

Polar Cyberinfrastructure Research Coordination Network Cyber+Imagery Workshop

June 2 – 3, 2016
St. Paul, MN



Welcome! Thank you for attending the Polar Cyberinfrastructure RCN's cyber+imagery workshop. This document is meant to provide information about your trip to the University of Minnesota and the cities of Minneapolis and St. Paul. Details about agenda, local resources, transportation, and contact information are provided here for your reference.

Dr. Heather Lynch, Stony Brook University

Dr. Shantenu Jha, Rutgers University

Many thanks to the Polar Geospatial Center for hosting the meeting and assistance in planning, particularly **Lucas Winzenburg**, **Jonathan Pundsack**, and **Paul Morin**.

Table of Contents

04	Why are we here?
05	Contact Information and Addresses
06	Campus Maps
11	Workshop Location
	Accommodation Details
	Transportation and Parking
14	Participant List
15	Workshop Agenda

Why are we here?

The importance of remote sensing, particularly high-resolution commercial satellite imagery, has grown rapidly over the last few years within the polar science community. At the same time, the proliferation of imagery data presents some new challenges for cyberinfrastructure, including issues with software, hardware, networking, storage, metadata standards, access, data products, and distribution. The goal of this workshop is to bring together polar scientists and high-performance and distributed computing experts in a 'horizon scan' style discussion to identify the most critical bottlenecks (current or near-term) for the effective use of polar imagery across the polar science community. We will attempt to provide community consensus and classify these bottlenecks based upon primary technical challenges, as short-term versus long-term. We will select those that can be effectively addressed as a community in the 2-3 year window, identify whatever tools, standards, hardware/software, and other aspects of cyberinfrastructure are required to overcome these challenges and outline a plan to do so. We will set about in a "write-athon" to draft a proposal to fund the development required. By the end of the workshop, we intend to have the essential components of a proposal in hand based on community consensus that, if funded, would make significant improvements to the use of remote sensing imagery for polar science.

Contact Information and Addresses

Phone Numbers

Heather Lynch Cell: (301) 974-2993

Middlebrook Dormitory: (612) 625-5376

University of Minnesota Police (non-emergency): (612) 624-2677

Campus Security Escort: (612) 624-9255

MetroTransit: (612) 373-3333

Addresses

Cargill Building

1475 Gortner Ave

Room 105

St. Paul, MN 55108

(In the middle of the St. Paul map)

