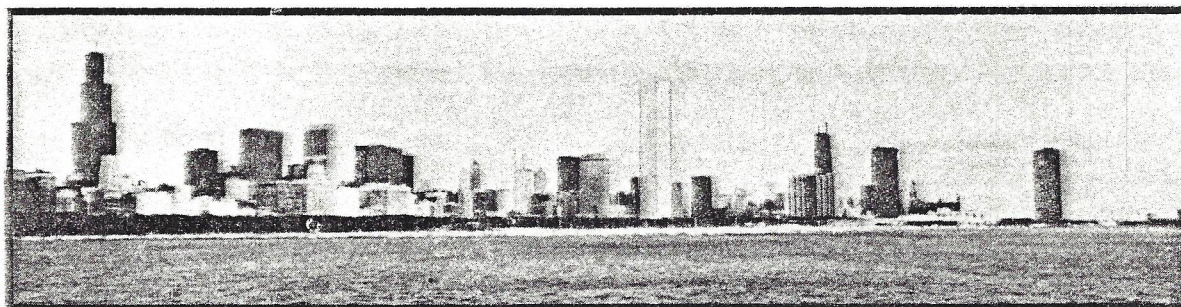


# AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

CHICAGO SECTION

## NEWSLETTER



86 EAST RANDOLPH ST.

CHICAGO, ILLINOIS 60601

### CHAIRMAN'S MESSAGE

Welcome to the 54th year of the Chicago Section. The Chicago Section has the distinction of being the first local AIChE section formed and it has maintained a leadership position in the Institute throughout its history. Your new Board of Directors is proud to serve the Section and will carry on the fine programs so ably administered by Past Chairman Bill Sandstrom and last year's board.

We are fortunate to have a fine group of officers and committee chairmen who make up the Board of Directors. Please take time to look over the list of these board members in this newsletter. You are encouraged to give comments or suggestions to any board member at any time. We want to know what kinds of programs and activities you want so that we can serve you better.

This year we depart from tradition and have our first general meeting in September. We are starting one month earlier than in previous years so we can dispense with the December meeting. It has become apparent that the busy holiday season in December results in poor meeting attendance.

The September 12 program, at Argonne National Laboratory, looks like an exciting meeting to start the year. This meeting, which includes a laboratory tour, will be an excellent opportunity to see and hear about current energy research. Be sure to note that advanced registration is required to gain admittance to Argonne so don't forget to make your reservations. The event is described in detail later in this newsletter.

Looking ahead, you won't want to miss the October program either. Dr. Bernard Lee, President of the Institute of Gas Technology, will discuss the energy situation in China and tell us about his trip there this summer. Programs for the rest of the year are in the planning stage. Suggestions are always welcome and Bill Swift, Program Chairman, would be delighted to talk to you. As usual, meeting locations will be rotated throughout the Loop and suburbs.

Membership participation is vital to the Section and the need for additional help never ends. Section work is most rewarding and time involvement is generally not excessive. It's a great way to meet fellow chemical engineers in the Chicago area and contribute to our profession. I'm sure many of you will be asked to help but don't hesitate to volunteer to any board member. Most committees need people and, in addition, a staff will have to be assembled to handle the 1980 National Meeting we will host.

I'm looking forward to meeting and working with you during the coming year.

Dick Larrison

MEETING - WEDNESDAY, SEPTEMBER 12, 1979

Location.....Argonne National Laboratory  
9700 S. Cass Avenue, Argonne, Illinois

Tour of ANL  
Chemical Engineering Division.....3:30 p.m.

Social Hour.....5:30 p.m.

Dinner.....6:30 p.m.

Speaker.....Dr. Paul Nelson, Director  
Chemical & Electrical Systems

Cost.....\$7.50 members, \$8.50 non-members

IMPORTANT NOTICE CONCERNING RESERVATIONS

MAKE RESERVATIONS EARLY BY CALLING 236-3036. THE RESERVATION DEADLINE IS AUGUST 31, 1979. PLEASE GIVE YOUR NAME, AFFILIATION, AND COUNTRY OF CITIZENSHIP AND INDICATE WHETHER OR NOT YOU WILL BE ATTENDING THE TOUR. ATTENDANCE WILL BE LIMITED AND RESERVATIONS WILL NOT BE ACCEPTED AFTER AUGUST 31. IT IS ABSOLUTELY ESSENTIAL THAT THOSE PLANNING TO VISIT THE LABORATORY PRE-REGISTER. NO ONE WILL BE ADMITTED TO THE LABORATORY WHOSE NAME DOES NOT APPEAR ON THE LIST OF ATTENDEES PROVIDED TO LABORATORY SECURITY.

