

APS Energy Showcase
Saturday, September 15, 2012

Kick-off Meeting

Agenda

- Brian Stephenson
 - A word from the ALD
- Cindy Wilkinson
 - A word from CEPA
- John Maclean
 - A word about the day
- Rose Torres
 - A word about assignments
- Rick Fenner
 - A word about the tour route
- Connie Vanni
 - A word about getting your gear
- Questions?
 - Word

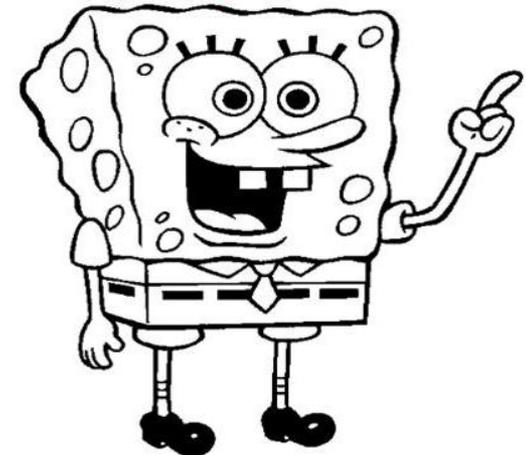
Argonne Energy Showcase APS Briefing

13 September 2012
John Maclean

Times

- Open House runs from 9:00am to 4:00pm.
- Morning volunteers need to be in place by 8:30am
- Gate schedule for open house
 - Northgate is open 24 hours
 - Saturday, September 15, Westgate will open at 7:00 a.m. , East gate 8:00 a.m. for staff
 - Expect to show badge if you enter the site before 9 a.m.
- Expect lines at the gates, particularly during the peak hours
- Peak hours approx. 10:00 – 2:30

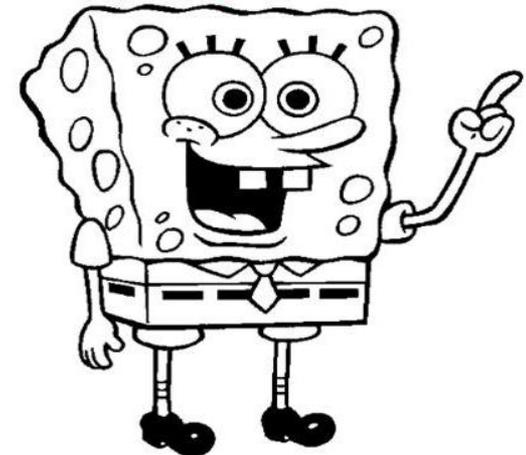
Safety first!



Access to the APS

- The APS will not be running. Members of the public will be allowed on the experiment floor in an area from the EAA to Sector 1.
- Other areas of the facility will be out of bounds to members of the public.
- Staff families and friends will be allowed to other areas if accompanied by staff. Normal safety and access rules apply.

Safety first!



APS Volunteers

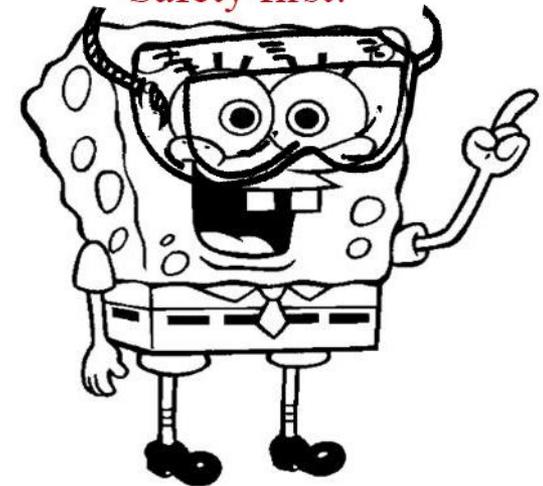
- Three types
 - Exhibitors: Organized by exhibits
 - Guides: See schedule handout
 - Others: Explainers and general support
- Be polite and helpful
- Questions you can't answer? Try to direct them to someone who can
- Answer questions in plain English – Limit jargon



Safety

- Safety of visitors and staff is the most important thing
- Look around your area to identify potential hazards – Analyze Hazards
- Keep an eye on the public to ensure... (Implement Hazard Controls, Work Within Controls)
 - They don't touch things they shouldn't
 - They don't go places they shouldn't
 - That big back ups don't occur
- Escort visitors to shelter in the event of Tornado
- Disabled access, strollers etc – Elevators
 - Down – elevator opposite Control Room
 - Up – elevators in atrium
 - Elevators will have an operator
- Safety walk through will occur Friday at 1:00pm
- Any concerns contact Fenner, Maclean or other manager

Safety first!



Security

- Additional security patrols in APS overnight Fri/Sat.
- Inner field blocked off
- Blocking off the roads by Kearney and Rock and Rock and Meridian to vehicle traffic.

Safety first!



