have been made by your institution. These are often well-established and hard to get involved in, but are critical to know about since they will often inform thinking about e-research support across the university’s administration.

**Part 2: During and Post-Interviews [IN DRAFT FOR MODULE 2]**

**Institutional Culture**

1. How important is science and engineering at your institution? Review the institutions mission statement and strategic plan to indentify strategic priorities, especially in the sciences.
2. Is your institution hierarchical or fluid? For example, can you easily reach out to a senior administrator or member of the faculty, or is there a strict protocol for reaching those people?
3. Is your institution’s culture entrepreneurial or more tradition-based? For example, are departments (including the library) encouraged to create new services as needed, or does that require a significant review and approval process by the university’s administration?
4. Rank the following subjects by their research importance at your institution (reorganize and add to the list as appropriate):

* aeronautics/astronomy/astrophysics
* chemistry/chemical engineering
* biology/bioengineering/neuroscience
* earth/environmental science/engineering
* economics and social science
* electrical engineering/computer science/computational science
* health science/medicine
* materials science
* mathematics
* mechanical engineering
* nuclear science/engineering
* oceanography/ocean engineering
* physics

1. How interdisciplinary is research your institution? Are there many centers or initiatives that span multiple departments or involve diverse faculty?

**Library**

1. How well-positioned is your library today for e-research support? e-science support? Are there existing initiatives or research projects already underway? Is this an area that the library has already identified as a strategic priority? Is there a digital library or digital archive program that can be leveraged?
2. Does the library currently employ staff to handle e-research support services (e.g., ontology or metadata development, GIS training, social science data licensing, data integration or reformatting services).
3. Does the library currently have an institutional repository or digital archive system in which research datasets could be deposited? If research data are already accepted, are they cataloged or otherwise discoverable via normal library search tools? Are they linked to related materials, such as required processing software or publications?
4. How prepared is the library to adapt to change, as an organization? Is there a defined process for strategic planning and/or reorganizations? Are there examples of library projects or initiatives that embraced change from the past decade?
5. Does your library consider sustainability when entrepreneurial services or projects are implemented? How are new services assessed?
6. How technology supported at the library, e.g., server hardware, programming, digital library expertise, data management expertise? Is there a working relationship with the central IT department on campus? The research computing staff? Any other cyberinfrastructure facilities or services that would be central for successful e-research support?
7. Is the library involved with any institutional initiative to develop e-research strategy, especially for the new NSF’ Data Management Plan requirement or the similar mandates from other funding agencies? If so, what is your priority and why (e.g. prioritize NSF grant proposals highest, then NIH, then other agencies)?