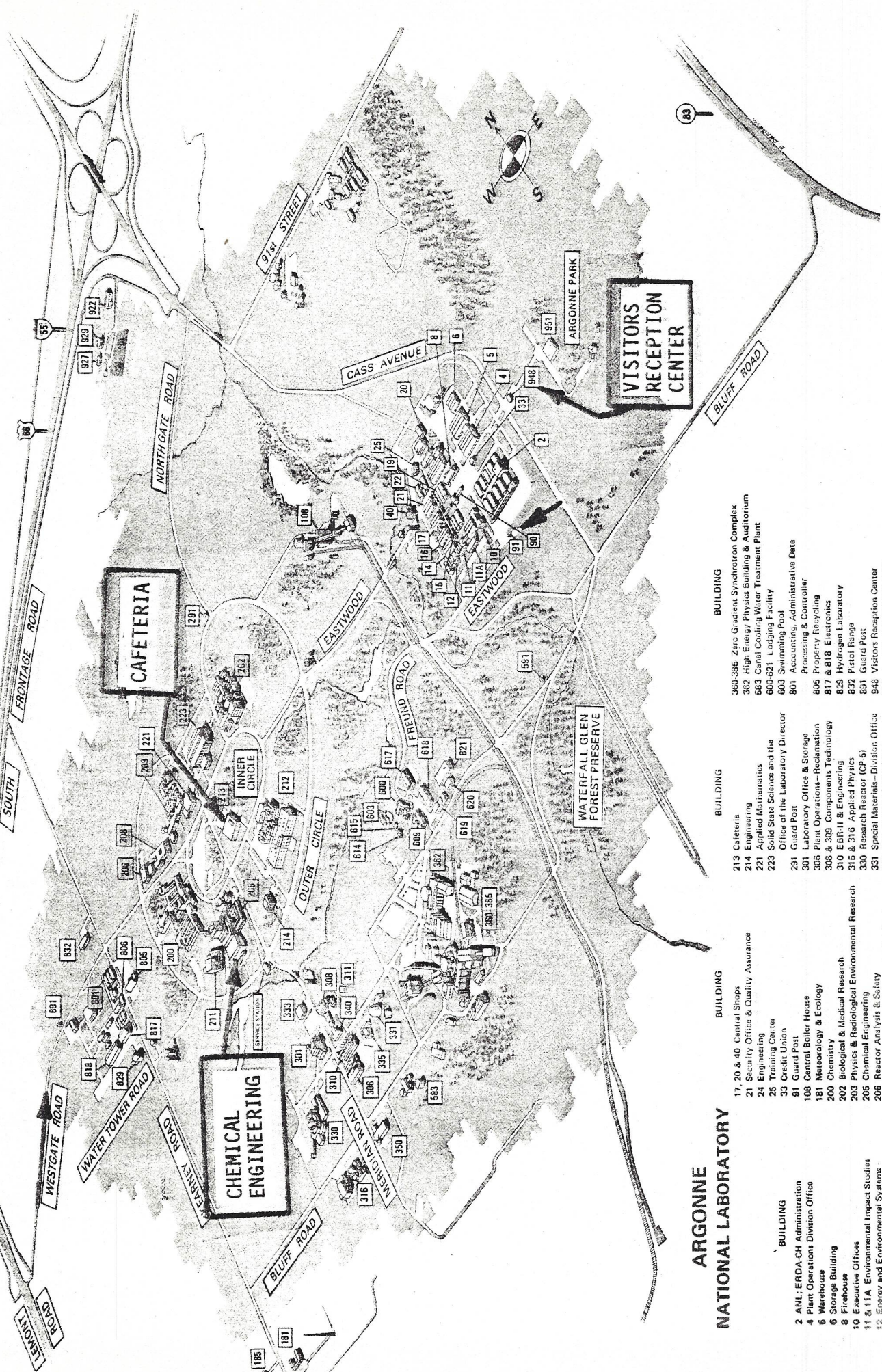
DIRECTIONS

Argonne National Laboratory is located just south of I-55 and just west of Illinois Highway 83. Those attending the afternoon tour should report to the Visitors Reception Center (refer to accompanying map for details) located on Cass Avenue to obtain a gate pass. From the Reception Center, enter the laboratory on Eastwood Road and proceed to the Chemical Engineering Building (Building 205). Report to the front lobby to register and receive further instructions.

For those arriving after 5 p.m. for the dinner and evening program, proceed directly to the guard post on either Eastwood or Westgate Roads for gate passes. Then proceed to the Cafeteria (Building 213) for registration.

TOUR OF ANL CHEMICAL ENGINEERING FACILITIES, 3:30 p.m.

Guided tour of the Chemical Engineering Building at Argonne National Laboratory will begin from the Building 205 Y-Wing Auditorium.