Set Up and Clean Up

- Signage and barriers will be erected Friday and early Saturday
- Tables are being set up in the gallery for dining.
- Please complete set-up by Friday 1:00pm
- Trikes etc. moved from tour route by Friday pm.
- Lock all cupboards, lockers, offices for Saturday.
- Don't leave anything valuable unsecured, including exhibits on Friday night.
- Remove anything valuable Saturday evening
- Barriers will be removed Saturday
- Most clean up, tear down Monday



Summary

- Keep people safe
- Expect delays getting on site
- Keep people safe
- Enjoy the day
- Keep people safe
- We have a great facility we can be proud of, let's show it off
- Thank you for your time and effort



APS Energy Showcase
Saturday, September 15, 2012

Kick-off Meeting

Tour Assignments

Rose Torres



Assignments: Available on the Web Site

The screenshot shows the Argonne National Laboratory website. The left sidebar contains a navigation menu with the following items: Welcome, Visitor Information, Job Openings, Apply for Beam Time, Machine Status | Schedule, Conferences, Seminars & Meetings, Publications, Safety and Training, Construction Schedule, **Energy Showcase** (circled in red with a red arrow pointing to it), Find People, Organization Charts, Email | Calypso | Intranet, APS Conference Rooms, Suggestion Box, Document Central, Argonne Guest House, Argonne Accelerator Inst., National User Facility Org., lightsources.org, and social media icons for Facebook, Twitter, YouTube, and LinkedIn.

The main content area is titled "Energy Showcase" and includes the following information:

Energy Showcase -- Sept. 15, 2012
 APS List of Volunteers and Displays

Volunteers (last, first name)	9:00a	10:00a	11:00a	11:30a	12:00a	12:30a	1:00a	2:00a	3:00a	4:00a
Alley, Reggie	Entrance to 401	Entrance to 401	Entrance to 401	Entrance to 401	Entrance to 401	Lunch	Atrium	Atrium	Atrium	Atrium
Balasubramanian, Mali	Explainer - Viewing Gallery									
Balsten, Crystal	Entrance to Viewing Gallery	Lunch	Atrium	Atrium	Atrium	Atrium	Atrium			
Benda, Sue	MCR Elevator	MCR Elevator	MCR Elevator	MCR Elevator	MCR Elevator	Lunch	MM-1 (Liz Moog's area)			
Blair, Deena	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs	Lunch	MM-1 (Liz Moog's area)				
Brody, Ryan	MM-1 (Liz Moog's	MM-1 (Liz Moog's	MM-1 (Liz Moog's	MM-1 (Liz Moog's	MM-1 (Liz Moog's	Lunch	Entrance by Control	Entrance by Control	Entrance by Control	Entrance by Control

Below the table are sections for "SCIENCE AND RESEARCH HIGHLIGHTS" (Priming the Pump in the Fight against Drug-Resistant Tuberculosis) and "APS NEWS" ("Inside the Advanced Photon Source").

<http://www.aps.anl.gov/Energy/listOfVolunteers.html>

Assignments: Available in Print

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Volunteers (last, first name)	9:00a	10:00a	11:00a	11:30a	12:00p	12:30p	1:00p	2:00p	3:00p	4:00p
Alley, Ragge	EAA Entrance to 401	EAA Entrance to 401	lunch	Atrium	Atrium	Atrium	Atrium			
Balaubramanian, Mali	Explainer - Viewing Gallery									
Balten, Crystal	Entrance to Viewing Gallery	lunch	Atrium	Atrium	Atrium	Atrium	Atrium			
Bends, Sue	MCR Elevator	MCR Elevator	MCR Elevator	MCR Elevator	MCR Elevator	lunch	MM-1 (Liz Moog's area)			
Blair, Deena	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs	lunch	MM-1 (Liz Moog's area)	MM-1 (Liz Moog's area)	MM-1 (Liz Moog's area)	MM-1 (Liz Moog's area)	MM-1 (Liz Moog's area)
Brody, Ryan	MM-1 (Liz Moog's area)	MM-1 (Liz Moog's area)	lunch	Entrance by Control Room						
Carlson, Linda	Between lunchroom and Elevator	Between lunchroom and Elevator	lunch	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs			
Cokeley, Loretta	Atrium	Atrium	Atrium	Atrium	Atrium	lunch	Between lunchroom and Elevator			
Cross, Julie	Explainer - Viewing Gallery	lunch	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery			
Dabrowski, Joe	Entrance by Control Room	lunch	Bottom of EAA Stairs	Bottom of EAA Stairs	Bottom of EAA Stairs	Bottom of EAA Stairs	Bottom of EAA Stairs			
Dalton, Barb	MM-1 (Liz Moog's area)	lunch	Atrium Elevator	Atrium Elevator	Atrium Elevator	Atrium Elevator	Atrium Elevator			
Devey, Steve							Explainer - Viewing Gallery			
Dooling, Jeff			MCR - Explainer	MCR - Explainer	MCR - Explainer	MCR - Explainer	MCR - Explainer	MCR - Explainer	MCR - Explainer	MCR - Explainer
Doumy, Gilles			Explainer - Viewing Gallery	Explainer - Viewing Gallery			Explainer - Viewing Gallery			
Drackley, Mike	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Opposite EAA Stairs	Opposite EAA Stairs				
Eriapic, Marija	Bottom of EAA Stairs	Gallery - Bus Stop	Gallery - Bus Stop							
Erwin, Lester	A-1100 Conf. Room Exit Door	A-1100 Conf. Room Exit Door	lunch	Atrium Elevator - Gallery Floor						
Fenner, Rick	Services	Services	Services	Services	Services	Services	Services	Services	Services	Services
Forsythe, Rebecca	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs	lunch	MCR Elevator	MCR Elevator	MCR Elevator	MCR Elevator	MCR Elevator
Gagnon, Becki		MCR Elevator - EAA Floor	MCR Elevator - EAA Floor	MCR Elevator - EAA Floor	Bottom of EAA Stairs	Bottom of EAA Stairs				
Grodecki, Ted	MCR - Explainer	MCR - Explainer	MCR - Explainer	MCR - Explainer						
Ilavsky, Jan							Explainer - Viewing Gallery			
Jansma, Bill	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	lunch	Atrium	Atrium	Atrium	Atrium	Atrium
Khousary, Ali							Explainer - Viewing Gallery			
Kitching, Jude	INFO TABLE	INFO TABLE	INFO TABLE	INFO TABLE	lunch	INFO TABLE	INFO TABLE	INFO TABLE	INFO TABLE	INFO TABLE
Maclean, John	Explainer - Viewing Gallery	Explainer - Viewing Gallery	lunch	Explainer - Viewing Gallery						
March, Anne Marie					Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery

