Annual Report 1978-79

SCHOOL OF CHEMICAL SCIENCES

Biochemistry, Chemical Engineering, Chemistry

August, 1979

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*Sections taken largely from reports of committee chairmen (or equivalent).

Highlights of 1978-79

Faculty and Staff - Professor Roger A. Schmitz, a member of our chemical engineering faculty since 1962, has accepted an appointment as Keating-Crawford Professor of Chemical Engineering and Chairman of the Department at Notre Dame; 1979-80 will be a transitional year, half-time at both institutions.

Dr. Dana D. Dlott joined our chemistry faculty (ultrafast spectroscopy of molecular crystals) as an assistant professor and Anthony J. McHugh our chemical engineering faculty (polymer chemistry) as an associate professor.

There were two major appointments to our academic/professional staff during the year: Dr. Arthur Gaylord in the Computer Service Facility and Dr. David Wright in our Molecular Spectroscopy Laboratory.

A number of staff received major honors and awards during 1978-79. Four of the faculty were awarded Guggenheims, T. L. Brown, R. M. Coates, W. H. Flygare and R. I. Gumport. C. E. Dykstra received an Alfred P. Sloan Research Fellowship and J. R. Shapley, a Dreyfus Teacher-Scholar Award.

J. C. Bailar, Jr. received the Heyrovsky Medal of the Czechoslovakian Academy of Science; Harry Drickamer was elected a member of the National Academy of Engineering; H. S. Gutowsky was elected an honorary member of the Society for Applied Spectroscopy; T. J. Hanratty was awarded an honorary degree by Villanova University and the first Senior Research Award (formerly the Bendix Award) of the American Society for Engineering Education; G. P. Haight, Jr. got the ACS Award in Chemical Education; and Eric Oldfield, the Medola Medal and Prize of the Royal Institute of Chemistry.

Several faculty gave honorary lectures: H. G. Drickamer, Kurt Wahl Memorial Lecturer at University of Delaware; R. A. Schmitz, Wilhelm Lecturer at Princeton; D. Y. Curtin, Riegel Lecturer at Northwestern; and N. J. Leonard, Arapahoe Lecturer at the University of Colorado and Visiting Professor of the Japan Society for the Promotion of Science.

Students - Undergraduate majors in the various programs of the School were up about 6%. The increase of S&L majors in biochemistry, starting with their inception in 1970-71, appears to have leveled off. Also, although there was another increase in chemical engineering enrollments, for the fifth year in a row, it was less extreme; the total now of ~515 is more than triple the 155 of 1973-74. Finally, enrollments in the chemistry curriculum were up significantly (130 to 165) while those in the chemistry S&L majors (premeds) were down a bit. Baccalaureate degrees hit an all-time high of 205, reflecting the high of 103 in chemical engineering.

Participation in Cooperative Education continues to expand. There were 25 undergraduates in the program, 7 from chemistry and 18 from chemical engineering. They are associated with 14 companies, from New York to Utah.

Graduate enrollments hit a new high of 450 last fall, largely because of a combination of random fluctuations in several areas. There were 85 in bio, 61 in chem engr. and 304 in chemistry (37 in analyt, 12 in biophysical, 71 in inorganic, 113 in organic, 55 in physical, 6 in chemical physics and 10 undecided). Degrees granted were comparable with previous, recent years.

Recruitment of graduate students continues to be a highly competitive proposition, with more and more schools encouraging and funding interview trips by the best applicants. In chemistry, one of the most encouraging results this year was a significant increase in the acceptance rate for fellowship offers. The acceptance rate for the top-level offers was 35% (versus 6% for the previous year) which is the highest in recent history. The rate for second-level offers was up from 35% to 48% which approaches previous highs. The increased rates reflect harder work by our staff. The total number of and support patterns for our graduate students will be about the same for the coming year as in 1978-79; if anything the number will be up to about 460 from this year's 450.

The demand for our graduates remained strong for both baccalaureates and those with advanced degrees. If anything employer interest was up and the salaries offered remained high, even in chemical engineering where the supply of baccalaureates has increased sharply. A major change in the placement services was the use of the PLATO computer system to handle student signup for interviews. The program was designed by Dr. Karl Wiegers with the generous assistance of Professor Stanley Smith. It is an effort to eliminate the long, early morning signup lines and yet provide a fair allocation of students to visiting interviewers. Student response has been very positive and further use and evolution of the system is planned.

