

ITSPC-Research Faculty Survey Summary Report

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Methodology

A collection of questions, based upon the ITSPC-Research Subcommittee's March meeting, was developed and approved by the subject matter sponsor, Dr. Dinesh Pai. The questions used in the survey are shown in Appendix I. Since an aspect of this survey dealt with the use of external consultants, the Division of Grant and Contract Accounting (DGCA) was requested to provide a list of faculty with grants that involved subcontracts in the last 5 years. This list was used to identify a pool of faculty to conduct face-to-face interviews with.

Forty faculty received requests for interviews. Twenty-seven faculty interviews were completed successfully. The faculty covered a wide range of disciplines (Appendix II) and varying levels of local IT support. Interviews were conducted on all three campuses. The result was candid, unabashed discussions of IT related issues.

Consultants

Most faculty interviewed utilized grant subcontracts either to provide a means for collaboration with other universities or to access a specific expertise that would not be needed broadly at the university. In terms of expertise, two common needs were identified. The first area is a need for expertise in public survey development (15%), collection and analysis. The second area is a need for core analytic lab facilities (11%). While both areas involve IT to some degree, their relevance to this committee's mission is not clear.

A majority of faculty (60%) did not feel they had lost an opportunity to initiate a new research program due to lack of internal expertise and technology. Those who were impacted cited several reasons including:

- need for core analytic lab facilities (11%),
- need for a central consultative IT group (7%),
- lack of local IT support (7%) and
- non-IT related issues (e.g., lack of students, faculty collaborators) (15%).

IT Workshops/Training

There is significant support (45%) for further exploration of the concept of a campus-based IT workshop. The faculty cited several issues that should be considered when developing the concept of an IT workshop:

- A serious cost-benefit analysis must be performed. There were concerns that outfitting such a workshop with equipment and expertise to address campus prototype hardware and software issues would be quite difficult and expensive.
- The facility staff should be available at no cost for simple advice and consultation. Otherwise, it may be perceived as a business enterprise rather than a support entity.
- The cost to use such a facility must be significantly advantageous to the researcher.
- The use of such a facility must be voluntary and not mandated.

Faculty who were opposed to the idea (50%) felt they could not identify a need for this workshop relative to their area of research.

Training sessions in common knowledge tools including software received wide-spread support (82%). The range of applications were broad, but it was evident packages (e.g., MATLAB, Mathematica, GIS-applications) could be immediately identified. It was clear from the meetings that a process by which training needs are assessed, compiled and, where appropriate, provided would serve as a significant resource to researchers. A group to coordinate this effort needs to be identified, charged and supported to provide this training.

Collaboration

Personal contacts clearly dominated (93%) the method by which faculty members identify potential Rutgers collaborators. Existing web-based search tools were cited by a few faculty (18%) as playing a secondary role in their effort to find collaborators. Initially, the idea of developing a central expertise database to help identify Rutgers collaborators was regarded as a low priority (50% in favor). During the interview process, a faculty member suggested an expertise service would be significantly improved if it incorporated the abstracts of outgoing/pre-award grants. This would enable a researcher to identify potential collaborators with an active interest in certain expertise. During the remaining interviews, this idea was included and this service was seen as very favorable (80%) with the conditions that this search tool would be made available only within Rutgers and researchers could opt-out of having their abstracts made available.

Communication

It was quite evident that email is largely regarded (90%) as the current best method to communicate events, initiatives, etc. with Rutgers researchers. A number of faculty regarded email deficient in its ability to be targeted and “tuned” to a particular discipline or community. No faculty could identify other, more effective communication methods employed at other universities.

The concept of developing research-oriented services operated within a faculty web portal was very well-received (96%). The strength of the portal concept was its potential to aggregate services and “tune” the information presented. Faculty cited several aspects that needed to be incorporated into this effort:

- A central group needs to be charged and supported to actively promote and develop services that could be operated out of the portal. Existing distributed data and information resources must be identified and made available through the portal.

- Training in portal use and service development must be provided to faculty and information custodians.
- The effectiveness of the portal must be assessed regularly. A process should be developed to ensure faculty have significant input in service content and usability.

Faculty were favorable (96%) to the development of a process by which IT needs are identified and assessed on a regular basis. The effort should be organized by a central group and should use multiple methods to ensure faculty needs are gathered effectively – presentations of available services at faculty meetings, varied publication of events and opportunities, information gathering surveys, etc. There must be a concerted effort to ensure there are two-way communications between those who provide services and those who utilize or potentially utilize the services.

