Senate Research Committee (SRC)
October 10, 2016
Minutes of the Meeting

These minutes reflect discussion and debate at a meeting of a committee of the University of Minnesota Senate; none of the comments, conclusions, or actions reported in these minutes represents the views of, nor are they binding on, the Senate, the Administration, or the Board of Regents.

[**In these minutes:** MSI and Research Computing Resources; Follow-up on FLSA Discussion]

PRESENT: Michael Kyba (chair), Jennifer Franko, Rachel Edwards, Catherine St. Hill, Jennifer Franko, Brian Herman, Claudia Neuhauser, Suzanne Paulson, Claire Stewart, Bill Arnold, Sumanth Gopinath, Nelson Rhodus, Teresa Rose-Hellekant, Philip Zelazo, Kristina Burrack

REGRETS: Logan Spector, Vladas Griskevicius, David Roberts, Jayne Fulkerson, Hinh Ly, Carol Carrier, Jeff Simpson

ABSENT: Sidharth Gs, Rachel Edwards, Boyd Kumher, Tucker LeBien, Jeanette Gundel, Gregory Cuomo, Lisa Johnston

GUESTS: Claudia Neuhauser, associate vice president for research and director of research computing, Office of the Vice President for Research (OVPR)

ALSO ATTENDING: Vickie Courtney

Chair Michael Kyba welcomed the committee and members introduced themselves. Kyba told the committee that he would like to continue to focus on discussions rather than on presentations, and advised members to send him agenda items for the year.

1. MSI and Research Computing Resources at the University: Kyba introduced Claudia Neuhauser, associate vice president for research and director of research computing, OVPR. Neuhauser provided an overview of Research Computing, an umbrella in the OVPR that consolidates management of research computing services. Research Computing oversees the Minnesota Supercomputing Institute (MSI), the University of Minnesota Informatics Institute (UMII), and U-Spatial. The goal of Research Computing, Neuhauser said, is to streamline and increase visibility of research computing services, take a user-centric approach to delivering computational and data management service, bring people and resources together to create a seamless user experience, and to provide funding.

Neuhauser reviewed the timeline of the creation of Research Computing, noting that MSI was founded in 1984, U-Spatial in 2011, UMII in 2014, and Research Computing in 2015. The *Research Data Management: Archiving, Ownership, Retention, Security, Storage, and Transfer* policy was adopted in January of 2015, and establishes high-level guidance for coordinating the institution's efforts to satisfy research data storage and infrastructure needs. The policy established the Use Case Categorization Scheme Committee, which is system-wide. Additionally, Neuhauser said, the Data Storage Guidance Committee was founded in 2016-17, and were charged with figuring out what data we have, how to handle and store that data, how to

more easily transfer large amounts of data, and the possibility of moving to Google Drive for data storage needs to reduce cost. Leading this committee are members from MSI, OIT, and AHS-IS, with participation from University Libraries, colleges (including faculty and IT units), and the Office of Internal Audit.

Neuhauser then provided an overview of MSI. The first contact for assistance from one of the 42 full-time MSI staff members is their help desk, help@msi.umn.edu. MSI provides computational and storage infrastructure (including batch and interactive computing and three-tiered storage), Service Units (allocated for UMN user groups, with a purchase option for nodes on Mesabi for UMN users and through ESO for external customers), and storage. Additionally, MSI provides innovation space, called MSI Beta, Neuhauser said, including Jupyter Notebook Service, secure research cloud, and Hadoop. The largest users of MSI are the College of Science and Engineering (CSE) (20%) and the Medical School (20%), followed by the College of Food, Agricultural and Natural Resource Sciences (CFANS) and the College of Biological Sciences (CBS) (7%). MSI services include the help desk, tutorials, solution groups for research computing and informatics, big data analysis and data mining, custom application or analysis pipeline development, parallel algorithm optimization, development, and visualization, and research support, including consulting.

Neuhauser then provided the committee with an overview of UMII, whose mission is to foster and accelerate data-intensive research across the University system in agriculture, arts, design, engineering, environment, health, humanities, and social sciences through informatics services, competitive grants, and consultation. UMII focuses on research services, grant programs, and other special programs (for example, *Critical Data Studies: Humanistic aspects of informatics*). Neuhauser added that funding for UMII is provided by the University and MnDrive. UMII places analysts/consultants into core facilities such as the University Genomics Center (UMGC), the Center for Mass Spectrometry and Proteomics, and the University Imaging center, Neuhauser said. UMII also offers data wrangler services, and assists in the commoditization of informatics (including development of standardized workflows, quality control, and getting data into forms most useful to researchers).

