ITPC Report 2021-2022

This report summarizes the activities and recommendations of the 2021-2022 Information Technology Policy Committee (ITPC).

Charge to the Committee

Background to the Charge

This Committee shall be concerned with all questions relating to the development, maintenance, security, and availability of information systems and infrastructures.

The Committee periodically reviews information systems priorities, policies, resources, and operations and, based on these reviews, makes recommendations concerning activities that may improve operations or enhance the seamless flow of data and information to the communities that depend on it.

The Committee also makes recommendations to the Senate Agenda Committee, the administrative head of Information Systems, or to others in the administration (as appropriate) on matters concerning operations, resources, or policies.

Committee Charge

1. Propose options for changes to faculty workload (i.e. teaching, service and research) to advance the NU enterprise with exploration and integration of teaching and learning technology.

    a. **Replaced with the following**: In collaboration with ITS Research Computing and Academic Technologies, identify opportunities for improved efficiency in technology onboarding for new faculty members and streamline information available to faculty across different colleges and departments. Develop mechanisms to inform faculty members of services and resources available for research and teaching on a bi-annual basis.

2. In collaboration with CATLR and the Provost's office, explore the feasibility of developing a Fellowship program for faculty who have a passion and desire to be pedagogical consultants or mentors for peers. This Fellowship program ensures a formal recognition for faculty who are contributing in meaningful ways for tenure and promotion.

3. In collaboration with the Provost and Chancellor's offices, evaluate student motivation for on-ground in-person attendance versus remote online synchronous lectures and provide recommendations regarding the future of hybrid and NUFlex teaching and learning modalities that can leverage and enhance our 21st century international, multi-campus university
4. In collaboration with RPOC, LICC, the Provost's Office and NU ITS, evaluate the university's integrated services that support the research data lifecycle, including protocols for data management and related data curation activities, and solutions for research data storage management

Membership

- Peter Desnoyers (Committee Chair) - Khoury
- Michael Bessette - BCHS, Physician Assistant Program
- Cole Camplese - VP-IT and CIO; ex officio
- Umesh Hodeghatta - CPS
- Amy Lu - CAMD, Communication Studies / Bouvé, Health Sciences
- Amy Patterson - CSSH, English

Charge 1 - Faculty Onboarding

Propose options for changes to faculty workload (i.e. teaching, service and research) to advance the NU enterprise with exploration and integration of teaching and learning technology.

Pursuant to Charge 1, ITPC reviewed current workload approaches and came to the conclusion this charge was out of scope for the committee, and potentially duplicative of the existing workload policy. As a result, ITPC elected to re-focus this charge to the following:

> **Charge 1 (revised). In collaboration with ITS Research Computing and Academic Technologies, identify opportunities for improved efficiency in technology onboarding for new faculty members and streamline information available to faculty across different colleges and departments. Develop mechanisms to inform faculty members of services and resources available for research and teaching on a bi-annual basis.**

This revised change allowed the committee to consider workload solely in terms of how faculty access dedicated technology resources. This updated Charge 1 still serves, then, to advance the

NU enterprise with exploration and integration of teaching and learning technology. Through our research, we learned the following on these initiatives, including advances related to faculty support, onboarding, and ITS communication practices.

1. As a part of the response to the pandemic, ITS modified its communication practices to reduce the number of generalized and single topic emails and messages sent to the community, instead focusing on fewer more timely, relevant messages. Among these messages, ITS now produces the occasional Tech Update email, which contains four to six timely updates in each edition, sent to all faculty and posted on the ITS website. In each message, members of the community are also encouraged to submit topic ideas.
2. At the start of each academic year, ITS participates in new faculty orientation and highlights many of the resources noted above. A Connect to Tech guide is also produced each academic year, to help new as well as returning faculty connect to essential technology resources.
3. ITS works with these stakeholders to construct and document a set of resources specifically targeting public-facing datasets, interactive web pages, and public computing and project sharing platforms. In addition, the Research Computing team (RC website: https://rc.northeastern.edu) has developed, formalized, and deployed many new systems and services that are available to all faculty, staff, and students across the Northeastern global network. This includes the expanded availability of the file sharing and transfer platform Globus, the development of a Secure Data Enclave for sensitive research activities, and the participation in regional initiatives around storage and computing.
4. All faculty members are provided terabytes of enterprise level storage for their research groups. All datasets can be shared publicly from RC resources using Globus, allowing open access to public facing datasets. Additional work is underway to integrate interactive research web pages with the available computational resources maintained by the RC team. The ability to connect compute power and storage to research web pages is expected to be available this calendar year (2021). The collaboration between the Northeastern RC team and the Northeast Research Cloud (NERC), Mass OpenCloud (MOC), and the Northeast Storage Exchange (NESE) also provides faculty additional variety when selecting computational resources appropriate for their research.