Other Issues

The meetings were quite candid and often discussed IT issues beyond the scope of the questions. Those interviewed were comprised of junior as well as senior faculty. These perspectives led to identification a few issues with strategic implications. It was significant to learn understand how IT issues affect the daily operation and future potential of their research.

It became apparent the landscape of IT support within Rutgers research groups is extremely varied. Services that may be taken for granted in one workgroup are not even addressed in another. A significant number of faculty interviewed regarded their local IT support (33%) as being non-existent or inadequate. Many faculty expressed a distinct need to “level the playing field” and **provide a framework for identifying a base level of local IT support required to do research.**

The greatest gap in knowledge between faculty with and without adequate IT staff appears to be in how to fund IT support positions. If the funding of local IT staff is truly a department-level issue, it would be extremely helpful if central university support

organizations would **develop a program to assist researchers include IT support funding into their proposals**. If a unit does not have funding sources to support local IT staff, it must be known and addressed. The ability to get units to obtain local IT support is often imperative to the success of a research program.

A number of faculty expressed concern at the cost of doing business within Rutgers. Some researchers felt that some services and facilities were overpriced to such an extent that they would be under-utilized. Faculty employ facilities outside of Rutgers because they are simply less expensive than having it done internally. It is of significant importance that the **development of chargeable resources are done to the benefit of the researcher**.

Appendix I: Survey Questions

Consultants

Is there an area of expertise in your research that you have hired external consultants for?

If yes, what is that area of expertise?

Is this an area of expertise that others at Rutgers may have a similar need for?

If this expertise was available centrally as a chargeable service, would you be inclined to take advantage of it?

In the last 5 years, have you lost an opportunity to initiate a new research program due to lack of internal expertise and technology? If yes, what was that technology or expertise?

Workshops/Training

In a research setting, the IT required to do the work may not be available for purchase from vendors, or may require significant effort to integrate. Individual faculty and their students may lack the expertise required to develop such experimental technologies. A professionally staffed IT workshop could serve as a bridge between researchers and the experimental IT they need for their research.

Perhaps an analogy will help: many engineering and science departments have staffed workshops where researchers (esp. graduate students) can get professional help in prototyping research ideas (e.g., to machine a novel lens mount, to fabricate electronics, etc.).

In your area, is there a need for an IT workshops which can help a researcher build prototype software and hardware systems? If so, what are your specific needs?

If training were made available for common knowledge tools (e.g., software like Oracle, MATLAB), what are some areas that you would like to see general training in?

Collaboration

If you wish to find a Rutgers collaborator on a project, how do you go about identifying one?

A future service could be developed where RU researchers are identifiable by keywords and one could search for collaborators with certain skillsets. How beneficial would this be to your research effort?

Communication

What is the best method to communicate (initiatives, symposia, events, etc.) with the RU research community?

A portal is a web site that is configured specifically to a particular user's needs. Information from many sources, tailored to the user, can be fed into the portal creating a single location for material. Are you familiar with portals? Do you see their ability to provide tailored, aggregate information as something that would be viewed as positive by RU researchers?

Are you aware of other innovative ways other universities use to communicate with their research community?

Should the university develop a process by which common IT needs can be evaluated and assessed on a regular basis (e.g., semi-annually)?

General

In your own research areas, are there any other issues that you have wanted to see better university coordination on?

Appendix II: Department/Campus Breakdown

<u>Department</u>	<u>Campus</u>
Biochemistry and Microbiology	New Brunswick
Center for Advanced Biotechnology and Medicine	New Brunswick
Chemical Biology	New Brunswick
Chemistry	New Brunswick
Civil and Environmental Engineering	New Brunswick
Computer Science	Camden
Computer Science	New Brunswick
Earth and Environmental Sciences	Newark
Ecology, Evolution and Natural Resources	New Brunswick
Electrical and Computer Engineering	New Brunswick
Environmental Sciences	New Brunswick
Genetics	New Brunswick
Industrial Engineering	New Brunswick
Institute of Marine and Coastal Sciences	New Brunswick
Mathematics	New Brunswick
Neuroscience	Newark
Nutritional Sciences	New Brunswick
Sociology	New Brunswick
Physics	Camden
Physics	New Brunswick
Public Policy	Camden
Plant Science	New Brunswick
Political Science	Camden
Psychology	Camden