

***A STUDENT'S GUIDE TO
ARGONNE NATIONAL
LABORATORY***

***RIA 2004 Summer School
August 8-15, 2004***

ARGONNE NATIONAL LABORATORY is....

one of the U.S. Department of Energy's largest research centers, with an annual operating budget of about \$480 million supporting more than 200 research projects. Of the Laboratory's 4,500 employees, about 1,750 are scientists and engineers, of whom about 775 hold doctorate degrees.

Argonne research falls into three broad categories: engineering research, including research on meltdown-proof nuclear reactors, advanced batteries and fuel cells; physical research, including materials science, physics, biology, chemistry, mathematics and computer science; and energy and environmental and biological research, alternate energy systems, and environmental and economic impact assessments.

Besides contributing to surrounding communities by attracting educated, productive and involved citizens, Argonne has been the source of 30 spin-off companies since 1984. The Laboratory also works actively with businesses to grant exclusive licenses to Argonne inventions with commercial potential. Argonne continually searches for ways to bring its vast technical expertise to bear on technological problems that could vitally affect the nation's future.

Argonne is the site of a number of large scale Users facilities such as the Advanced Photon Source, the Intense Pulsed Neutron Source or the Argonne Tandem Linac Accelerator System. The 7-GeV Advanced Photon Source (APS), now in operation at Argonne, provides the world's most brilliant source of x-rays for materials research. The facility attracts scientists from all over the world to study the atomic and molecular structure of matter, the intermediate steps in fast-acting chemical reactions, and the structure and reactions of proteins and other important biological molecules.

The Intense Pulsed Neutron Source (IPNS) is the world's first major pulsed spallation neutron facility dedicated to materials research. The IPNS consists of an accelerator, target, and neutron generating system, which produce pulsed beams of neutrons that are used to probe the structures (atomic or molecular arrangements) and dynamics (atomic or molecular motions) of materials.

ATLAS (the Argonne Tandem Linac Accelerator System) is the world's first superconducting accelerator for projectiles heavier than the electron. This unique system is a DOE National Collaborative Research Facility open to scientists from all over the world. ATLAS consists of a sequence of machines where each accelerates charged atoms and then feeds the beam into the next section for additional energy gain. The beams are provided by one of two 'injector' accelerators, either a 9 million volt (MV) electrostatic tandem Van de Graff, or a new 12-MV low-velocity linac and electron cyclotron resonance (ECR) ion source called the Positive Ion Injector. The beam from one of these injectors is sent on to the 20-MV 'booster' linac, and then finally into the 20-MV 'ATLAS' linac section. High precision heavy-ion beams ranging over all possible elements, from hydrogen to uranium, can be accelerated to energies as high as 17 MeV per nucleon and delivered to one of three target areas. Recent developments have provided the capability of accelerating exotic (i.e., radioactive) beams. The ATLAS experimental program covers the entire scope of nuclear physics in the vicinity of the Coulomb barrier with studies in nuclear structure, nuclear astrophysics, reaction dynamics and fundamental interactions. There are also smaller scale programs such as accelerator mass spectrometry or irradiations for materials research.

Argonne National Laboratory is operated by The University of Chicago for the U.S. Department of Energy.

ARGONNE'S ILLINOIS SITE

Argonne's Illinois site, known as Argonne-East, occupies 1,500 wooded acres about 25 miles southwest of Chicago's Loop. About 3,600 of Argonne's 4,500 employees work here. The site also houses the U.S. Department of Energy's Chicago Operations Office. Argonne is located at 9700 South Cass Avenue, Argonne, IL 60439. The main entrance to Argonne is located on Northgate Road through Guard Post 291 (open 24 hours).

DIRECTIONS TO ARGONNE'S ILLINOIS SITE

<http://www.anl.gov/>

Click on Visiting Argonne - Click on Visiting Argonne-East

SCHOOL ADMINISTRATION OFFICE

The school's administration office will be located in the Argonne Division of Educational Programs, Building 223, Room M-125. Calls and messages for school participants will be received during school hours by telephone (630) 252-4114, by fax (630) 252-3193, or by Email at riaschool@anl.gov.