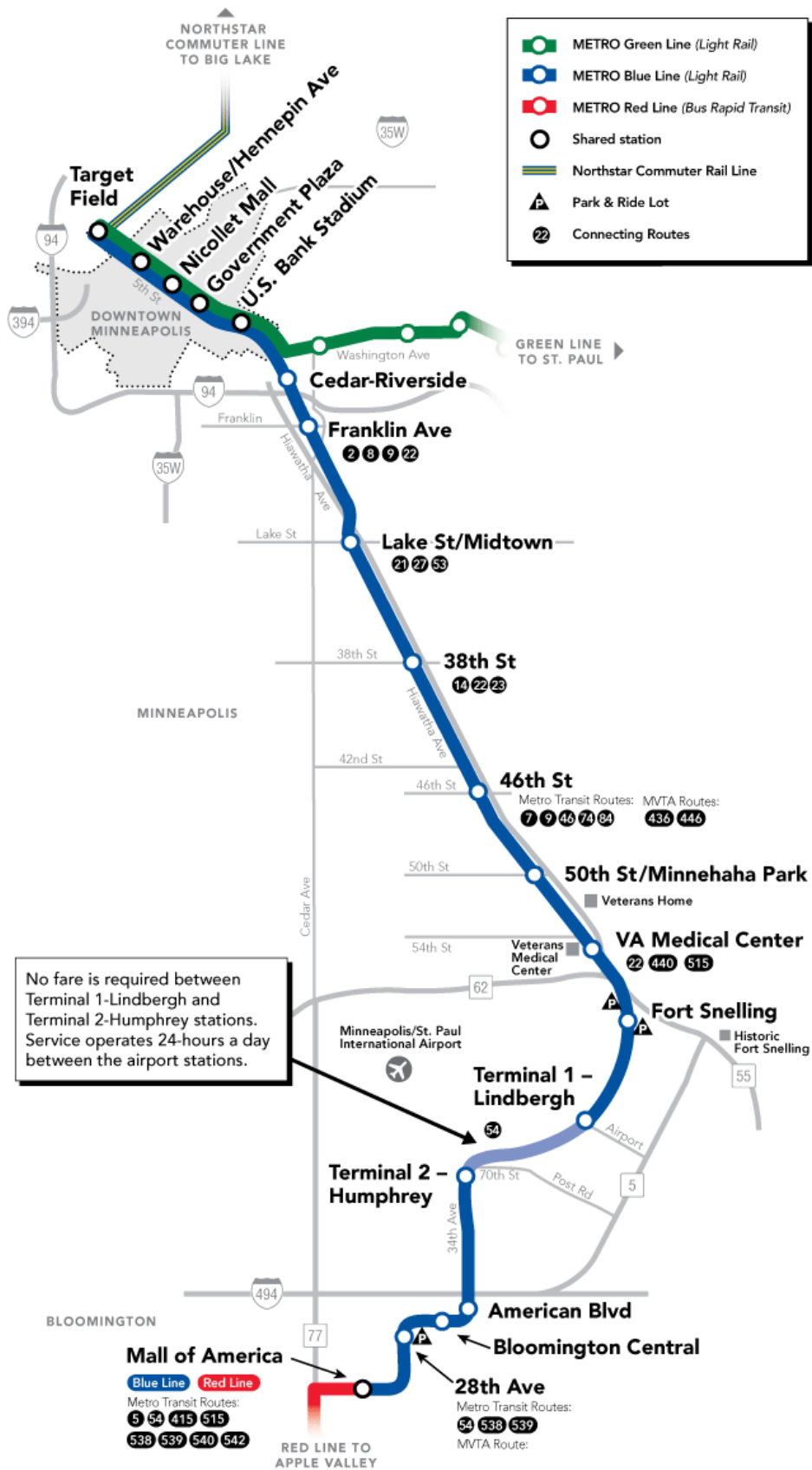
Middlebrook Hall (Dormitory)

412 22nd Ave S

Minneapolis, MN 55455

(See lower right corner of West Bank map)

*The 121 Campus Connector runs every 5 minutes and will take us from West Bank to St. Paul



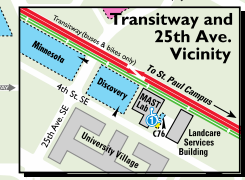
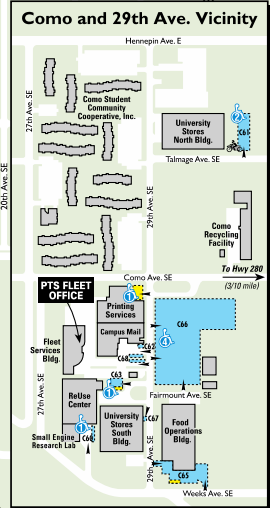
UNIVERSITY OF MINNESOTA MINNEAPOLIS EAST BANK

- Visitor/public parking, hourly rates
 - Visitor/public parking, daily rates
 - U of M meter parking
 - Carpool parking until 9 am
 - Contract parking
 - Facility entrance and/or exit
 - Disability parking area-3 hours free (number indicates capacity)
 - Disability parking area-posted rates apply (number indicates capacity)
 - Electric vehicle charging station
 - Motorcycle contract parking area
 - PTS self-service information
 - Campus Shuttle System Routes
 - Stadium Superblock Circulator
 - Campus Connector
 - University Avenue Circulator
 - 4th Street Circulator
 - Bus stop (color indicates route)
- For the most current map or additional information, visit www.umn.edu/pts

Saturday-Sunday (Fall/Spring/Finals)																							
9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00
Campus Connector -121												University Ave. Circulator -122											
Every 20 min												Every 15 min											
Saturday												Saturday											
12:15												12:15											
Sunday												Sunday											
12:15												12:15											

Intercession/Breaks/Summer Session																							
7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Every 15 min												Every 15 min											
Campus Connector -121												Campus Connector -121											
Monday-Friday												Monday-Friday											
6:30												6:30											
University Ave. Circ. -122												University Ave. Circ. -122											
Monday-Friday												Monday-Friday											
9:30												9:30											
Stadium Superblock Circulator -120												Stadium Superblock Circulator -120											
Monday-Friday												Monday-Friday											
6:30												6:30											
No service												No service											

Find real-time bus tracking at z.umn.edu/nextbus



Washington Ave. Mall, between Pleasant St. and Walnut St., is for Buses and Emergency Vehicles Only.

