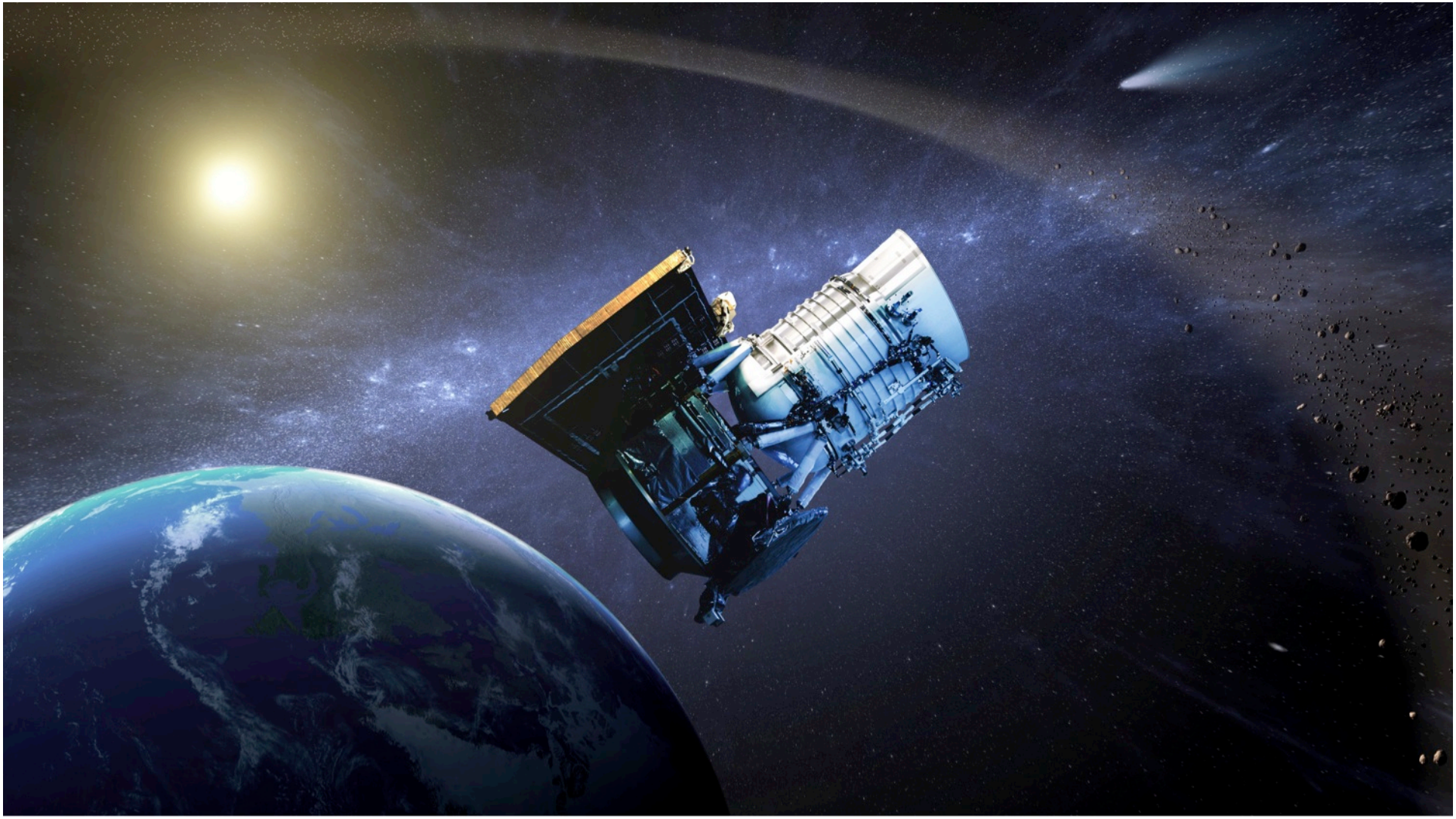


WISE at 5: Legacy and Prospects

Feb. 10-12, 2015

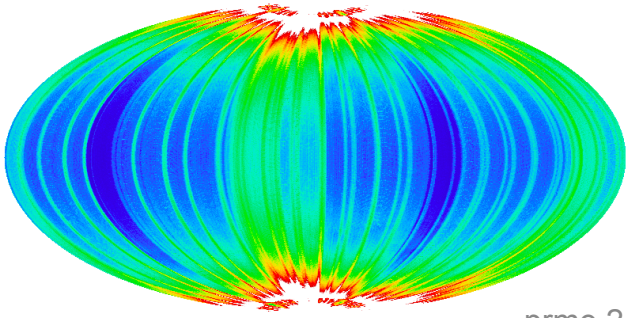
UCLA Caltech JPL ipac Ball Space Dynamics Laboratory Utah State University Research Foundation

National Aeronautics and Space Administration
Jet Propulsion Laboratory
California Institute of Technology

Welcome!