Neuhauser said that there are several recurring funding opportunities available. "On the Horizon" funds are available at any time, and provide funding to faculty and staff to convene and prepare for major anticipated funding opportunities (up to $15,000, or $30,000 for MnDrive). "Updraft" funding is available at any time to enable researchers to reach a higher "altitude" by addressing immediate and short-term needs (up to $5,000). Graduate Research Fellowships, offered annually, support MnDrive-related research with an informatics focus; the deadline for application is November 11, 2016. UPROP funding is available for informatics projects, Neuhauser added, and UMII provides funding to bring in seminar speakers (up to $1000), and to support industry collaborations through MnDrive.

Neuhauser then provided the committee with an overview of U-Spatial. U-Spatial provides support for spatial research via GIS, remote sensing, and spatial computing, Neuhauser said. There are close collaborations with large research centers and programs, and U-Spatial provides service to researchers working in the so-called "long tail" of the scientific enterprise (i.e. smaller projects that cannot support full-time spatial research staff), Neuhauser said. U-Spatial provides

training, including workshops and tutorials, a help desk (with software support and consulting), software (Esri ArcGIS), and spatial data (high-resolution imagery with PGC and Digital Globe. Neuhauser provided examples of the reach of U-Spatial, including partnerships with OVPR Research Computing (spatial computing), the Minnesota Population Center (spatial analysis core), University Libraries (Borchert Library/spatial curation), the Polar Geospatial Center (Digialglobe training), the Institute on the Environment (strategic initiatives), the Metropolitan Design Center (community design and projects), central units such as University Services, the University of Minnesota Foundation, and the Center for Educational Innovation, and collegiate units such as the Academic Health Center, the College of Liberal Arts, the College of Design, CFANS, etc.

Sumanth Gopinath asked about the availability of funding for speakers through UMII. Neuhauser responded that there are funds available, but they are not often requested. Speakers would need an expertise in informatics, and be invited to speak either in a regularly scheduled departmental seminar or outside of a seminar series.

Kyba asked Neuhauser to speak about limits on Google Drive storage. Neuhauser responded that storage is unlimited at the University, but that large data sets are typically not stored there. Neuhauser added that moving data from Google Drive is very slow; larger data systems are needed.

Kyba asked Neuhauser to speak about MSI CPU allocations, specifically how they are allocated, and how long allocations are typically in their queue. Neuhauser said that MSI always over-allocates, and said that it is important for PI's to not try to do all of their work at the end of the year. The queue is complex, Neuhauser added, and MSI offers tutorials to optimize user experience. If more CPU's are needed, Neuhauser said, they can be increased by submitting a request; administrators meet weekly to review increase requests.

Kyba asked Neuhauser to speak on the dangers of data intrusion and hacking. Kyba added that the University guaranteed that a breach in TCGA data would not happen. Neuhauser responded that there has not been any data stolen, and since one way to meet NIH requirements is to use DUO authentication, they have built in this system to meet their requirements. Neuhauser said that for TCGA, Research Computing worked with OIT to determine how to meet NIH requirements for local storage for this kind of data.

Rachel Edwards said that MSI was well-regarded in her department, and that they were known to have fast response times. Neuhauser noted that there is a full-time staff person now running the help desk, and a response within 24 hours (not counting weekends) is required.

Kyba said that the Stem Cell Institute hired a graduate student to do data processing for them, and asked Neuhauser how these students were placed and how to request their services. Neuhauser responded that this was done through the Bioinformatics graduate program; it is possible to contact UMII to request help. UMII works with graduate programs and departments to identify graduate and undergraduate student employees for data processing needs.

2. FLSA discussion update – Kyba reminded the committee that letters to the Budget Five and the Office of Human Resources were in their final stages of editing, and asked for any additional feedback from the committee. Kyba added that since there has already been a central communication regarding the FLSA increase that indicates no central funding, the letters should likely be readdressed to the faculty, and to college deans.

Gopinath asked if the committee had any data on what the cost breakdown of these increases would be per college. Kyba said that we did not have this data, but could request it if needed.

Philip Zelazo asked committee members to think about the likely reaction to these letters; would it be negative due to budget constraints? Zelazo said the case could be made to call for a petition on a case-by-case basis to colleges, and creation of an emergency fund for PI's at the college level.

Brian Herman said that he was of the understanding that deans and department heads had indicated they could meet the needs of their PI's without any central funding. In cases of need, Herman said, PI's could work with their dean and department head, since indirect costs are not retained centrally; these go to schools and departments in the current budget model. Zelazo asked if we could reference this in the letters from SRC to faculty and deans; Herman responded that Mary Roman Kuhl, director of compensation, Total Compensation, should be contacted, as she was part of these discussions. Kyba said that he would contact Roman Kuhl on behalf of the committee.

Kyba asked the committee to have any edits to the letters to deans and faculty completed by one week from today's meeting, at which point the letters would be sent.

Hearing no further business, the meeting was adjourned.

Barbara Irish
University Senate Office