

Third COSMOS workshop, Tucson, AZ, USA, 10-12 December 2012

AGENDA

Monday, 10 Dec 2012

Catalina room

7:30 - 9	Breakfast	
9 - 12	Cosmic-ray method, COSMOS project, user experience. Conveners: Zreda, Franz	
9:00 – 9:05	Bamzai (NSF)(5)	Introduction and welcome from NSF
9:05 – 9:20	Zreda (15)	Introduction to workshop, COSMOS overview, workshop goals
9:20 – 9:50	Desilets (20+10)	Probe background, technology, calibration, MCNP
9:50 – 10:15	McJannet (20+5)	Probe use while upside down: CosmOz
10:15 – 10:30	Coffee break	
10:30 – 10:55	Bogena (20+5)	Effect of organic matter in soil and in litter layer
10:55 – 11:10	Rosolem (10+5)	Effect of atmospheric water vapor
11:10 – 11:25	Baroni (10+5)	Alternative field calibrations
11:25 – 11:40	Hornbuckle (10+5)	Effect of fast growing vegetation: maize
11:40 - 13:40	Lunch together and free time	
13:40 – 14:35	Cosmic-ray method (continued from morning).	
13:40 – 14:05	Franz (15+10)	Handling all sources of hydrogen
14:05 - 14:35	Discussion	Theme: What we do and don't know about the cosmic-ray method. What else can be measured using cosmic rays?
14:35 – 14:50	Coffee break	
14:50 – 17:05	Applications to hydrology and ecology; synergies with other networks. Conveners: Shuttleworth, Zeng	
14:50 – 15:15	Baldocchi (20+5)	Ecology
15:15 – 15:40	Meyers (20+5)	Ameriflux and CRN
15:40 – 16:05	Loeschler (20+5)	NEON
16:05 – 16:20	Meadows (10+5)	CZOs
16:20 – 16:35	Scott (10+5)	USDA
16:35 – 16:50	Oncley (10+5)	NCAR/EOL - measurements of soil properties
16:50 – 17:20	Discussion	Themes: What are the synergies between COSMOS and other networks? Are there additional networks with which COSMOS could build partnerships?
17:15 – 19:15	Free time	
19:15 – 21:15	Dinner together	

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Tuesday, 11 Dec 2012

Catalina room

7:30 - 9	Breakfast	
9 - 12	Applications to remote sensing and hydrometeorology. Conveners: Franz, Chrisman	
9:00 – 9:25	Kerr (20+5)	SMOS is part of COSMOS
9:25 – 9:45	Jackson (15+5)	SMAP, cal/val
9:45 – 10:00	Mike Ek	Soil moisture data assimilation at NCEP/EMC
10:00 - 10:15	Hsu (10+5)	AMSR-E soil moisture downscaling
10:15 – 10:30	Coffee break	
10:30 – 10:45	Zreda (10+5)	Mobile sensing of surface moisture: COSMOS rover
10:45 - 11:00	Chrisman (10+5)	Combining COSMOS and microwave satellite data
11:00 – 11:30	Cuenca (20+10)	Hydrology
11:30 - 12:00	Discussion	Theme: How can COSMOS be used with remote sensing methods to produce better products for hydrologic applications?
12:00 - 13:45	Lunch together and free time	
13:45 – 15:15	Modeling and data assimilation. Conveners: Zeng, Rosolem	
13:45 – 14:10	Hoar (20+5)	DART and data assimilation
14:10 – 14:30	Rosolem (15+5)	COSMIC and land data assimilation
14:30 – 14:45	Caldwell (10+5)	Comparison of NLDAS model data with COSMOS
14:45 – 15:15	Discussion	Theme: What we do and don't know about assimilating data from the COSMOS probe?
15:15 – 15:30	Coffee break	
15:30 – 17:00	Future of COSMOS; global COSMOS. Conveners: Zreda, Shuttleworth, Zeng.	
		<ol style="list-style-type: none"> 1. Summary of workshop: what we have learned and what are the outstanding challenges? 2. Who will use COSMOS data and what data products are needed by different users? Besides soil moisture, what other variables can COSMOS probes possibly measure? 3. Expanding the global COSMOS community; next steps
17:00 –	Free time	