ITPC Recommendations

1. Starting in Fall 2022, members of the research, academic, security, and support teams will request time at department chair meetings to communicate ongoing opportunities and updates more effectively. It is our hope that invitations will be granted upon request.

2. In terms of technology onboarding, ITPC would like to see more systematic dissemination of information in the form of additional physical meeting and workshop organizations as well as having the guidance emailed to the faculty members on a regular basis (semester or annual). The information dissemination should be calibrated across the different NU campuses to ensure certain uniformity.
    a. This process is already underway as ITS is on the agenda for the new faculty orientation. ITS typically provides an overview of resources for faculty in the areas of research computing and teaching and learning with technology. Additionally, ITS spends time covering general technology hygiene and security.
    b. Further, ITS will create a PDF to be emailed each semester that is a simple guide to critical resources with pointers to websites.
3. ITS will update and maintain its website to include updated information with a comprehensive guide document for faculty and staff members. ITS maintains a website that is purposefully designed for faculty utilization of technology across their work: https://connect-to-tech.northeastern.edu/faculty

Charge 2 - Fellowship Program

In collaboration with CATLR and the Provost's office, explore the feasibility of developing a Fellowship program for faculty who have a passion and desire to be pedagogical consultants or mentors for peers. This Fellowship program ensures a formal recognition for faculty who are contributing in meaningful ways for tenure and promotion.

Pursuant to Charge 2, the ITPC team learned from Cole Camplese (VP-IT & CIO; ex officio member of ITPC) about prior discussions about a Teach Teaching Fellowship Program that previously took place at the Provost level. Although this program was not pursued, the team sees it as a feasible program moving forward, with the potential for further development. We recommend that future ITPC teams review the details below and pursue deeper insight into feasibility.

Proposed ITS Fellowship Overview

Working with ITS, the ITPC proposes that ITS establish a programmatic approach to working with key faculty from all locations to expand outcomes associated with current and future ITS initiatives. ITS seeks to provide financial support to no more than three Faculty each fiscal year to work closely with our staff to create new opportunities and to advance our collective knowledge within given contexts. ITS will, on occasion, host additional Fellows without financial commitment. To meet this goal, ITS looks to create the ITS Fellows program.

ITS Fellows will play a critical role in the success of many initiatives across ITS. Fellows will become essential to the future of ITS' network as connecting points of intelligence, insight, energy, and knowledge-sharing. ITS Fellows will help to drive projects from within and to share fresh ideas and skills with the larger Northeastern community.

The goal for Fellows is that they further work that we agree upon and help ITS create tangible outcomes that can be shared widely across the Northeastern Global Network through presentations, publications, and new services.

Not all Fellowships will be provided with financial support in the form of a course-buyout. Based on the request, ITS can also provide support in the form of equipment, staff time, travel support, or in other ways germane to the proposed Fellowship work. The ITS Fellowship program will set a per project cap on funding (amount TBD) and does not assume that all Fellowships will require funding. At the outset, ITS will accept only three funded Fellowships per fiscal year.

Goals and Objectives

Through the ITS Fellows program, we strive to:

- Work collaboratively to identify emerging questions that are tied to the mission of ITS
- Create and grow communities exploring like topics to inform new practice
- Support directed research and development that has the potential to impact the practice of teaching and learning with technology
- Create an opportunity to develop longer-term relationships with key members of our audiences

Types of Fellowships

To allow for broad participation, we propose different Fellowships both designed to support the work of ITS and the associated Faculty. A Residential Fellow will spend dedicated time working within the offices of ETS for a duration agreed upon during the Fellowship. Non-Residential Fellows participate remotely and do not spend dedicated time within ETS. Each type of Fellow is described in greater detail below.