Instructional Program - Fall-semester enrollments jumped up an additional 5% last fall to nearly 28,000 IUs (student semester hours). The increase reflects continued shifts in undergraduate enrollment patterns to ag and engineering (particularly chem engr.) rather than an increase in the number of undergraduates on campus, which has been stabilized at 25,000 for several years. In the spring semester nearly 300 students were turned away because of accumulated deficiencies in funding plus a shortage of TAs, possible appointees being discouraged by high TA loads in 1977-78 and in the fall. The cutback was made in Chem 101 to minimize the inconvenience to students.

The most significant curricular development in the School this year has been the revision of the course requirements for PhD candidates in organic chemistry and of the 400-level courses in organic. The previous requirement of two 1-unit courses, 431 and 432, has been increased to three 1-unit courses, numbered 430, 431, and 432. Chem 430 is a new course on structure and spectroscopy, topics previously covered mainly in 432. Chem 431 remains a course on reaction mechanisms. Chem 432, now free of the structure and spectroscopy, has been expanded to a full semester on synthesis.

To keep the total course burden constant for the organic graduate students, the requirement of 3 units of work outside the major has been reduced to two. At the same time, the requirements for PhD candidates in inorganic chemistry have been revised to permit a similar transfer of one unit of minor work into the major area, to be approved for individual students by their research advisors.

Continuing the recent trend toward relaxed foreign language requirements at the graduate level, the requirement for PhD candidates in inorganic chemistry has been revised from a simple 8 semester hours or equivalent in German, French, or Russian, to permit German, French, or Russian 400 alone to meet the requirement. A synopsis of the total School situation now is that organic still has a requirement in German; inorganic, analytical and biochemistry have a requirement in German, French, or Russian; and physical, chemical physics, biophysical chemistry, and chemical engineering have no language requirement.

During the year the LAS College has extensively revised its general education requirements for students in the Sciences and Letters Curriculum (including our chemistry and biochemistry concentrators), changes which are to be phased in during the next couple of years. The principal changes imposed upon our concentrators appear to be an increase in the humanities requirement from 6 hours to 12 or 15, a reduction in the biological science requirement from 6 hours to 3, and the elimination of psychology courses from the list of social sciences electives. The effects of the changes will be greatest for undergraduate majors in biochemistry where there is not (as yet) a "professional curriculum."

Administrative Matters - As stated last year, the continued increases in enrollments without additional resources remain our worst administrative problem. The situation became sufficiently acute this year that ~300 students were turned away from Chem 101 in the spring. However, there should be some improvement in the coming year. The School is being given a recurring increase of $150,000 in state funds. Also, a nonrecurring allocation of $65,000 is being made for some of our most essential needs for remodelling and instructional equipment. Finally, a commitment was made to provide further help in the following year, 1980-81.

The amount of remodelling and renovation work completed during 1978-79 was up considerably over past years from a level of about $70,000 a year to about $100,000 in 1978-79. The main reasons for this were the large backlog of air-conditioning projects authorized in the preceding year that were carried over into 1978-79 and some hurry-up work needed to prepare two areas of Noyes Lab (the library expansion area and the physical chemistry area in the northeast corner on the first floor) for major renovation to be completed by an outside contractor. Unfortunately, the Capital Development Board delayed in issuing the contracts for those latter jobs and the projects were running six months behind at the end of the school year. However, both should be completed this fall.

One specific project that bears mentioning is that the old liquid nitrogen storage tank at RAL was sent in for reconditioning during the year and has now been installed at Noyes Lab. This should provide Noyes with a much more reliable and ample supply of liquid nitrogen than in the past and also provides some relief for the receiving room personnel who have wrestled the transfer vessels back and forth from RAL during the past several years.

The new VAX-11 central computer for the School of Chemical Sciences represents the major instrumentation addition for this past year. This instrument was acquired mainly with funds from the National Science Foundation through the Chemical Instrumentation program. The year saw a change in the operating policies of the instrumentation program at NSF, in that proposals from departments are now entertained on a continuing rather than annual basis. In addition, there seems to be an increased emphasis on support of instrumentation for smaller groups of research workers.