# ARGONNE NATIONAL LABORATORY

- | BUILDING   | BUILDING  | BUILDING  |
|--|---|---|
| 2 ANL ERDA-CH Administration                       | 213 Cafeteria   | 360-385 Zero Gradient Synchrotron Complex                   |
| 4 Plant Operations Division Office                 | 214 Engineering   | 362 High Energy Physics Building & Auditorium               |
| 5 Warehouse  | 221 Applied Mathematics   | 583 Canal Cooling Water Treatment Plant                     |
| 6 Storage Building                                 | 223 Solid State Science and the Office of the Laboratory Director | 600-621 Lodging Facility                                    |
| 8 Firehouse  | 231 Guard Post  | 603 Swimming Pool   |
| 10 Executive Offices                               | 301 Laboratory Office & Storage                                   | 801 Accounting, Administrative Data Processing & Controller |
| 11 & 11A Environmental Impact Studies              | 305 Plant Operations-Reclamation                                  | 805 Property Recycling                                      |
| 12 Energy and Environmental Systems                | 308 & 309 Components Technology                                   | 817 & 818 Electronics                                       |
| 14 & 19 Occupational Health & Safety               | 310 EBR-11 & Engineering  | 823 Hydrogen Laboratory                                     |
| 15 & 22 Argonne Center for Educational Affairs     | 315 & 316 Applied Physics   | 832 Pistol Range  |
| 18 Special Material, Personnel & Quality Assurance | 330 Research Reactor (CP-5)                                       | 891 Guard Post  |
|  | 331 Special Materials-Division Office                             | 948 Visitors Reception Center                               |
|  | 335 Components Technology   | 951 Argonne Recreation Center                               |
|  | 340 Experimental Animal Quarters                                  |   |
|  | 350 New Brunswick Laboratory                                      |   |

SOCIAL HOUR, 5:30 p.m.

A cash bar will be held prior to dinner in the laboratory cafeteria (Building 213).

Dinner, 6:30 p.m.

A prime rib dinner will be prepared and served by the laboratory food service department in the cafeteria (Building 213).

After Dinner Program

Topic:           Prospects for Electric Vehicle Battery Development.

Speaker:       Dr. Paul Nelson, Director of Chemical and Electrical Systems, Chemical Engineering Division, Argonne National Laboratory. Dr. Nelson obtained his B.S. degree in Chemical Engineering from Illinois Institute of Technology and received his M.S. and Ph.D. degrees in Chemical Engineering from Northwestern University. He joined the Chemical Engineering Division of Argonne National Laboratory in January 1958, where he participated in the development of metal-evaporation techniques and in the selection and evaluation of container materials for fuel reprocessing. He has also developed processes for preparing nuclear fuels, and has directed the development of a purification process for plutonium-238. Following these and other projects, Dr. Nelson joined the Chemical Engineering Division's Battery Program in 1972. He is currently Director of Chemical and Electrical Systems. This program includes projects on development of lithium sulfide batteries, testing of various advanced commercial batteries, thermal storage for solar energy and transportation applications, and use of hydrides for energy storage. Dr. Nelson has authored approximately 70 papers in diverse fields, including electric vehicles, lithium sulfide batteries, sodium technology, and development of pyrochemical processes for purifying plutonium and uranium. He is a member of the American Institute of Chemical Engineers.

ABSTRACT

Electric vehicles have inadequate performance to substitute for gasoline-powered vehicles in most sectors of the vehicle market. Part of this inadequacy can be overcome by improved vehicle and drive train design, but the major improvement required is in the battery performance. Several battery systems are under development that show promise of meeting the requirements. In the near-term, improved lead-acid batteries, nickel/zinc and nickel/iron batteries should spur the development of practical vehicles. In the long-term, zinc/chlorine, lithium/iron sulfide and sodium/sulfur batteries show promise of providing energy for a vehicle range of 100 to 200 miles in a battery of moderate weight and cost.

### 1979-80 CHICAGO SECTION OFFICERS

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Vocational Guidance	Gil Meyer	CPC	352-0892
Awards and Nominations	Bill Bergman	Metro. Sanitary District	274-3136

### Candidates Needed for the State of Illinois Professional Engineering Examination Committee

Members of the Chicago Section who are also Registered Professional Engineers and who would like to be considered for being a member of the Professional Engineering Examining Committee should inform Richard Larrison, Chairman of the Chicago Section, of your interest. Candidates must be Registered Professional Engineer with 12 years of professional experience. They must have been in charge of engineering work for five years and must be a citizen of the U. S. and a State of Illinois resident.

Members of the committee are selected for a three-year term by the Director of the Department of Registration and Education (Joan Anderson) from a list of candidates supplied by the various professional organizations. Since being a member requires about 20 days per year away from work to attend meetings and the P.E. exams, you need an understanding boss or a flexible work schedule.

Since the committee is composed of members from the different engineering disciplines, the Chicago Section tries to nominate one or two Section members as candidates whenever there may be an opening for a chemical engineer on the P.E. Exam Committee. If you want to know more about this prestigious position, contact LARS MOLANDER, STAUFFER CHEMICAL COMPANY, 11th and Arnold Streets, Chicago Heights, Illinois 60411, 312-757-6111.

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### OBJECTIVES OF THE AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

- To advance chemical engineering in theory and practice
- To maintain a high professional standard among its members
- To serve society, particularly where chemical engineering can contribute to the public interest.

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This newsletter is published by the Chicago Section of the American Institute of Chemical Engineers. Copy for inclusion in the newsletter must be received not later than five weeks before the next meeting date.

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