Residential Fellow

ITS Residential Fellowships are offered a 12-month term to work within ITS to investigate and further the work proposed under the Fellowship application. Resident Fellows will be asked to spend dedicated time working with ITS staff and when appropriate to maintain some schedule within our working environment. In addition to achieving the stated goals associated with the

Fellowship invitation, we ask that Fellows also understand the obligation for organizing a public presentation, writing publications, or assisting with ITS programs in an ongoing fashion. While Fellowships are for a 12-month period, most of the work will occur during a much shorter amount of time (for example, during the Summer). Fellows are asked to continue to offer small amounts of time during the 12-month period to attend meetings, give presentations, or meet to discuss further work.

In addition to agreed upon financial support, ITS Resident Fellows are provided with space to work within ITS offices, dedicated ITS staff for project work, and access to other facilities within our work environment as appropriate. Additional details will be provided as this proposal develops.

Non-Residential Fellow

ITS Non-Residential Fellowships are offered for a 12-month term to work with ITS to investigate and further the work proposed under the Fellowship application. The Non-Resident Fellow opportunity is open to any faculty member across the Global University Network outside of Boston. Non-Resident Fellows are not required, but are encouraged if travel is feasible, to maintain some scheduled time within our working environment. As with a Residential Fellowship, we ask that Fellows also understand the obligation for organizing a public presentation, writing publications, or assisting with ITS programs in an ongoing fashion. While Fellowships are for a 12-month period, the majority of work will occur during a much shorter amount of time (for example, during the Summer). Fellows are asked to continue to offer small amounts of time during the 12-month period to attend meetings, give presentations, or meet to discuss further work.

In addition to agreed upon financial support, ITS Non-Resident Fellows are provided with access to dedicated ETS staff for project work and facilities within our work environment as appropriate. Please note that benefits in the form of housing, medical insurance, retirement benefits, etc are not provided for this position.

Selection as a Fellow

ITS Fellowships are awarded on a per project basis but will carry with them requirements beyond project completion (for a term of 12 months). In most cases, ongoing participation in ITS activities will be requested. As an example, participation in committee or other ongoing project work to help disseminate outcomes will be requested.

Fellowships are generally awarded to those who already have experience in exploring technologies to solve modern problems of practice and wish to add new knowledge to the field.

Interested faculty should contact Cole Camplese, Vice President for Information Technology and CIO to discuss appointments. A limited amount of financial support is available for residential fellows. Topic areas for ITS Fellows will be shared via the ITS website and will be constantly updated. To be considered for a fellowship, the following will be required:

- A concise yet comprehensive outline for the proposed study or project
- A description of the particulars of the research proposal, including what expertise one would bring to the project and an explanation of how the proposal might fit with one of our current initiatives.
- A curriculum vitae
- Funding requirements
- Dates of proposed residency
- A letter of support from a department head or supervisor
- A digital copy in English of either the most recent publication or any other piece of work that is related to the proposal. URLs for online copies of such material are preferred.

Typically, calls for participation as ITS Fellows will occur during the Spring semester for work to begin in the following Summer, but Fellowships can be awarded in an ongoing fashion throughout the year if there is financial support available or if a proposal requires it. Categories (or a framework) that define areas we are interested in exploring with Fellows will be maintained at the ITS website and updated throughout the year as new initiatives or opportunities are discovered.

The overall goal is to find new ways to engage our audiences in an ongoing way to help investigate solutions to challenges associated with the mission of ITS. Fellows will have the opportunity to engage with us across a broad range of topics and will be asked to share their work on a regular basis with ITS staff and with other ITS Fellows.

Applications will be reviewed by the ITS Leadership team and other senior members of the Provost's Executive Team.

Required Outcomes

Each Faculty Fellow is responsible for participating with ITS staff to achieve the agreed upon goals of the project. In addition to meeting these agreed upon expectations, we ask that ITS Fellows also:

- Propose a session for the a annual ITS Symposium
- Host a Fellows' Hour session to assist in making connections and spawning new initiatives
- Contribute to a project blog that shares work while in progress

- Participate in the creation of publications or presentations to be shared with audiences outside Northeastern
- Commit to working with ITS in an ongoing fashion for the duration of the 12-month appointment in a limited way (small meetings, committee work, etc)

Overall Project Management

The ITS Fellows project will be managed by an overall project manager who will be responsible for recruiting and managing Fellowship activities. Staff support will be provided to manage financial and human resource details. Each Fellowship will be assigned a small team to work specifically with the Faculty throughout the 12 month term**.**

ITPC Recommendations

1. As the information above is an early draft of possible program design for the ITS Fellowship Program, with room to continue growing, ITPC recommends that future committees should continue to work with ITS and move forward with exploring the feasibility of this program as designed above.
2. ITPC also recommends that further details be provided on eligibility and pay rate as this Fellowship proposal evolves.