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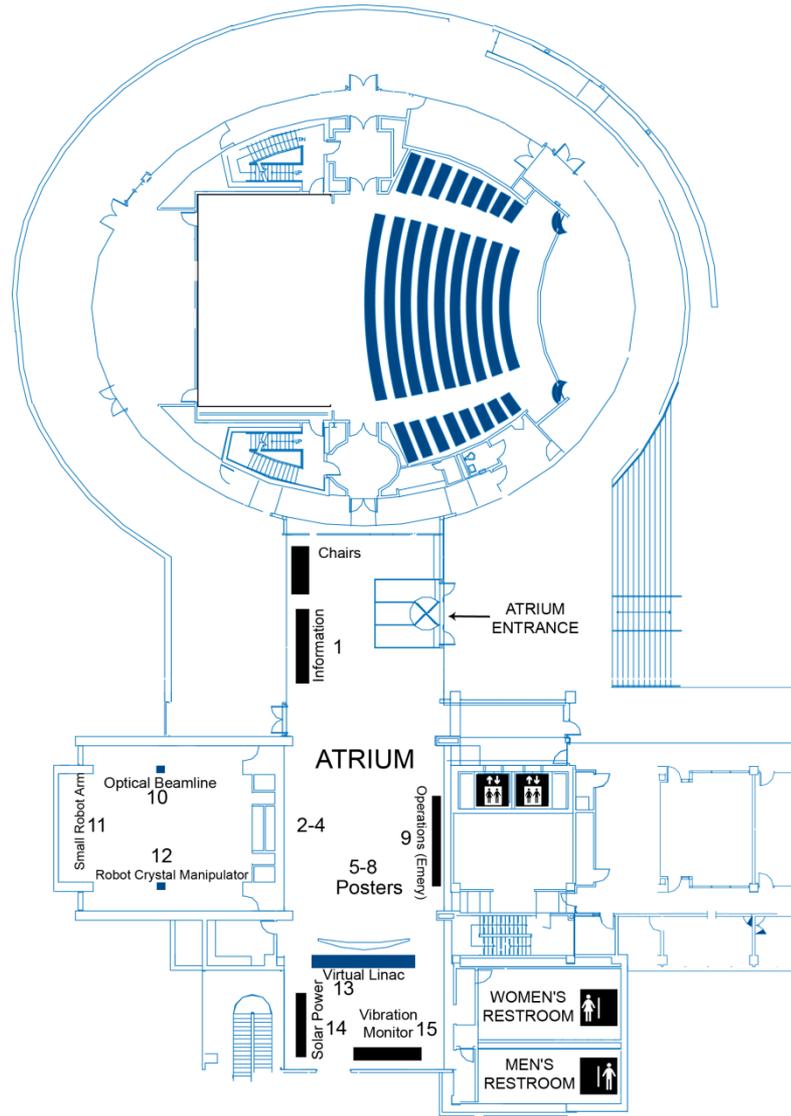
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Markiewicz, Connie	Atrium	Atrium	Atrium	Atrium	lunch	INFO TABLE	MCR Elevator - EAA Floor			
Mazzi, John	MCR - Explainer	lunch	MCR - Explainer	MCR - Explainer	MCR - Explainer	MCR - Explainer				
Mills, Denny	Explainer - Viewing Gallery	Explainer - Viewing Gallery								
Nolasco, Carmen	Atrium	Atrium	Atrium	Atrium	lunch	EAA Entrance to 401				
Pransky, Jane	Atrium	Atrium	Atrium	Atrium	lunch	EAA Entrance to 401				
Prokaski, Chuck	Explainer - Viewing Gallery	lunch	Explainer - Viewing Gallery							
Ray, Dipanvita					Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance
Reed, Rachel	Gallery - Bus Stop	lunch	Entrance to Viewing Gallery							
Reininger, Ruben	Explainer - Viewing Gallery									
Ross, Angela	Entrance to Viewing Gallery	lunch	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs	Opposite EAA Stairs				
Rossi, Paul	EAA Entrance to 401	lunch	Gallery - Bus Stop							
Russell, Ed	Services	Services	Services	Services	Services	Services	Services	Services	Services	Services
Ruzicka, Bill	Atrium	Atrium	Atrium	Atrium	Atrium		Explainer - Viewing Gallery			
Schwartz, Craig							Explainer - Viewing Gallery			
Shoudis, Linda	Atrium Elevator - Gallery Floor	lunch	Entrance by Control Room	Entrance by Control Room	Between lunchroom and Elevator	Between lunchroom and Elevator				
Smith, Tim	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery				
Tischer, Jon			Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery	Explainer - Viewing Gallery				
Torres, Rose	Services	Services	Services	Services	Services	Services	Services	Services	Services	Services
Traktenberg, Emil	Explainer - Viewing Gallery	lunch	Explainer - Viewing Gallery							
Vanni, Connie	INFO TABLE	lunch	INFO TABLE	INFO TABLE	INFO TABLE	INFO TABLE				
Veseli, Sinita	Entrance by Control Room	Entrance by Control Room								
Widuch, Karin	Entrance to A-1100 Conf. Room									
Wilkinson, Diane	Atrium	Atrium	Atrium	Atrium	Atrium	lunch	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance	Between Bottom of EAA Stairs and 401 Entrance