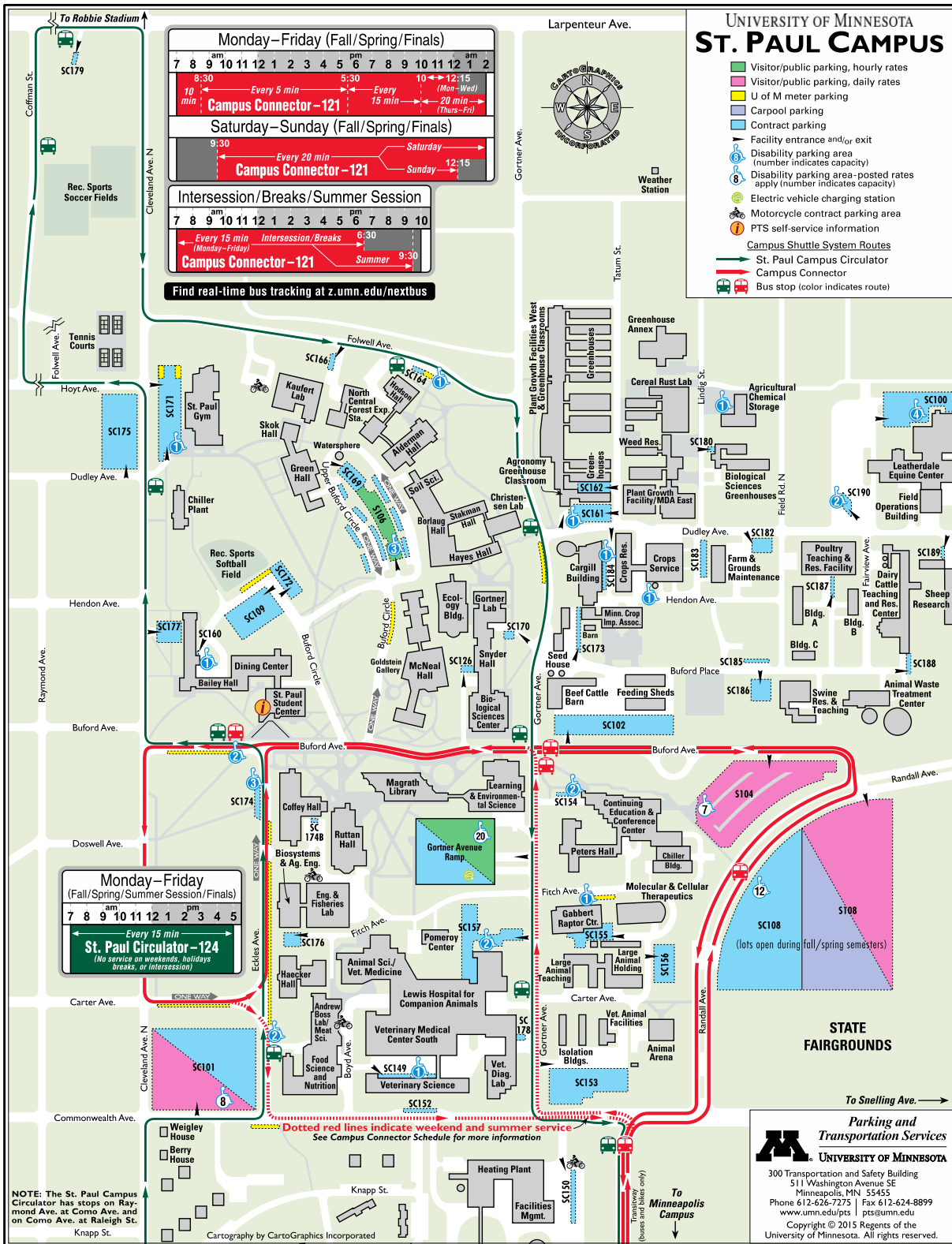
Parking and Transportation Services

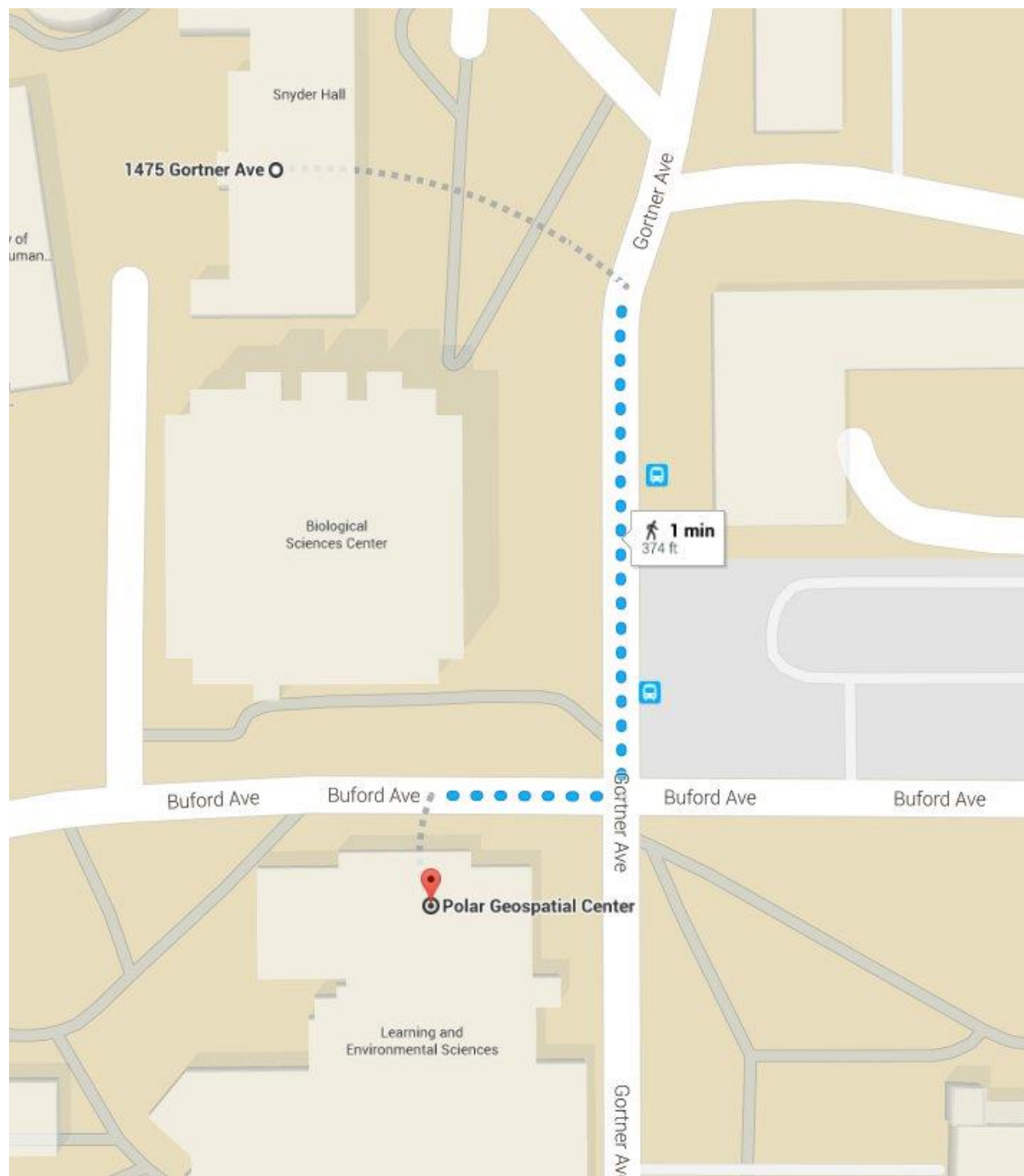
UNIVERSITY OF MINNESOTA

300 Transportation and Safety Building
511 Washington Avenue SE
Minneapolis, MN 55455
Phone 612-626-7275 Fax 612-624-8899
www.umn.edu/pts pts@umn.edu
Copyright © 2015 Regents of the University of Minnesota. All rights reserved.