Charge 3 - Student Motivation

In collaboration with the Provost and Chancellor's offices, evaluate student motivation for on-ground in-person attendance versus remote online synchronous lectures and provide recommendations regarding the future of hybrid and NUFlex teaching and learning modalities that can leverage and enhance our 21st century international, multi-campus university

Pursuant to Charge 3, the technology for flexible education styles is available and functional. It was decided that student motivation in regards to the technology is out of scope for the IT policy committee.

ITPC Recommendations

N/A

Charge 4 - Research Data Cycle

In collaboration with RPOC, LICC, the Provost's Office and NU ITS, evaluate the university's integrated services that support the research data lifecycle, including protocols for data management and related data curation activities, and solutions for research data storage management

Pursuant to Charge 4, the ITPC met with Patrick Yott (Associate Dean for Infrastructure, Northeastern University Library) and Spencer Pruitt (Associate Vice President of Academic & Research Technologies, ITS).

The Northeastern Library offers two relevant services: the Research Data Services (RDS) team, and the Digital Repository Service (RDS).

The **Research Data Services (RDS) team**:

- assists researchers with data management plans (DMPs) for grant applications
- provides advice and support in areas of data management, standards, documentation and organization to promote preservation and reuse.
- provides a range of data visualization and GIS services.

Additional information:

- Library › Home › Services › Research Data Services
- Primary staff contact: Jen Ferguson, j.ferguson@northeastern.edu.

The **Digital Repository Service (DRS)** provides a digital archive for publications and datasets (with stable handle.net URLs) and is used e.g. to provide access to all Northeastern dissertations and some special collections. Items in the depository can be public or restricted to the Northeastern community, and faculty can directly upload individual items or contact the DRS team for assistance. The DRS may be found here; for more information:

- Library › Home › Services › Digital Repository
- Digital Repository Service: About the DRS
- Primary staff contact: Sarah Sweeney, sj.sweeney@northeastern.edu.

Relevant ITS services are provided by the **ITS Research Computing (RC) team,** which provides up to 35TB of free storage to each "faculty research group," with larger amounts available on a $/TB/year basis. Storage may be provisioned on one or more of the following services:

- (discovery only?) High-performance solid-state storage system (1.5 PB total capacity, quota up to 35 TB)

- (discovery cluster only) High performance parallel scratch filesystem (3 PB total capacity, no quota, monthly purge)
- (Globus?) "Object" storage for non-performant storage needs (3 PB total capacity, quota up to 35 TB)
- (unknown access method) Archival Storage (3 PB total capacity, quota up to 35 TB)

In addition RC maintains a 500TB Secure Data Enclave, with quota to be determined through consultation, and all Northeastern members have access to 1TB of Microsoft OneDrive space.

To date storage services (other than OneDrive) seem HPC-centric, with most (all?) file systems accessed through the Discovery cluster, and "object" storage only accessible via Globus, rather than via standard object storage interfaces.

There is little online documentation on the RC storage options (e.g. the service catalog states that “several data storage options, including active and archive storage solutions” are provided) and faculty are asked to schedule a consultation with RC staff members if more information is needed. For more information:

- Research Computing website
- Consultation booking page
- Email request for RC support: rchelp@northeastern.edu

ITPC Recommendations

1. ITS Research Computing and Academic Technologies will create a department level presentation that can be delivered during department level meetings.
2. At the end of the ITS infrastructure development for information dissemination, new faculty and staff members should be able to obtain support on a timely basis for their computing and research needs. We acknowledge that the IT support across colleges might be different and would like to ensure that the gaps are mitigated accordingly with timely support.
3. ITPC will survey faculty across to determine storage access needs and preferences (e.g. S3 vs Globus), and provide recommendations to ITS to inform further service rollouts.
4. ITS should provide online descriptions of the available storage services, in locations which preferably include the RC service catalog “Data Management and Storage” page. (current version here)