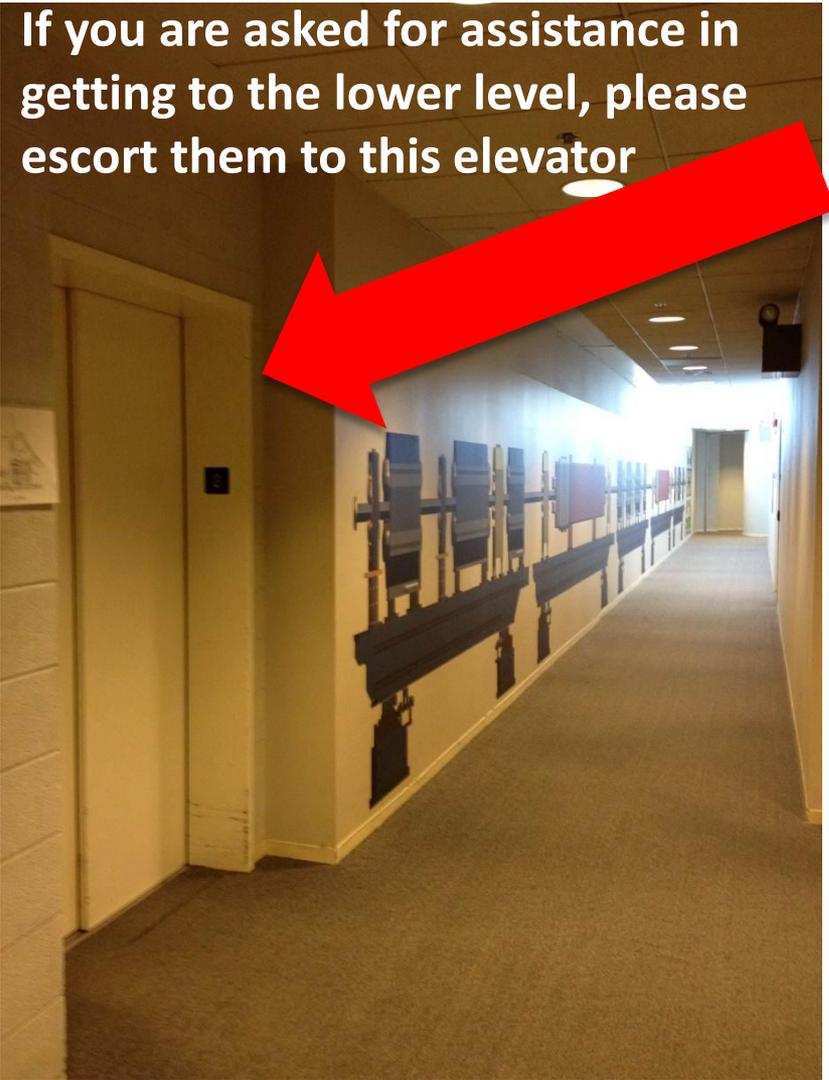
Copies available on the tables at the back

Tour Route (1)

BUILDINGS 401 & 402 - FIRST FLOOR



Tour Route (2)