Although the School was unsuccessful in 1977-78 in its initial application for funds for a regional instrumentation facility, a substantially new proposal was put together this Spring by Eric Oldfield for a high-field NMR facility. The informal word is that the new proposal will be funded, probably with a starting date of October 1, 1979. It will have a four-year budget of about $1.2 million.

Also, it should be noted that the General Medical Sciences program of NIH has given a new five-year grant (K. L. Rinehart, principal investigator) to support the Mass Spectrometer facility. The total recommended for the five years is about $650K. It will do much to keep the facility at "state of the art," as well as help out with some of the operating costs.

While federal support of instrumentation has been good, research grant funds have dropped a bit behind inflation. This has caused some problems in covering operating costs and student support, although the increased need for TAs has taken up much of the slack in the latter.

Mention should be made of increasing red-tape problems, caused largely by federal and state over-regulation, which are exacerbated by College duplication of School-level reviews. Because of this, the School is seeking substantial reduction in College-level reviews, perhaps by becoming a free-standing School (reporting directly to the Campus level). University-level control of non-state and Foundation funds also is posing problems some of which could be alleviated by setting up a non-profit Chemistry Fund not controlled by either the Foundation or the University.

Alumni - During the year, alumni and friends contributed about $60,000 to the various special "name" funds we have in the U. of I. Foundation. Among the increase is the C. S. Marvel Fund (now $16,000) which was set up during the year by his students and associates. This brought the total of the funds to more than $240,000.

At least fourteen of our alumni and former faculty have received awards and honors coming to our attention. They range from election of Fred Basolo (PhD, 1942) at Northwestern to the National Academy of Sciences, to the choice of Arthur D. F. Toy (BS, 1939; MS, 1940; PhD, 1942) by the New York Section of the ACS for its 1978 Award for Outstanding Service to the Section.

H. S. Gutowsky
Director

August, 1979
Urbana, Illinois

I. Academic Appointments and Activities

A. Changes

1. Losses

Chemical Engineering

Schmitz, Roger A., Professor, is going to the University of Notre Dame as the Keating-Crawford Professor and Chairman of the Chemical Engineering Department, effective August 21, 1980. The 1979-80 academic year will be a transitional period which will be half-time at both institutions.

2. Additions (non-visiting, effective in the summer or fall of 1979)

Chemistry

Dlott, Dana D., Assistant Professor (Physical)

Single
Degrees: AB, Columbia University, 1974
PhD, Stanford University, 1979

Dr. Dlott completed his doctoral thesis this summer under the direction of Dr. Michael D. Fayer. Dr. Dlott's thesis research is in the field of ultrafast spectroscopy of molecular crystals.

Chemical Engineering

McHugh, Anthony J., Associate Professor

Married
Degrees: BChE, Cleveland State University, 1966
MChE, University of Delaware, 1970
PhDChE, University of Delaware, 1972

Dr. McHugh completed his doctoral thesis under the direction of Dr. J. M. Schultz in the area of orientation crystallization of flowing polymers. Since then he was first an Assistant Professor and later an Associate Professor of Chemical Engineering at Lehigh University, Bethlehem, Pennsylvania.

3. Promotions

Biochemistry

Jonas, Ana, Assistant Professor to Associate Professor
Glaser, Michael, Assistant Professor to Associate Professor
Ordal, George W., Assistant Professor to Associate Professor

Chemistry

Faulkner, Larry R., Associate Professor to Professor
Hendrickson, David N., Associate Professor to Professor
Katzenellenbogen, J. A., Associate Professor to Professor
Shapley, John R., Associate Professor to Professor
Gennis, Robert B., Assistant Professor to Associate Professor
Schuster, Gary B., Assistant Professor to Associate Professor

B. Visiting Appointments*

For the 1979 Summer Session (of individuals not here in 1978-79)

Biochemistry

Deeb, Samir S., Visiting Lecturer from Associate Professor, American University of Beirut, Lebanon

Chemistry

Stieg, Scott W., Visiting Lecturer from graduate student, University of Illinois
Suib, Steven L., Visiting Lecturer from graduate student, University of Illinois
Vestling, Martha, Visiting Lecturer from Associate Professor, State University of New York at Brockport

For the 1979-80 Academic Year (unless otherwise specified)