- 5 years from launch
- More planned sky surveying ahead now than was planned at launch
  - Thanks to Amy Mainzer and NASA's Planetary Division

- Now well into our 5th pass over the sky (green)
- 3 more passes planned



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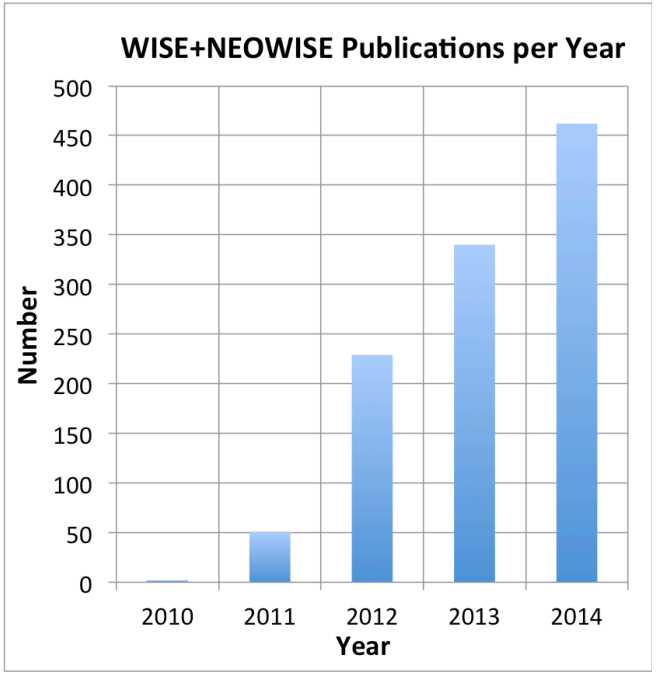
Welcome!

1175 refereed papers using WISE and NEOWISE data have been published or accepted.

http://tinyurl.com/WISEpapers



In the next 3 days we'll hear from you about the science:

- that has been done with WISE,
- that is being done with NEOWISE, and
- consider what will be done in the future.

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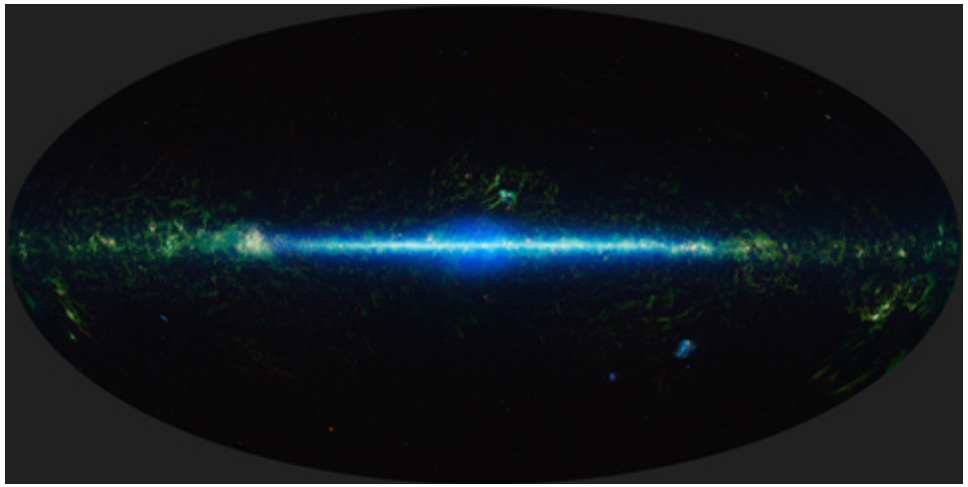
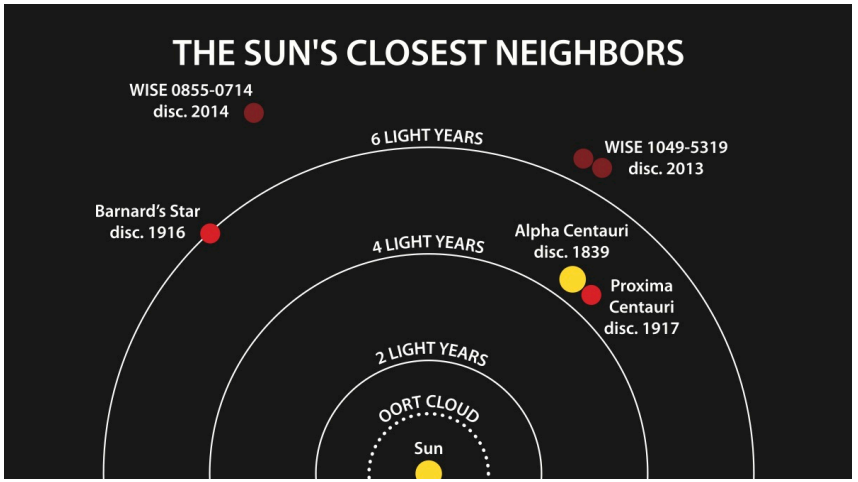
WISE Top 10 Report Card – 1 of 3