TELEPHONE SERVICES

The Laboratory's general telephone number is (630) 252-2000.

We strongly encourage you to bring a telephone calling card with you since the Argonne Guest House charges an additional amount on all outgoing calls. If you do not have a calling card, we recommend that you get one prior to your arrival at Argonne.

MAIL SERVICES

Argonne has a United States Branch Post Office located in Building 340. Hours are Monday through Friday 10:00 a.m. to 3:00 p.m. School participants who may have mail sent to them during their stay at Argonne should have it sent to them in care of the RIA 2004 Summer School, Argonne National Laboratory, Division of Educational Programs - Building 223, 9700 South Cass Avenue, Argonne, IL 60439.

EMERGENCIES

In any emergency, Dial 911 on any Laboratory telephone. If you are using a cellular telephone, you must call 630-252-1911. The Fire Alarm Operator will question you to obtain information needed by emergency responders. For non-emergency assistance, call the Fire Department at extension 2-6131.

HEALTH SERVICES

The Argonne Medical Department, located in Building 201, has limited services and will provide emergency medical care or ambulance service (Dial 911). If you need assistance other than what the Argonne Medical Department offers, it is suggested that you contact one of the following Centers or Hospitals.

Bolingbrook Medical Center

400 Medical Center Drive
Bolingbrook, IL
Telephone: (630) 226-8100

Edward Hospital

South Washington Street
Naperville, IL
Telephone: (630) 355-0450

Hinsdale Hospital

120 North Oak
Hinsdale, IL
Telephone: (630) 856-9000

Emergency Medical Center

1254 Ogden Avenue
Downers Grove, IL
Telephone: (630) 963-6912

Good Samaritan Hospital

3815 Highland Avenue
Downers Grove, IL
Telephone: (630) 275-5900

La Grange Memorial Hospital

5101 S. Willow Springs Road
La Grange, IL
Telephone: (708) 352-1200

Palos Immediate Care Center

7340 West College Drive
Palos Heights, IL
Telephone: (708) 671-1247

ATTIRE

Due to considerable importance placed on issues relating to health and safety at Argonne, students working in any laboratory at Argonne will be required to wear long pants (jeans or slacks) and closed toed shoes. **Shorts, dresses, skirts, leggings, and open toed shoes are not permitted in research laboratories.** Therefore, please pack appropriate clothing for your stay at Argonne.

FOOD SERVICES

Meals can be obtained at the **Argonne Cafeteria**, the **401 Grill**, and the **Argonne Guest House Restaurant**. The **Argonne Cafeteria** is located in Building 213 and is open Monday through Friday (except holidays) from 7:00 a.m. to 8:30 a.m. for breakfast and 11:15 a.m. to 1:30 p.m. for lunch. The **401 Grill** serves a variety of sandwiches, soups, salads, and beverages. It is located on the ground floor of Building 401. Go to the Building 401 northwest parking lot and follow the signs. Hours are Monday through Friday 4:30 p.m. to 9:00 p.m., Saturday and Sundays 11:30 a.m. to 7:00 p.m. The **Argonne Guest House Restaurant** is located in Building 460 and is open Monday through Friday from 6:45 a.m. to 8:30 a.m. for breakfast buffet, 11:00 a.m. to 1:30 p.m. wait-service lunch, and 5:00 p.m. to 9:00 p.m. wait-service dinner. On Saturday and Sunday, the restaurant is only open from 7:00 a.m. to 11:00 a.m. for breakfast.

LIBRARIES AT ARGONNE

There are extensive libraries at Argonne. Most of the larger research divisions have a library in their buildings. These libraries are never locked, but the doors to some of the buildings are locked after 6:00 p.m.

Argonne has over 1,500 journal holdings. A list, giving the names, volumes on hand, and the library in which they are located, can be found at every library desk. The librarian can request journals from other Argonne libraries to be sent to you, if desired.

Please sign for all materials taken from the library, even if you are only going to take it out to be photocopied. All library books and reports must be returned before you leave Argonne.