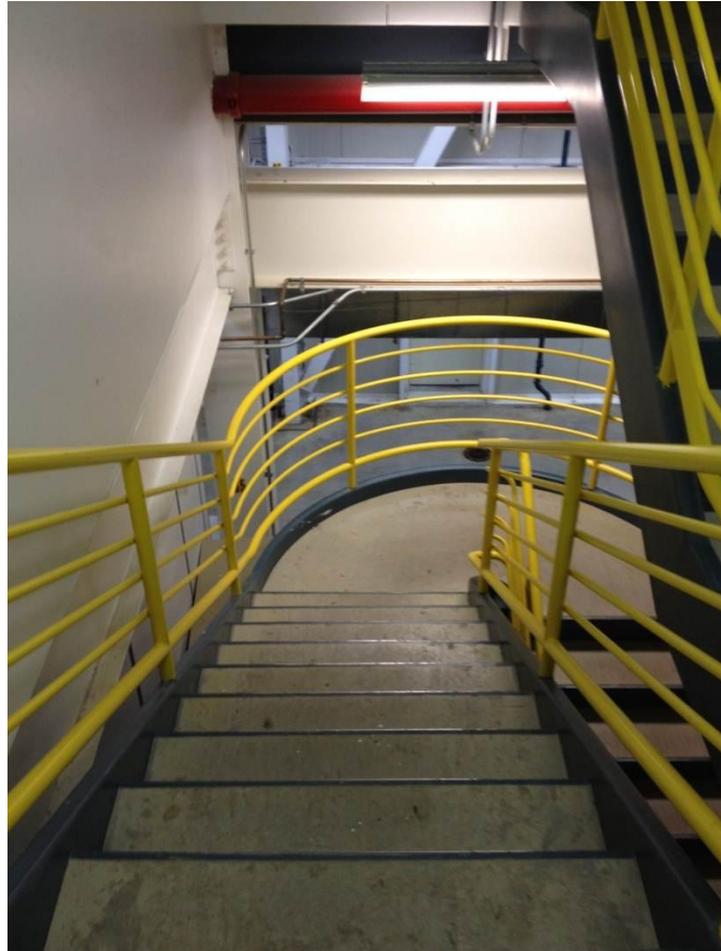


Tour Route (3)

Down to the exp. hall

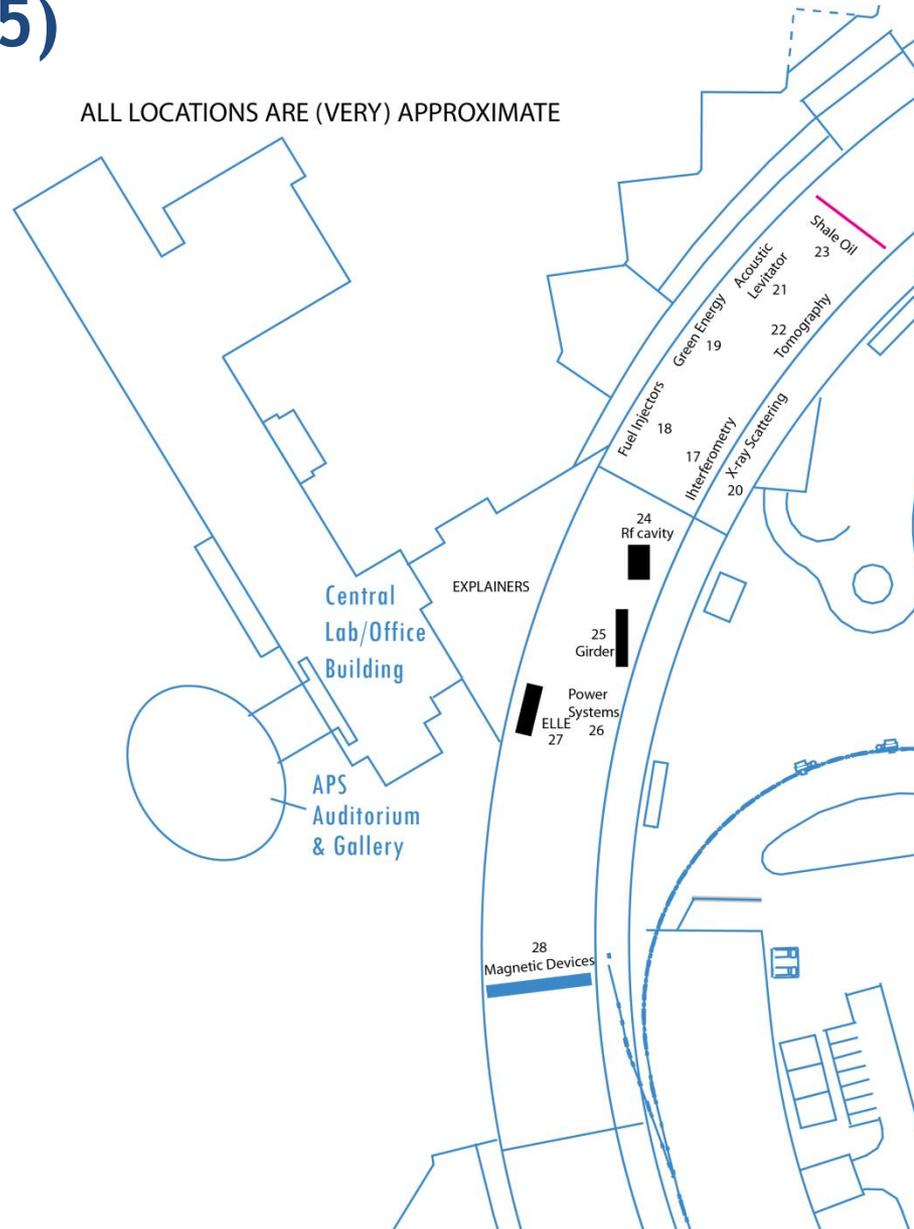


Tour Route (4)