Pre-launch "Top Ten WISE Factoids" http://www.jpl.nasa.gov/wise/facts.cfm

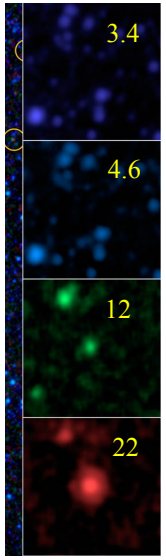
Here's how we're doing (short version: A+)

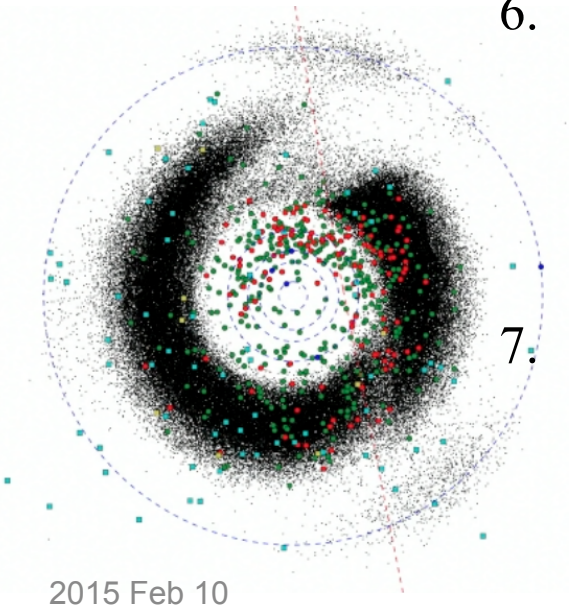
1. Everything But the Kitchen Sink. "The space telescope will see hundreds of millions of objects." ✓*747,634,026 objects in AllWISE catalog* (Cutri)
2. Our Closest Star? "It is likely to find the nearest "failed" star, or brown dwarf." ✓ *WISE J1049-5319 brown dwarf binary is 2 pc away, just further than Barnard's star.* (Luhman)
3. Ultra Cool Stars. "WISE is also likely to find the coolest brown dwarfs." ✓*Discovery of Y dwarfs* (Cushing). *WISE J0855-0714 ~250K* (Luhman)





WISE Top 10 Report Card – 2 of 3





4. The Most Luminous Galaxy of All. “It is expected to find the most luminous galaxy in the universe” ✓*W2246-0526* L_{bol}~*3.5* × *10*^{14} $L_{\odot}$ *, brighter than any quasar.* (Tsai)
5. Ninja-like Asteroids. "It is expected to detect hundreds of thousands of asteroids in our main asteroid belt, including the dark, ninja-like ones” ✓*NEOWISE has identified over 158,000 asteroids. The darkest reflect just a few percent of light*. (Mainzer)
6. Picking up Glow of Near-Earth Objects. "The infrared explorer will also pick up the glow of hundreds of never-before seen asteroids and comets that swing relatively close to Earth.” ✓ *NEOWISE has discovered at least 171 NEAs and 21 comets* (Mainzer)
7. How Big and Fluffy Is That Space Rock? "WISE will tell us how big near-Earth objects and main belt asteroids are.” ✓ *NEOWISE thermal diameters and albedos for over 100,000 asteroids.* (Masiero)