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AGENDA

Wednesday, 12 Dec 2012, morning

Santa Rita room

8 - 9	Breakfast	
9 - 11:30	Introduction to neutron transport modeling MCNPX and COSMIC	
9:00 – 9:30	Clem (15+15)	Basic physics and architecture of MCNPX. Alternatives (Fluka etc).
9:30 – 10:00	Desilets (15+15)	MCNPX in soil moisture research: basic developments
10:00 – 10:30	Franz (15+15)	Creating MCNPX input file and interpreting output file
10:30 – 11:00	Rosolem (15+15)	COSMIC as an alternative to MCNPX
11:00 – 11:30	Discussion/questions	
11:30 - 12:20	Free time	

Abbreviations: MCNPX=Monte Carlo Neutral Particle eXtended; COSMIC=COsmic-ray Soil Moisture Interaction Code.

Wednesday, 12 Dec 2012, afternoon

Field trip to COSMOS site

12:20 – 17:00	Field trip to the Santa Rita COSMOS site
12:20 - 12:30	Assemble in parking lot (east side of hotel)
12:30 – 14:00	Travel to Santa Rita
14:00 – 14:45	Lunch in the field (brought with us)
14:45 – 15:45	COSMOS site at the Santa Rita Experimental Range
15:45 – 17:15	Travel back to the hotel
17:15 -	Free time

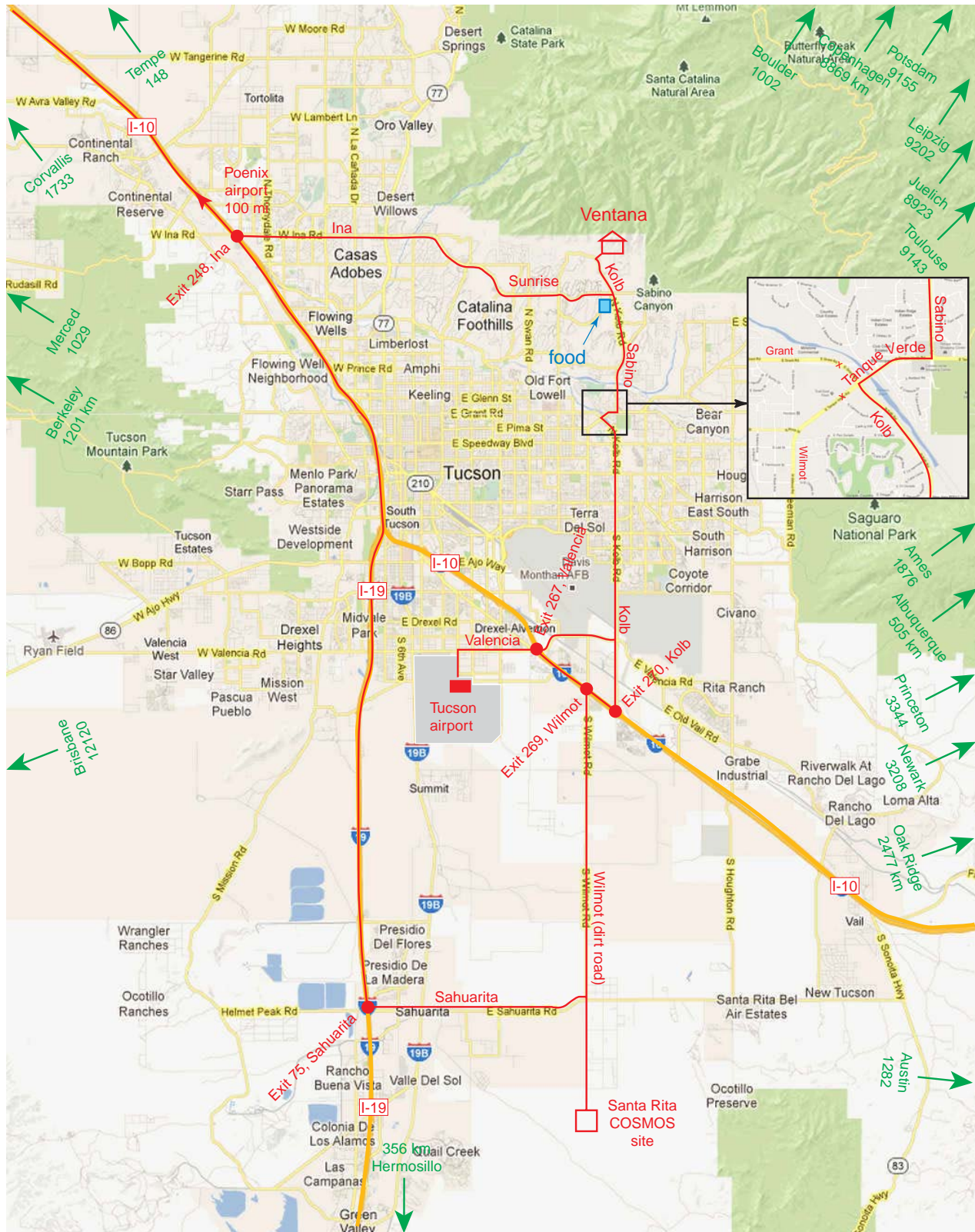
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LIST OF PARTICIPANTS