Chemical Engineering

Johnk, Robert E., Visiting Professor (half-time) from Professor of Chemical Engineering at San Jose State University, San Jose, California

Woodruff, David W., Visiting Instructor (two-thirds) Sem I, 1979-80, from Visiting Instructor (two-thirds) Sem II, 1978-79

Chemistry

Boyd, Ian W., Visiting Assistant Professor (general) Sem I, 1979-80, from Research Associate, University of Illinois, Sem I, 1978-79, and Visiting Assistant Professor (general) Sem II, 1978-79

DeLuca, Nancy, Visiting Assistant Professor (general) from Visiting Assistant Professor (general) 1978-79

Howlader, Nepal C., Visiting Assistant Professor (general) from Postdoctoral Research Fellow at Queen Mary College, London, England

Jones, Loretta, Visiting Assistant Professor (general) from graduate student, University of Illinois, Chicago Circle

Mottel, Edward, Visiting Assistant Professor (general) from Visiting Assistant Professor (general) 1978-79

Newman, Alan R., Visiting Assistant Professor (inorganic) from graduate student, University of Pennsylvania, Philadelphia, Pennsylvania

Vincent, Mark A., Visiting Assistant Professor (general) from Visiting Assistant Professor (general) Sem II, 1978-79

*These are fixed term appointments, for the period indicated, not on leave from other positions unless so indicated.

C. Leaves and Special Appointments for 1979-80

Biochemistry

Clark, John M., Sem I and II, sabbatical leave

Gumport, Richard I., Sem I and II, sabbatical leave

Chemical Engineering

Eckert, Charles A., Sem II, Center for Advanced Study

Chemistry

Beak, Peter, Sem II, Associate Member, Center for Advanced Study

Brown, Theodore L., Sem I and II, sabbatical leave

Coates, Robert M., Sem II, sabbatical leave

Melhado, Evan, Sem I and II (one-quarter each), Fellow, Center for Advanced Study

Oldfield, Eric, Sem II, Fellow, Center for Advanced Study

Paul, Iain C., Sem I, sabbatical leave

Stucky, Galen D., on leave of absence at Sandia Laboratories

D. Awards and Similar Recognition During 1978-79

Biochemistry

Gumport, R. I.	Guggenheim Fellow

Chemical Engineering

Drickamer, H. G.	Elected Member of National Academy of Engineering Kurt Wohl Memorial Lecturer at University of Delaware
Hanratty, T. J.	Awarded Honorary Degree by Villanova University First Senior Research Award of Am. Soc. for Engr. Education
Schmitz, R. A.	Wilhelm Lecturer at Princeton University

Chemistry

Bailar, J. C., Jr.	J. Heyrovsky Medal of the Czechoslovakian Academy of Sciences
T. L. Brown	Guggenheim Fellow
Coates, R. M.	Guggenheim Fellow
Cook, K. D.	University of Wisconsin McElvain Award for Significant Achievement as a graduate student

Curtin, D. Y.	Riegel Lecturer at Northwestern University
Dykstra, C. E.	Alfred P. Sloan Research Fellowship
Flygare, W. H.	Guggenheim Fellow
Haight, G. P.	ACS Award in Chemical Education
Gutowsky, H. S.	Elected Honorary Member of Society for Applied Spectroscopy
Leonard, N. J.	Visiting Professor of Japan Society for the Promotion of Science Arapahoe Lecturer at University of Colorado
Martin, J. C.	Senior U.S. Scientist Award of the Humboldt Foundation
Oldfield, Eric	Medola Medal and Prize of the Royal Institute of Chemistry
Shapley, J. R.	Camille and Henry Dreyfus Teacher-Scholar Award

E. Invited Lectures and Meetings Attended

In addition to the items listed above, a great deal of other professional recognition has been accorded to our faculty. An important component is the giving of invited lectures at seminars, symposia, and colloquia held at other institutions or in connection with meetings of professional societies or groups. The table given below summarizes the extent of such activities. The names of our regular faculty are listed according to department, along with the numbers of lectures given and of meetings attended. Lectures and meetings outside the U.S. or Canada are given as a second digit, where appropriate and where known.