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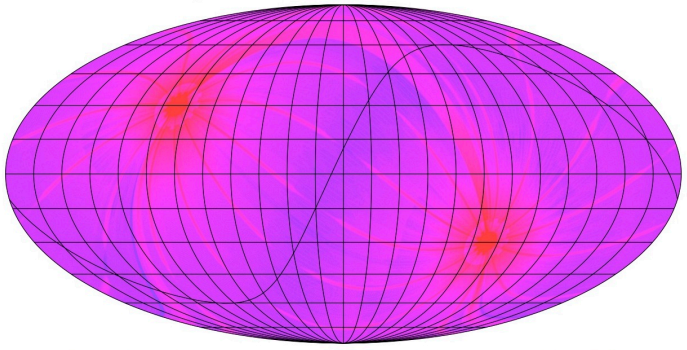
WISE Top 10 Report Card – 3 of 3

Thru 17.1 July 2010 UTC, 99.999% to 4 or more



8. Improving on the Past. "WISE will dramatically improve on [IRAS] with next-generation infrared detectors." ✓*WISE has four megapixel arrays vs. the 62 pixels on IRAS. Masterjohn et al. 2010 SPIE 7796*
9. Seriously Chilled Out. "The coldest detectors will be below minus 265 degrees Celsius" ✓*Actually achieved minus 265.55 Celsius (7.6 K). Lloyd, Thompson and Schick 2010 SPIE 7796; Naes, Lloyd, and Schick 2008 AIPC 985, 815*
10. Round and Round It Goes. "WISE will map the whole sky in just six months." ✓*WISE began surveying the sky on 2010 January 14 and completed its first full coverage of the sky on July 17. Wright et al. 2010, AJ 140, 1868* (Wright)

Presentations

- PDFs of all submitted presentations, including posters, will be posted on-line: http://wise5.ipac.caltech.edu/
- Please send PDFs of your posters to WISE5@ipac.caltech.edu
- Posters will be on display outside during the conference in the area around the fountain.

Wireless Access:

Network name: Caltech Conference
User name: wiseconference
Password: wise+5

Speaker Instructions

- Speakers should bring their talks to be loaded on the presentation computer by at least the break before their session.
- Animation and movie files should be loaded separately.
- Speakers are encouraged to test that their files display correctly.
- Timer will sound 5 minutes before the end of the scheduled time to allow time for questions and transition to the next talk.