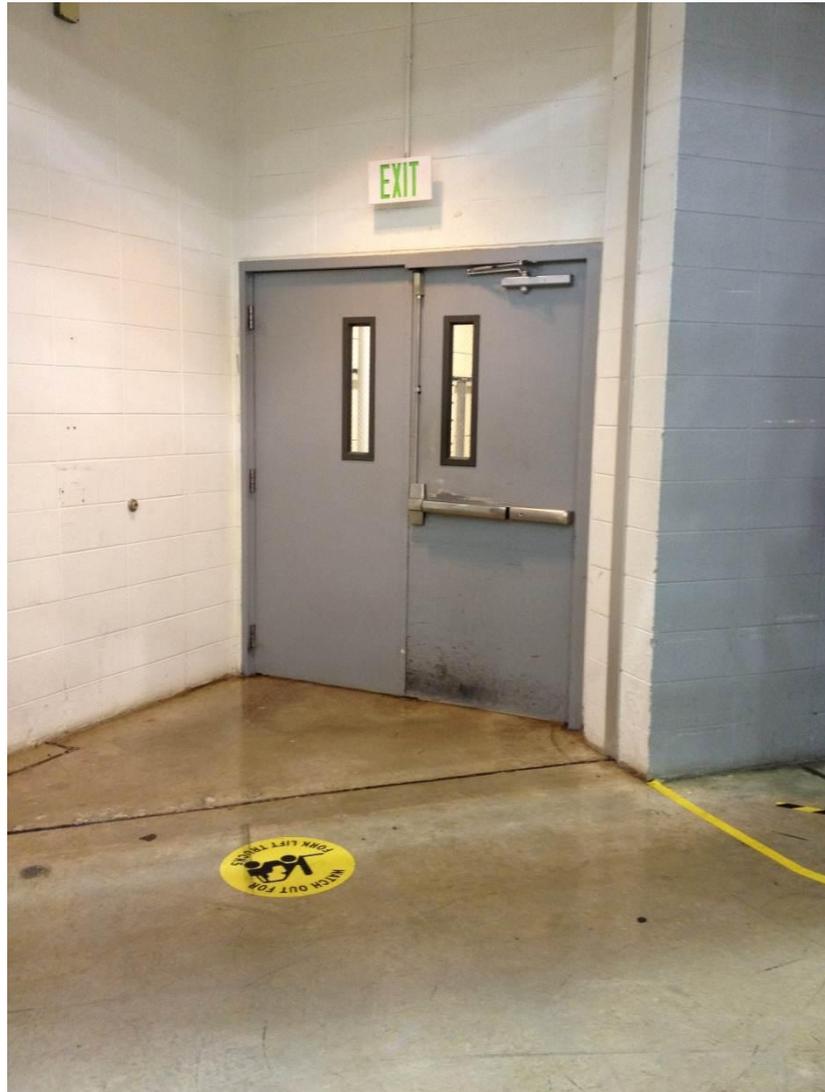


Tour Route (5)

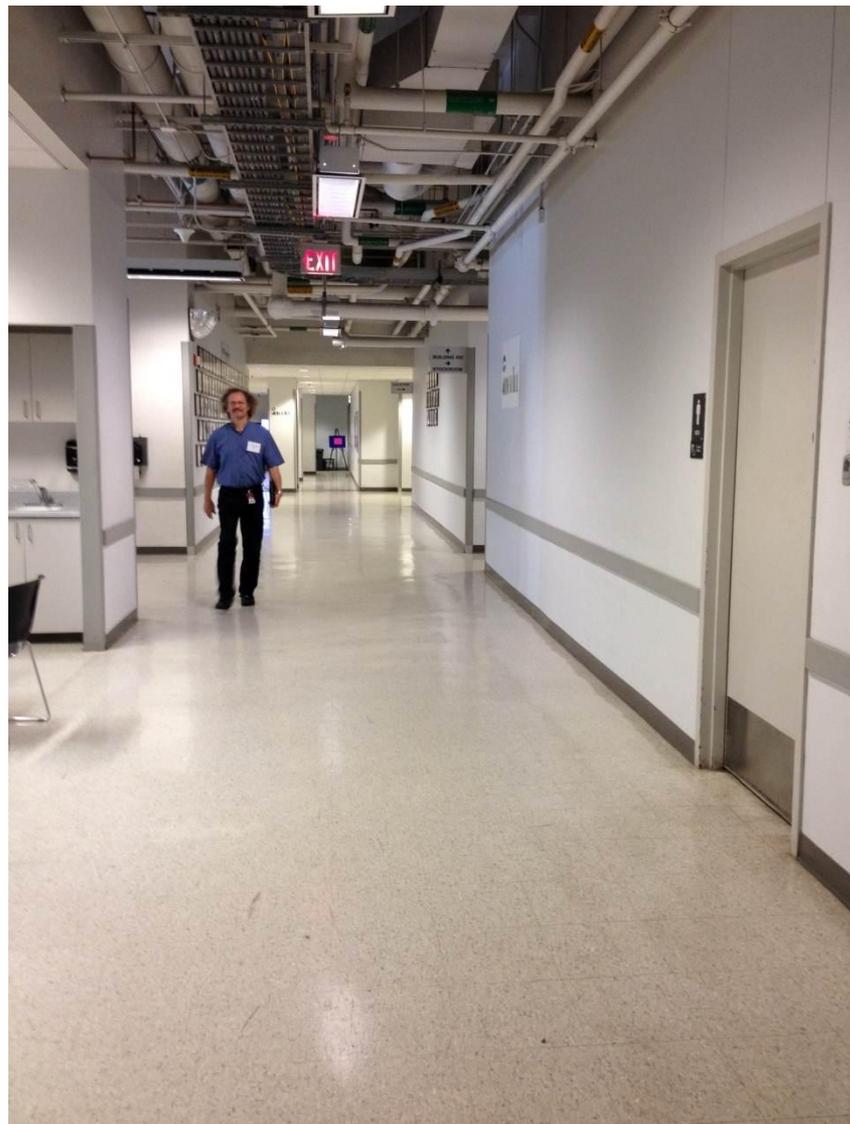
ALL LOCATIONS ARE (VERY) APPROXIMATE



Tour Route (6)