Monday-Friday (Fall/Spring/Finals)																							
7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Every 5 min												Every 15 min											
Campus Connector -121												Campus Connector -121											
Monday-Friday												Monday-Friday											
12:15												12:15											
University Ave. Circulator -122												University Ave. Circulator -122											
Monday-Friday												Monday-Friday											
6:30												6:30											
4th Street Circulator -123												4th Street Circulator -123											
Monday-Friday												Monday-Friday											
No service												No service											
Stadium Superblock Circulator -120												Stadium Superblock Circulator -120											
Monday-Friday												Monday-Friday											
6:30												6:30											
No service												No service											

This map is printed on recycled paper with 50% postconsumer waste.





Workshop Location

The workshop will be held in Cargill 105.

Accommodation Details

Dormitory

The workshop dormitory, Middlebrook Hall (<https://www.housing.umn.edu/halls/middlebrook>), is located on the West Bank of the University of Minnesota at 412 22nd Ave S, Minneapolis, MN 55455. You can reach the dormitory staff by email at middlebrook.hall@umn.edu or by phone at (612) 625-5376. Check-in time is 1:00 pm, check-out time is 12:00 pm. Bed linens are changed weekly and towels can be exchanged daily. Rooms are air conditioned and free wifi is available.

Transportation and Parking

The Minneapolis-St. Paul International Airport (MSP) is located roughly 12 miles from the University of Minnesota campus. You can reach campus easily by train or taxi.

Train

The METRO Blue Line (<http://www.metrotransit.org/metro-blue-line>) runs every 15 minutes from MSP to the University area. The easiest way to get to UMN from the airport is to take the Blue Line to the Downtown East stop, then transfer to the Green Line (direction Union Depot) to the West Bank Stop. The fare is \$1.75 during non-rush hours and \$2.25 during rush hours. You can purchase tickets at a kiosk with cash or credit card. Note that the trains run less frequently early in the morning and late at night.

Taxi

Taxi services are available at both airport terminals.

Terminal 1 – Lindbergh:

Taxi service at Terminal 1 – Lindbergh is accessible via the Tram Level (level T). Signs direct passengers one level up to the taxi starter booth, where airport staff will assist passengers in getting a taxi.

Terminal 2 – Humphrey

Taxi service at Terminal 2 – Humphrey is available at the Ground Transport Center, located on the ground level of the Purple parking ramp directly across from the terminal building.

Fares:

The University of Minnesota is approximately 12 miles from the airport, with fares averaging \$35-\$45. All taxi fares are metered at a rate of up to \$2.50 per mile and include a \$4.00 airport access fee that is added to the final metered fare.

Contact:

Airport Taxi Service: (612) 721-0000

Blue and White Taxi: (612) 333-3333

For more information, visit:

<http://www.mspairport.com/GroundTransportation/taxicabs.aspx>

Parking on Campus

The University of Minnesota offers several parking options on campus. Three main categories of parking include public, contract, and specialty programs. Public parking is available to anyone at any time. Contract parking involves a commitment with a guaranteed parking space. Specialty programs include groups such as disability, vendors or construction staging requests.

Please visit the University of Minnesota Parking & Transportation Services website for more detailed information on parking lots and rates:

<http://www1.umn.edu/pts/park/index.html>

Getting Around Campus

Bus

Free shuttle buses, the Campus Circulator and Campus Connector

(<http://www1.umn.edu/pts/bus/index.html>), travel around the Minneapolis campus and between the St. Paul and Minneapolis campuses, respectively. Any travel after 2:00 am will require the use of public transportation or taxi service.

Bike

Passes for Nice Ride, the bicycle-sharing system in the Twin Cities, can be purchased at any of the Nice Ride kiosks around campus. The cost is \$6 for a 24-hour pass or \$15 for a 30-day pass, plus usage fees for individual trips over 30 minutes. West Bank kiosks are located at Blegen Hall and the Carlson School of Management. Find out more about Nice Ride on their website at <https://www.niceridemn.org/>.