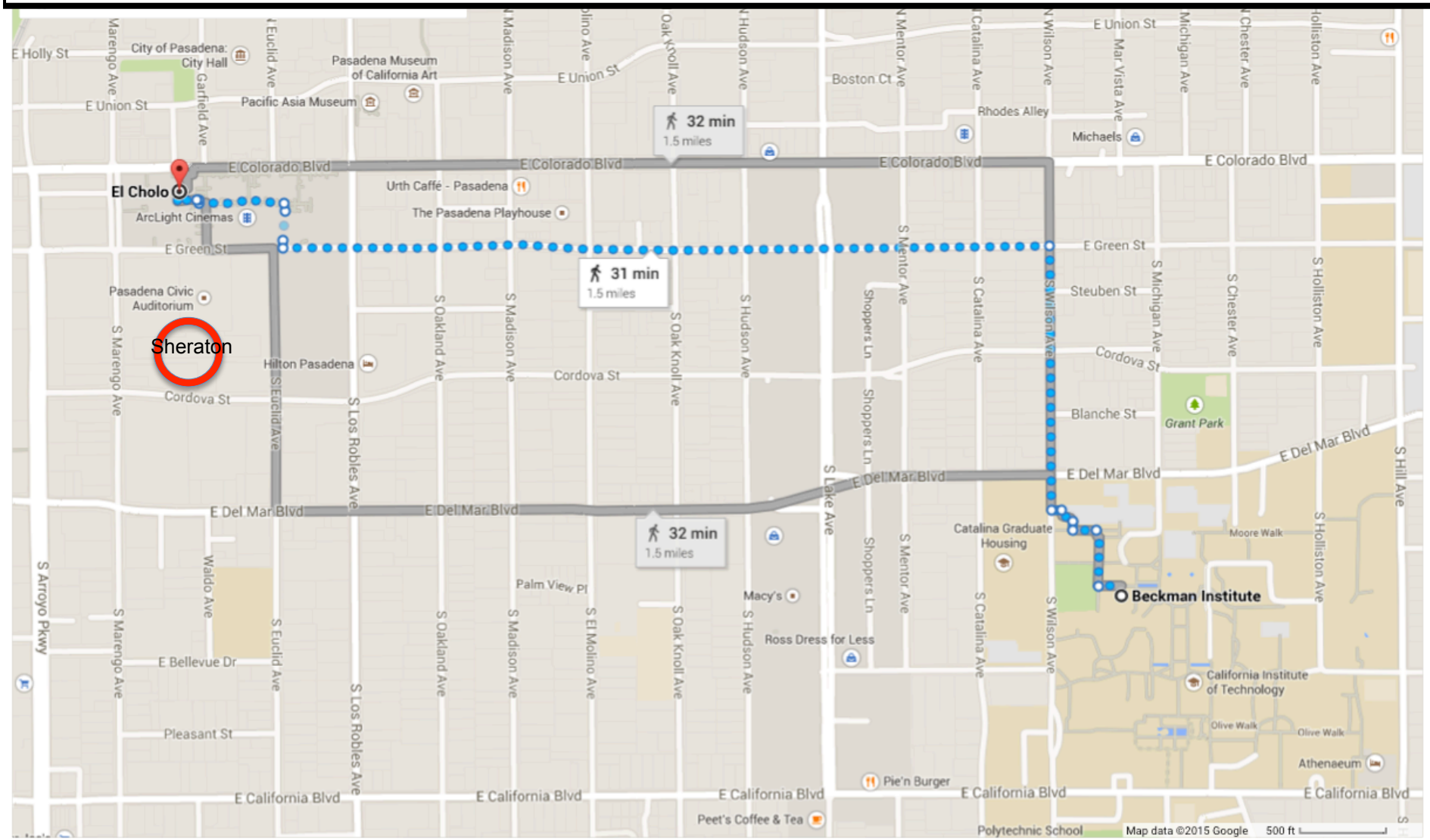
Refreshments and Lunch

- Coffee and snacks generously provided by Ball Aerospace and Space Dynamics Laboratory. Thank you!
- Please take coffee outside and down steps towards the posters.
- 1.5 hrs for lunch. Chandler café on campus is a few minutes away, and there are many restaurants to the west on Lake Ave.
- Auditorium is not locked, so leave items at your own risk.
- Please silence cell phones and laptops.

Dinner

- Conference Dinner Wednesday at 7:00 pm at El Cholo in Paseo Colorado
  - Non-alcoholic drinks included
  - Cash bar available
  - No transportation provided
    - close to Sheraton
    - ½ hr walk from conference
    - Parking underneath Paseo; validated for 90 minutes
  - Tickets are no longer available for the dinner.