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Key to abbreviations: COSMOS=COsmic-ray Soil Moisture Observing System; AZ=Arizona; U=university; NSF=National Science Foundation; FZ=Forschung Zenter; NOAA=National Atmospheric and Oceanic Administration; USDA=United States Department of Agriculture; NCAR=National Center for Atmospheric Research; CESBIO=Centre d'Etudes Spatiales de la Biosphère; SMOS=Soil Moisture Ocean Salinity; NEON=National Ecological Observatory Network; CSIRO= Commonwealth Scientific and Industrial Research Organisation; UFZ=Umwelt Forschung Zenter.

VENUE, MAPS, DIRECTIONS



VENUE, MAPS, DIRECTIONS

Driving directions

(See the map on the previous page)

From the Tucson airport to the hotel:

1. Drive out of the airport, north on Tucson Blvd. Go 1.1 miles.
2. Turn east (right) on Valencia. Go 5.8 miles.
4. Turn north (left) on Kolb Rd. Go 7.8 miles.
5. Turn east (right) on Tanque Verde Rd. Go 0.6 miles.
6. Turn north (left) on Sabino Canyon Rd. Go 2.3 miles.
7. Keep left to get back on Kolb (don't turn right which is Sabino Canyon Rd). Go 3.3 miles.
8. Turn east (right) into Estes Way. Go 0.2 miles to destination.

Total miles: 21.1

Driving time: 45 minutes

From the Phoenix airport to the hotel:

1. Drive (ca. 4 miles) to the interstate highway I-10, direction south.
2. Drive south approximately 96 miles.
3. Exit on Ina road (exit number 248), direction east (left). Go 14 miles. (Note that Ina becomes Skyline and then Sunrise).
5. Turn north (left) on Kolb, drive 1.2 miles.
6. Turn east (right) into Estes Way. Go 0.2 miles to destination.

Total miles: 115

Driving time: 2 hours

From the the hotel to the Santa Rita COSMOS field site:

1. Turn south (left) on Kolb.
2. Drive approximately 16 miles to the interstate highway I-10 (exit 270).
3. Turn west (right) on the I-10. Go ca. 1 mile.
4. Exit on Wilmot road (exit number 269), direction south (left).
5. Drive 13.5 miles, to gate (E Foresight Road). Enter the gate.

Note: past this point only high-clearance or/and 4WD vehicles are advised.