Biochemistry

Name	Lect.	Attend.
Baldwin, T. O.	6	1
Clark, J. M., Jr.	-	-
Conrad, H. e.	-	2
Glaser, M.	4	2
Gumport, R. I.	3	2
Gunsalus, I. C.	1,5	3,2
†Hager, L. P.	4,1	4
Jonas, Ana	2	2
Mangel, W. F.	1	-
Nystrom, R. F.	-	-
Ordal, G. W.	-	1
Shapiro, D. J.	1,1	-,2
†Switzer, R. L.	3	2
Uhlenbeck, Olke	-	-
Weber, Gregorio	-	-

Chemical Engineering

Name	Lect.	Attend.
†Alkire, R. C.	6,1	3
Drickamer, H. G.	3,5	2
Eckert, C. A.	7	2
†Hanratty, T. J.	5	1,1
Masel, R. I.	-	3
Schmitz, R. A.	7	2
†Shaeiwitz, J. A.	2	2
Stadtherr, M. A.	-	2
Westwater, J. A.	4	5

Chemistry

Name	Lect.	Attend.
Applequist, D. E.	-	1
Arduengo, A. J., III	-	1
Avery, J. P.	1	2
Bailar, J. C., Jr.	7,2	2,1
Beak, Peter	12	3
Belford, R. L.	-	2
Breiland, W. G.	-	-
Brown, T. L.	4,1	2,1
Chandler, David	6,1	1,1
Coates, R. M.	3	3
Cook, K. D.	-	3
Curtin, D. Y.	1	1
†Drago, R. S.	5,1	1
Dykstra, C. E.	3	4
Faulkner, L. R.	12	8
Flygare, W. H.	7,2	3,1
Gennis, R. B.	8	1
Gutowsky, H. S.	1,1	5,1
Haight, G. P., Jr.	3,4	8,1
Hendrickson, D. N.	5	2
Hummel, J. P.	-	1
†Jonas, Jiri	12	3
Katzenellenbogen, J.	11	4
Kaufmann, K. J.	2,1	2,1
Leonard, N. J.	6,10	3,1
Malmstadt, H. V.	5	4
Martin, J. C.	7,7	4,1
McDonald, J. D.	3	1
Melhado, Evan	-	-
Nieman, T. A.	1	2
Oldfield, Eric	9	3
†Paul, I. C.	-,1	1
Pirkle, W. H.	8	3
Rauchfuss, T. B.	2	3
†Rinehart, K. L.	21	8,1
Rogers, E. P.	-	1
†Schuster, G. B.	11,1	3,2
Secrest, D. H.	-,2	1
Shapley, J. R.	14,1	4,1
Smith, S. G.	7	2
†Stucky, G. D.	6,1	2,1
Suslick, K. S.	2	1
Yankwich, P. E.	-	1

†These individuals also organized and chaired a symposium or similar event.

F. Other Professional Activities

Two other types of professional activities are summarized in the table given below. The first (Ed. Bd.) of these is service on the editorial boards of journals and other science-related periodicals. The second (Prof.) is membership on the wide variety of advisory panels and committees for professional societies, federal and state agencies and for other institutions; included in this category is service as an officer of a professional society. The numbers of such activities are listed for each faculty member, insofar as they are known.

Biochemistry

Name	Ed. Bd.	Prof.
Conrad, H. E.	-	1
Glaser, Michael	-	2
Gunsalus, I. C.	6	6
Hager, L. P.	1	4
Jonas, Ana	-	2
Nystrom, R. F.	1	-
Switzer, R. L.	2	1

Chemical Engineering

Name	Ed. Bd.	Prof.
Alkire, R. C.	2	4
Drickamer, H. G.	4	5
Eckert, C. A.	1	3
Hanratty, T. J.	-	2
Schmitz, R. A.	1	1
Shaeiwitz, J. A.	-	2
Stadtherr, M. A.	-	3
Westwater, J. W.	3	4,1