Tour Route (7)



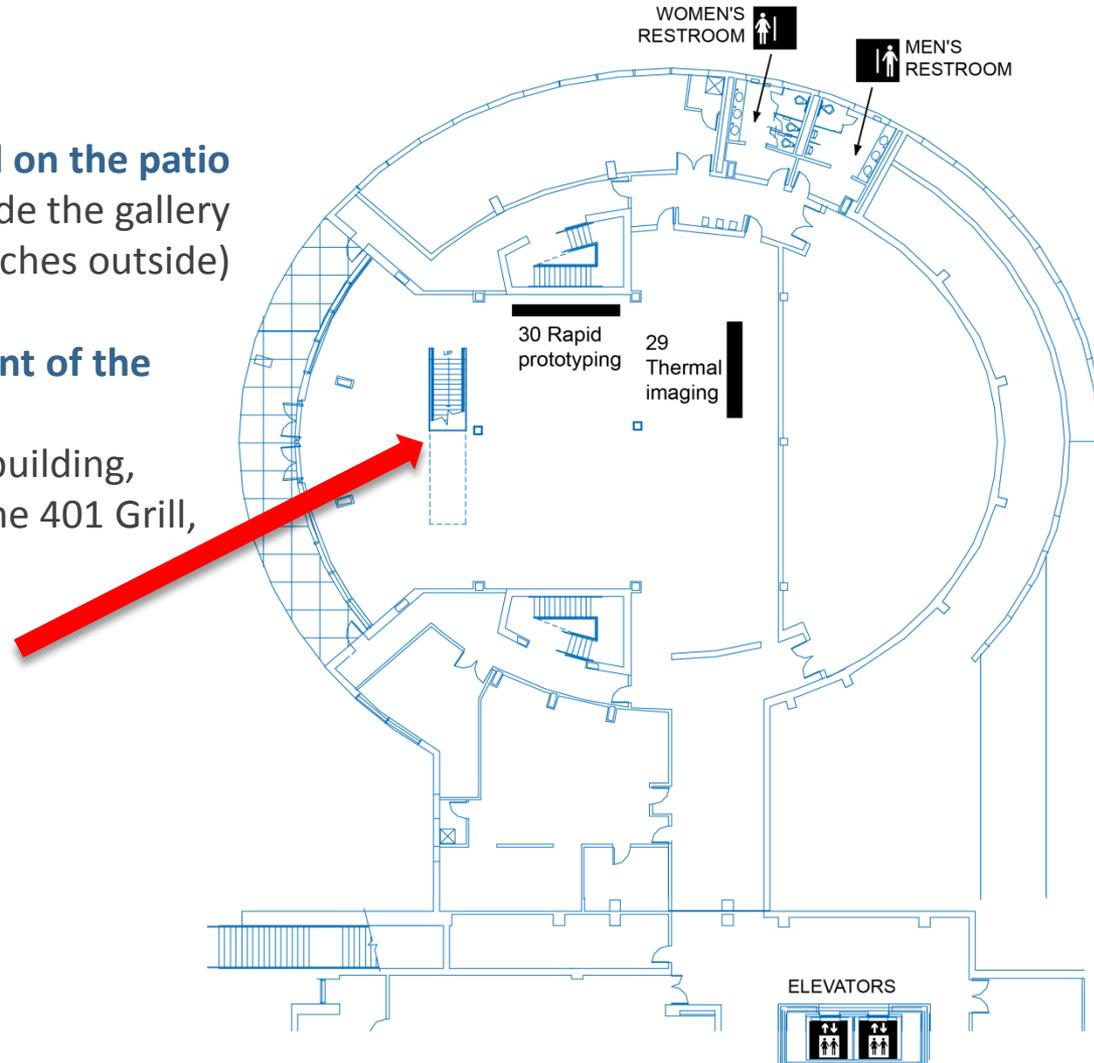
Tour Route (8)

APS CONFERENCE CENTER GALLERY & GROUND FLOOR

Food on the grill on the patio
Seating inside the gallery
(and some picnic benches outside)

3 ways to get to the buses in front of the conference center:

Walk around the outside of the building,
Take the elevator (manned) by the 401 Grill,
Take the stairs in the gallery



Tour Notes

Advanced Photon Source Energy Showcase Tour Guide

NOTE: The Advanced Photon Source (APS) tour route is on two levels.

Follow the [Advanced Photon Source Energy Showcase tour route signs](#), and look on exhibits and some signs for the numbers preceding the descriptions below.

For assistance getting to the lower level or finding your way to the next location, see an APS tour guide (they're wearing royal-blue APS Tour Staff t-shirts) or go to the Information Table.