PARKING AND TRAFFIC RULES

Since the majority of Argonne employees arrive and leave by car at approximately the same time, traffic on Laboratory roads during peak periods is heavy. Every effort is made to ensure a smooth and safe flow of these vehicles, and you are requested to carefully observe the traffic rules posted at the roadside. Ample parking lots are provided at convenient locations. When parking for the day, please avoid areas designated "Visitors" and "Reserved."

LODGING FACILITIES IN THE VICINITY OF ARGONNE NATIONAL LABORATORY

Argonne Guest House

(Managed by Sodexo)
Argonne National Laboratory
9700 South Cass Avenue - Building 460
Argonne, IL 60439
Reservations: 800-632-8990 or 630-739-6000
Fax: 630-739-1000
Email: argonne-guest-house@anl.gov
Web Site:
<http://www.aps.anl.gov/travel/anlghhome.html>

Baymont Inn & Suites

(Interstate 55 and Route 83)
855 79th Street
Willowbrook, IL 60521
(630) 654-0077
<http://www.baymontinns.com>

Extended Stay America

2345 Sokol Court
Darien, IL 60561
(630) 985-4708
<http://www.extstay.com>

Fairfield Willowbrook Inn

(Interstate 55 and Route 83)
820 79th Street
Willowbrook, IL 60521
(630) 789-6300
<http://www.fairfieldinn.com>

Red Roof Inn

(Interstate 55 and Route 83)
7535 Kingery Highway
Willowbrook, IL 60521
(630) 323-8811
<http://www.redroof.com>

Willowbrook Holiday Inn

(Interstate 55 and Route 83)
7800 South Kingery Highway
Willowbrook, IL 60521
(630) 325-6400
<http://www.holiday-inn.com/chi-hinsdale>

TAXI SERVICE

One-way taxi fares from either O'Hare International Airport or Midway Airport to Argonne National Laboratory may be well in excess of \$50! Please be cautious.

LIMOUSINE SERVICES

The limousine service rates listed below are based on a one-way trip from O'Hare International Airport or Midway Airport to Argonne National Laboratory. Please be advised that these rates vary according to time and day of pick up. When you make a limousine reservation, please have them quote you a rate.

| | <u>O'Hare</u> | <u>Midway</u> |
|---|---------------|---------------|
| A-1 Airport Limousine Service (630) 833-3788 1-800-354-5849 (Illinois only) | \$34.00 | \$38.00 |
| United Limousine Service (630) 969-3865 1-800-331-9037 (Illinois and out-of-state) | \$28.00 | \$42.00 |

AUTOMOBILE RENTAL AGENCIES

Avis Rent-A-Car

O'Hare (773) 825-4610
Midway (773) 284-3632
1-800-331-1212 (Worldwide Reservations)

National Car Rental

O'Hare (773) 694-4640
Midway (773) 471-3450
1-800-227-7368 (Worldwide Reservations)

Dollar Rent-A-Car

O'Hare (773) 686-2030
Midway (773) 735-7200
1-800-800-4000 (Worldwide Reservations)

Thrifty Car Rental

O'Hare (847) 928-2000
1-800-367-2277 (Worldwide Reservations)

Hertz Rent-A-Car

O'Hare 1-800-654-3131 (Worldwide Reservations)
Midway 1-800-654-3131 (Worldwide Reservations)

TRAIN SERVICE

The train station nearest to Argonne is the Burlington-Northern Railroad station in Westmont at Quincy and Lincoln Streets near Cass Avenue. The train takes you to Union Station, 221 South Canal Street, Chicago in about 45 minutes. For train-schedule information, telephone (312) 322-6777. Schedules are also available at the train stations.

Burlington-Northern Railroad Stations

Clarendon Hills

Prospect Avenue and Eastern Avenue
(630) 323-1877

Downers Grove

Burlington Avenue and Main Street
(630) 969-0013

Hinsdale

Hinsdale Avenue and Garfield Avenue
(630) 323-0292

La Grange

701 Burlington Avenue
(708) 352-0194

Lisle

1000 Front Street
(630) 968-3916

Naperville

105 East 4th Avenue
(630) 355-4409

Westmont

Quincy Street and Lincoln Street
(630) 968-1259