6. Take the left road, drive 1.8 miles. Park in a clear spot on the left side of the road.

Total miles: 33

Driving time: 1:30 hours

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VENUE, MAPS, DIRECTIONS

Location of the workshop

The Loews Ventana Canyon (see p. 5-6 for directions)

7000 North Resort Drive

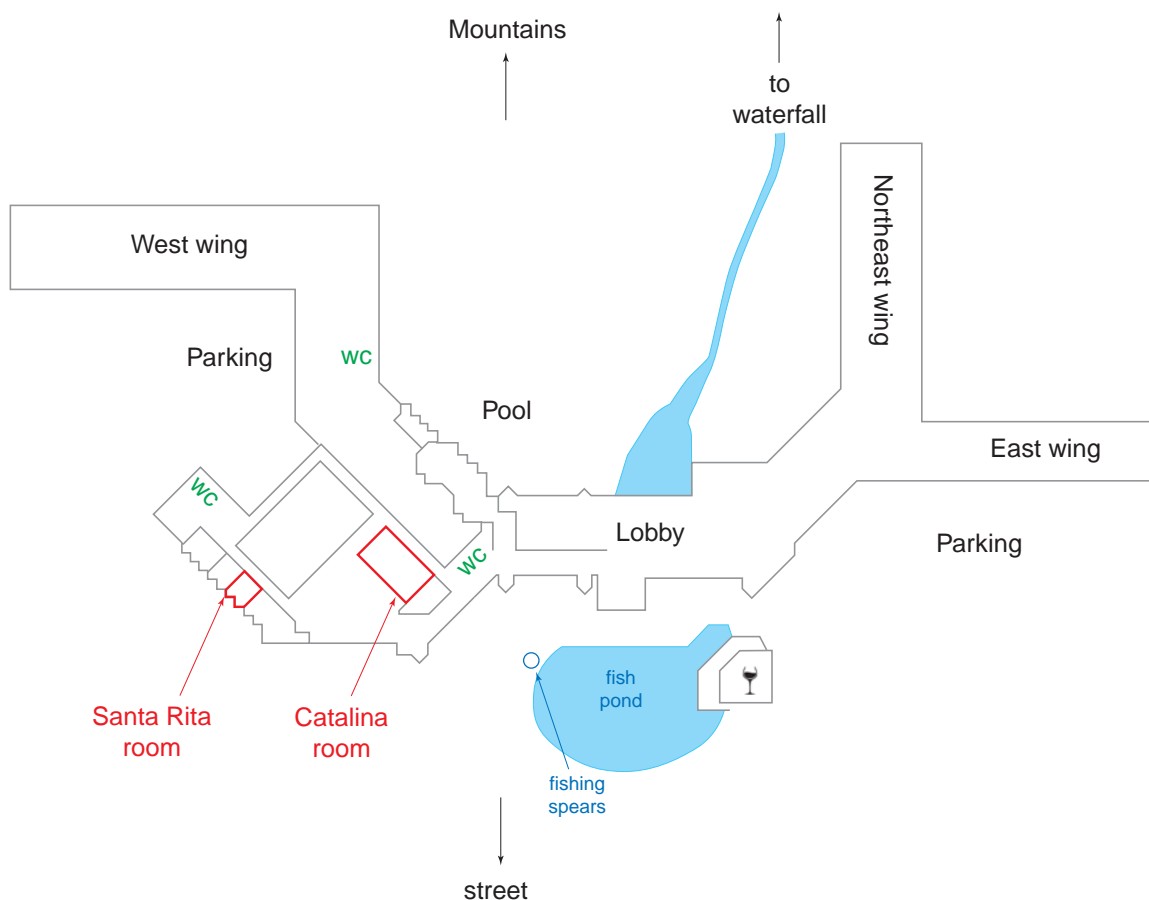
Tucson, Arizona, 85750

Tel. (520) 299-2020

Catalina room: Monday, Tuesday

Santa Rita room: Wednesday

Hospitality suite (room 4210): Sunday – Wednesday, 17 -



Also see:

p. 5 for map of Tucson
p. 6 for driving directions
p. 8 for full map of hotel

Contact information

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