ATRIUM

- 1 The Information table: assistance with tour questions and special needs.
- 2 This large APS exhibit was created in cooperation with (and displayed at) Chicago's Museum of Science and Industry in 1995 to commemorate the 100th anniversary of Wilhelm Röntgen's discovery of the x-ray.
- 3 Silicon-crystal monochromators are used to select out ~1 part/million of the wavelengths carried by an APS x-ray beam before the x-ray is passed down a beamline to an experiment.
- 4 This hands-on display demonstrates diffraction, an important research tool for scientists using the APS.
- 5 See a variety of posters about APS science.
- 6 A poster about the data generated by the APS (more than a Large Hadron Collider experiment).
- 7 Learn about the connection between particle-beam diagnostics in accelerators and earthquakes.
- 8 Learn about the future of the APS: the APS Upgrade Project.
(All in the atrium, against the metal wall, where the black chairs are now)
- 9 See a simulation of how an electron beam is focused using magnets, learn how an electron-storage ring beam path is corrected using magnets, and see a movie of a beam of particles from a radio-frequency gun.
(Against the wood wall in the atrium)

A1100

- 10 A miniature beamline with moving motors and other equipment typical of actual APS x-ray beamlines lets you control the trajectory of a laser pointer through a set of optics and exchange one interesting sample for another, and shows diagnostic devices such as a beam position monitor that aid in tuning an x-ray beam.
- 11 Two of the popular robot arm kits for home use (OWI Robotic Arm Edge) demonstrate the complexity of automating equipment for control of x-ray experiments. Control one of these robotic arms yourself — can you stack blocks like a robot?
- 12 The General Medical Sciences and Cancer Institutes Structural Biology Facility at the APS demonstrates one aspect of user-friendly automation: remote computer operation of a biological sample-mounting robot.

USER LOUNGE

- 13 Monitoring physical variables is part of operating a huge machine like the APS, including the level of vibrations caused by people and machines. This exhibit shows one vibration monitoring setup, and lets you look at the results of your own vibrations and how we store this data.
- 14 This interactive computerized display of the control system for a linear accelerator, an important component of the APS, allows you to be the high-energy physics operator, set the control parameters, and "drive" a simulated electron beam through vacuum tubes and magnets.
- 15 The APS is experimenting with powering equipment from solar energy because the techniques learned are used in designs to make more efficient, reliable, low-power-consumption technology for the APS. See some of the ways to get the most out of equipment while retaining the quality and effectiveness of more conventional designs, in an exhibit run entirely from sunlight!

VISITORS VIEWING GALLERY

- 16 Stop at the viewing gallery overlooking the experiment hall and ask scientists and engineers about the APS.

EXPERIMENT HALL

- 17 See the Optics Fabrication & Metrology experiment-support area where the surface of x-ray optical elements—ranging in size from 1/10 the diameter of a human hair to 5-ft long—are characterized, and learn about the fabrication of silicon monochromator crystals used in our x-ray beamlines.
(In front of the Optics & Metrology Lab)
 - 18 Scientists and engineers make use of extremely bright APS x-ray beams to take pictures of fuel sprays emerging from engine fuel injectors. The images, with exposure times as short as a billionth of a second, reveal characteristics of the sprays that can be used to produce efficient and clean combustion and improve engine performance. **(Just upstream of column 65, outside wall of exp. hall aisle)**
 - 19 Become a trace-element tracker and have a nanometer-scale look into green energy materials using hard x-ray fluorescence microscopy. **(Downstream from col. 65, outside wall of exp. hall aisle opposite Mirror Lab)**
 - 20 Look inside an experiment station at Sector 1 of the APS, where scientists describe how energy-relevant materials are better understood using high-brightness x-rays. **(Inside Sector 1)**
 - 21 See how sound and diamond gem stones can be used to suspend materials in mid-air, and compress materials to pressures found at the center of the Earth. **(Upstream of col. 67, outside wall of exp. hall aisle)**
 - 22 See 3-D x-ray images and movies used to study new materials for lighter cars and airplanes.
(~between columns 67-68, on inner side of the exp. hall aisle, against the partition)
 - 23 See how oil can be extracted from rocks without destroying the Rocky Mountains. APS x-rays are used to characterize Green River Oil Shale and understand the process for removing oil from the solid source rock.
(Diagonally across the width of the exp. hall aisle, just upstream of column 68)
- ### EAA
- 24 See a radio-frequency cavity like the ones that give a "kick" to the APS electron beam, and the electronic controls that run these cavities. **(Downstream of/next to the display girder)**
 - 25 Get an up-close look at, and an explanation of, one of the girders from the APS storage ring outfitted with the electromagnets and machined-aluminum-alloy vacuum chambers that guide and contain electrons.
(In front of the rf cage)
 - 26 Find out about the use and conservation of electrical power at the APS. **(Upstream of the display girder)**
 - 27 Try your hand at running ELLE, a miniature analog of the APS that provides an interactive experience in accelerator physics. **(Just downstream of the door leading to the break area)**
 - 28 See one of the powerful magnetic insertion devices that create x-ray beams at the APS and other light source facilities, control an insertion device simulator, and see an array of magnet toys that demonstrate principles of magnetism. **(Next to the Magnetic Measurement facility)**

LOWER GALLERY

- 29 See a high-precision thermal infrared imaging system that lets you view yourself in infrared.
(Toward the rear of the gallery, facing the windows)
- 30 See animated computer-aided design renderings of APS technical components, a demonstration of rapid-prototyping of APS beamline components, and sample prototypes of parts alongside production components.
(Against the north wall of the gallery)

Copies available on the tables at the back

Phone Numbers