Conference Dinner: Wed. 7pm
El Cholo Restaurant in Paseo Colorado

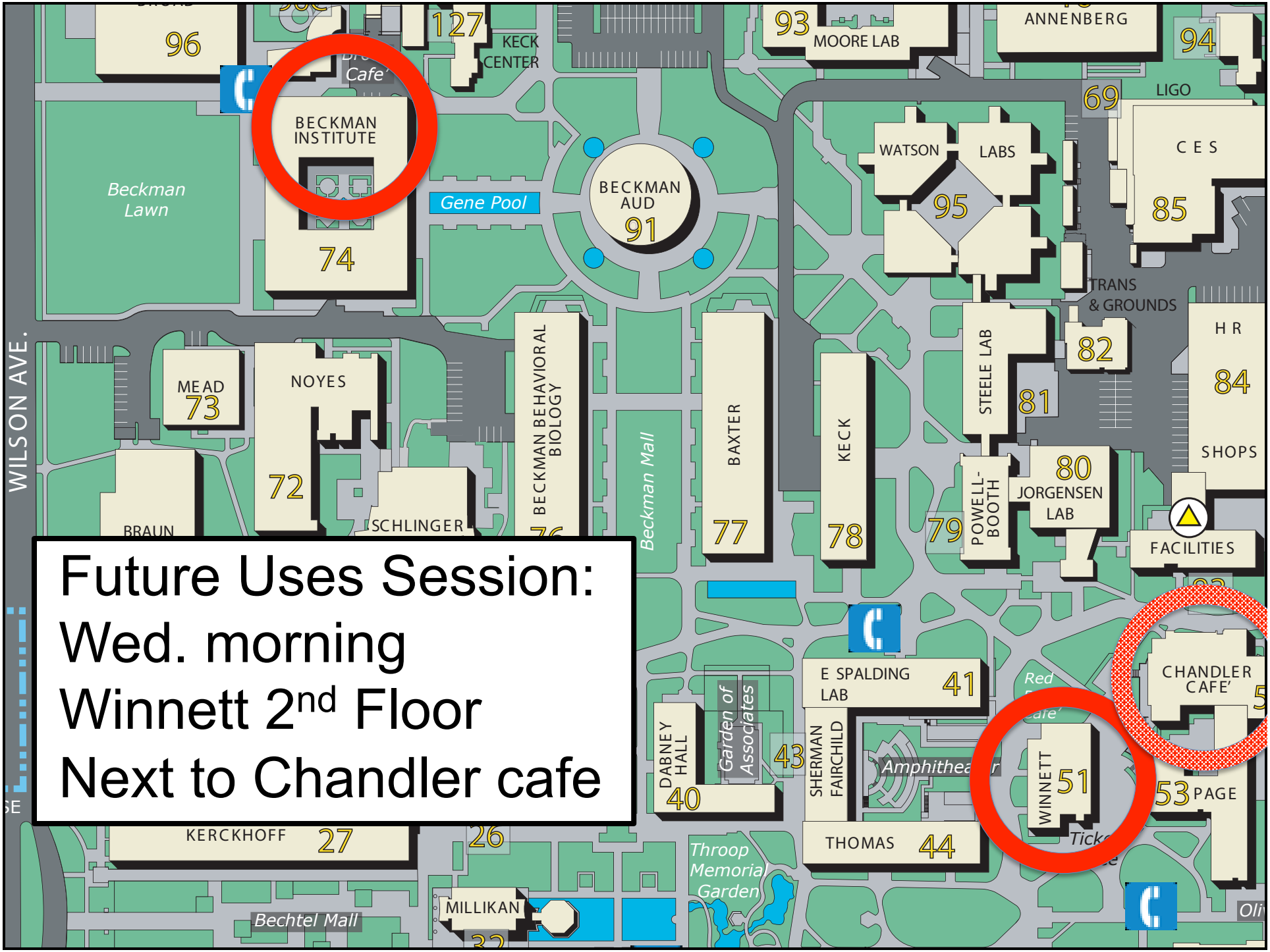


Future Uses Session

- Wed. 10:55am Winnett Student Center 2nd Floor

1. What 5 major science questions can WISE or NEOWISE data still answer?
2. What are the most important existing data and tools to help answer these questions?
3. What are the most important future data and tools to help answer these questions?
4. How would additional processing of WISE and NEOWISE data help answer these questions?

- Chandler cafe next door to continue discussions over lunch


Future Uses Session:
Wed. morning
Winnett 2nd Floor
Next to Chandler cafe
BECKMAN INSTITUTE
Beckman Lawn
Gene Pool
BECKMAN AUD
91
KECK CENTER
127
MOORE LAB
93
ANNENBERG
94
LIGO
69
CES
85
WATSON
LABS
95
TRANS & GROUNDS
82
HR
84
SHOPS
STEELE LAB
81
JORGENSEN LAB
80
POWELL-BOOTH
79
FACILITIES
CHANDLER CAFE'
PAGE
53
WINNETT
51
E SPALDING LAB
41
SHERMAN FAIRCHILD
43
DABNEY HALL
40
Garden of Associates
THOMAS
44
Throop Memorial Garden
KERCKHOFF
27
MILLIKAN
Bechtel Mall
MEAD
73
NOYES
72
SCHLINGER
BECKMAN BEHAVIORAL BIOLOGY
Beckman Mall
BAXTER
77
KECK
78
WILSON AVE.
74
96

Thanks to:

- **Ellen O'Leary**
- Roberto Assef
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- Roc Cutri
- James Bauer
- Monica Beltran
- Deborah Padgett
- Beth Fabinsky
- Jacqueline Faherty
- Jacqueline Gonzalez
- Varoujan Gorjian
- Lynne Hillenbrand
- Davy Kirkpatrick
- Emily Kramer
- David Leisawitz
- Irene Loera
- Joseph Masiero
- Juleen Moon
- Luisa Rebull
- Michael Ressler
- Daniel Stern
- Chao-Wei Tsai
- Jingwen Wu
- Ned Wright