Chemistry

Name	Ed. Bd.	Prof.
Bailar,J. C., Jr.	-	2
Beak, Peter	1	2
Belford, R. L.	1	1
Brown, T. L.	3	4
Chandler, David	2	-
Coates, R. M.	3	2
Curtin, D. Y.	2	-
Drago, R. S.	2	1
Faulkner, L. R.	1	2
Flygare, W. H.	4	4
Gennis, R. B.	-	1
Gutowsky, H. S.	-	11
Haight, G. P., Jr.	1	5
Jonas, Jiri	1	2
Katzenellenbogen, J. A.	-	2
Kaufmann, K. J.	-	1
Leonard, N. J.	2	2
Malmstadt, H. V.	3	-
Martin, J. C.	-	3
Paul, I. C.	-	2
Rinehart, K. L.	2	3
Rogers, E. P.	-	1
Secrest, D. H.	2	-
Shapley, J. R.	1	-
Stucky, G. D.	1	4
Yankwich, P. E.	-	1

II. Undergraduate Programs

A. Registration During 1978-79

Given in the table below is a summary, by class, of the number of undergraduate students enrolled in each of the two specialized curricula and in the several programs for S&L majors in the School. The numbers given are averages of the fall and spring enrollments.

	Fr.	So.	Jr.	Sr.	Total
Biochemistry					
32-14-06 (majors)	19	20	28	29	96
32-16-06 (premeds)	28	33	18	23	102
32-15-06 (prejournalism)	0	0	1	0	1
Totals	47	53	47	52	199
Chemical Engineering					
32-06 (curriculum)	127	89	131	169	516
Chemistry					
32-07 (curriculum)	58	35	39	34	166
32-14-07 (majors)	29	16	14	17	76
32-15-07 (prejournalism)	0	0	0	0	0
32-16-07 (premeds)	40	23	16	12	91
32-18-07 (prelaw)	2	1	0	1	4
32-71 (teaching)	2	1	3	0	6
Totals	131	76	72	64	343

B. Five-Year Enrollment Trends

Comparisons of total registrations by semester in the several major types of undergraduate programs are given below for the past five years. The increase of S&L majors in biochemistry, starting with their inception in 1970-71, appears to have leveled off. Also, although there was another increase in chemical engineering enrollments, for a fifth year in a row, it was less extreme. Their total enrollments have more than tripled in five years. Finally, enrollments in the chemistry curriculum are up significantly while those in the chemistry S&L majors are down a bit. The overall net effect is that the School totals are up about 6%.

Sem.	1974-75	1975-76	1976-77	1977-78	1978-79
		Biochemistry - S&L Majors			
I	165	196	237	213	212
II	168	168	196	199	182
		Chemical Engineering - Curriculum			
I	233	322	389	475	540
II	223	280	345	461	490
		Chemistry - Curriculum			
I	147	145	123	134	160
II	131	135	108	127	170
		Chemistry - S&L Majors & Teaching			
I	210	207	227	209	155
II	186	174	191	165	194
		Totals - All Undergraduate Programs			
I	755	870	976	1031	1067
II	708	757	840	952	1036

C. Degrees Granted over the Five-Year Period 1974-79

Degrees granted in the various undergraduate programs during the past five years are summarized below. Data for 1978-79 are taken from the tentative graduation lists. The most dramatic change is in chemical engineering, for which the number of graduates this year is about a hundred, up three-fold from the 30 to 35 range of five years ago which persisted for two or three decades preceding that.

Mo.	1974-75	1975-76	1976-77	1977-78	1978-79
	Biochemistry - BA and BS Degrees in the S&L Majors				
Aug.	2	0	3	5	3
Oct.	0	0	1	0	0
Jan.	2	3	5	2	4
May	34	31	22	26	28
	38	34	31	33	35
	Chemical Engineering - BS Degrees in Curriculum				
Aug.	2	2	3	4	2
Oct.	1	0	0	0	0
Jan.	7	19	17	14	27
May	27	30	41	41	74
	37	51	61	59	103
	Chemistry - BS Degrees in Curriculum				
Aug.	4	2	4	4	4
Oct.	2	0	2	2	0
Jan.	2	4	6	5	6
May	20	28	16	17	13
	28	34	28	28	23
	Chemistry - BA and BS Degrees in All S&L Majors				
Aug.	7	6	5	0	1
Oct.	0	2	1	0	0
Jan.	7	5	4	9	10
May	32	33	29	26	33
	46	46	29	35	44
	Totals - All Undergraduate Programs				
Aug.	15	10	15	13	10
Oct.	3	2	4	2	0
Jan.	18	31	32	30	47
May	113	122	108	110	148
	149	165	159	155	205

D. Undergraduate Scholarships and Awards*

The committee met several times to determine recipients of awards and scholarships. The following major awards have been made; these include some which SOCS students received through other mechanisms than action of this committee. In this event, the unit responsible for the selection is given in parentheses.