Walk

Without a doubt, walking is the most economical way to access the Twin Cities campus. The University offers an aesthetically pleasing atmosphere with plenty of foliage and green plazas in different areas of campus. During snowy or rainy days, visitors can walk between most University buildings in the comfort of tunnels and skyways – the Gopher Way. You can find more campus walking resources here:
<http://www1.umn.edu/pts/walk/index.html>.

Eating and Drinking on the West Bank

Restaurants

Afro Deli & Coffee – 1939 S 5th St
Chipotle – 229 Cedar Ave South
Jimmy John's – 2037 Riverside Ave
Quiznos – 1851 Washington Ave S
Republic – 221 Cedar Ave
Subway (Blegen Hall) – 269 19th Ave S
Town Hall Brewery – 1430 S Washington Ave
West Bank Diner – 324 Cedar Ave S

Bars

Acadia Cafe – 329 Cedar Ave
Nomad World Pub – 501 Cedar Ave
Republic – 221 Cedar Ave
The Corner Bar – 1501 Washington Ave S
Town Hall Brewery – 1430 S Washington Ave

Coffee

Hard Times Cafe – 1821 Riverside Ave
Java City (Blegen Hall) – 269 19th Ave S
Mapps Coffee & Tea – 1810 Riverside Ave
Starbucks (Hanson Hall) – 1925 4th Street S

Groceries

Cub Foods – 2850 26th Ave S
Rainbow Foods – 2919 26th Ave S
Seward Co-Op – 2823 East Franklin Avenue
West Bank Grocery – 417 Cedar Ave

Participant List

2016 cyber+polar imagery workshop attendees

Sal Candela	Ohio State University
Vena Chu	University of California, Berkeley
Ben Crosby	Idaho State University
Jim Ferguson	University of Tennessee, Knoxville, XSEDE
Peter Griffith	NASA
Ian Howat	Ohio State University
Elizabeth Hoy	NASA
Michelle LaRue	University of Minnesota
Heather Lynch	Stony Brook University
Bento Goncalves	Stony Brook University
Shantenu Jha	Rutgers University
Bill Kramer (or BW associate)	NCSA, University of Illinois
Mark Salvatore	University of Michigan-Dearborn
Ben Smith	University of Washington
Mike Willis	Cornell University
Chandi Witharana	Stony Brook University
Kang Yang	University of California, Los Angeles

Workshop Agenda

cyber+polar imagery workshop

June 2nd – 3rd, 2016

St. Paul, MN

Thursday, June 2nd

8:00: (For those staying in the dorms) Meet in front of Middlebrook Hall for travel over to Cargill

8:30 - 9:00 **Coffee & Bagels**

9:00 – 9:15 **Welcome and Introductions**
Heather Lynch

9:15-9:45 **How do other big-data efforts manage cyberinfrastructure?**
Shantenu Jha

9:45 - 10:15 **Introduction to Blue Waters**
Bill Kramer (or Blue Waters associate)

10:15 - 10:30 **Break and continued discussion**

10:30 - 11:15 **Introduction to XSEDE**
Jim Ferguson

11:15 - 11:45 **Introduction to the ABoVE Science Cloud**
Peter Griffith & Liz Hoy

11:45 - 12:30 **Open Discussion**

12:30 - 1:30 **Lunch**

1:30 - 5:30 **Structured brainstorming and discussion**

5:30- **Continued discussion over dinner**

Friday, June 3rd

8:00: (For those staying in the dorms) Meet in front of Middlebrook Hall for travel over to Cargill

8:30 - 9:00 **Coffee & Bagels**

9:00 - 9:15	Brief introduction to upcoming funding opportunities Heather Lynch
9:15 - 11:45	Write-athon!
11:45 - 12:15	Groups report back on progress, discuss open questions
12:15 - 1:15	Lunch
1:15 - 2:15	Write-athon!
2:15 - 3:00	Pause to discuss next steps for those leaving for the airport
3:00 - 5:30	More writing!