Donald E. Eisele Memorial Award - (Chem Engr., Alpha Chi Sigma)	Leon M. Olszewski
AIChE Scholarship Award (Chem Engr.) -	Paul R. Fetty
Chemical Industries Council of the Midwest $1000 scholarship -	Patrick J. Merrill
Chemical Rubber Co. Achievement Award -	Dale R. Fink
Reynold C. Fuson Award -	Della M. Lin
Worth H. Rodebush Award -	Donald F. Rogers
Kendall Award (Phi Lambda Upsilon) -	John D. Brofman
Merck Index Award -	John E. Crowell Thomas E. Crowley Randall A. DeRuiter
Elliott R. Alexander Award (Phi Lambda Upsilon) -	Christopher V. Chow Wayne E. Henderson James M. Morris John J. Staudt
Phi Lambda Upsilon Cup (PLU) -	Joseph D. Auspurger Paul W. Jahn Lisa A. Merits Richard C. Reem Diane F. Skocypec Michael J. Skubic Pauline C. Ting
Kodak Scholars Program -	Joseph D. Ausburger - 78-81 Paul W. Jahn - 78-81 Pauline Ting - 78-81 Ann B. Fiduccia - 79-82 Bradley A. Kirchhofer - 79-82 (Daniel L. Weidman, Alternate - 79-82)
Illinois Institute of Chemists Award	John D. Brofman Ronald Lagnado Mitchell A. Newman

In addition, ten $500 freshman scholarships have been awarded to high school seniors who will be entering as freshmen in the fall and plan a professional career in chemistry. Four of the scholarships are being funded from the income of the Roger Adams Fund, four by a grant from Monsanto and two as part of a general grant from Eastman Kodak Co. This year, application forms and information were provided in September, before the high school seniors had become set in their choices of university and major. It appears that this procedure has garnered more applicants of high quality. The first-round offers brought only one refusal - from a student who stated she was going to Washington U. so as not to be taught chemistry by TA's (!?).

*Report of the committee chairman, R. L. Belford.

The traditional Agnes Sloan Larson Awards, five $200 prizes to sophomores in the School, based on freshman-year academic performance, have been discontinued for the time being because of lack of funding. We might consider substituting some other award program for sophomores. Undergraduate scholarships are provided in chemical engineering from a number of sources listed below:

Air Products and Chemicals	Marathon Oil Company
Alcoa Foundation	Monsanto Company
Diamond Shamrock Corporation	Standard Oil of California
Eastman Kodak Company	Stauffer Chemical Company
3M Company	University Oil Products Foundation

E. Undergraduate Advising in Chemistry*

The advising committee and the advising office assisted over 300 new students to enroll during the summer of 1978 and about 350 students to advance enroll per semester. Many inquiries (by letter, telephone, and personal visit) by prospective students were handled and several tours of facilities and class visits were arranged for visitors. The advising office continues to maintain a file of catalogs and brochures for other Illinois institutions of higher education and for graduate programs in chemical sciences throughout the country. Particular efforts are being made to improve the accuracy of placement in chemistry and mathematics courses for new freshmen. A new home study guide and presemester review course prepared and presented by Professor Elizabeth Rogers has helped considerably as has special attention paid by the general chemistry staff to the freshman proficiency examinations.

F. Cooperative Education Program†

The Cooperative Education Program in the School had sixteen undergraduate students interviewing prospective companies during Cooperative Education Week, March 12-16, 1979. These activities were held in concert with the College of Engineering's week for co-op placement. Co-op Week and telephone contacts throughout the year resulted in eight students being placed with companies. A total of 25 students are co-oping with fourteen companies in states from New York to Utah. Requests for co-op students arrive monthly. While the number of requests for and placement of chemical engineers far outnumber those for chemists, opportunities are increasing for chemists as companies become aware of their availability and on-campus publicity becomes more widespread. Of the students in the program, 7 are chemistry majors and the balance, 18, are in chemical engineering.

*Report of the committee chairman, R. L. Belford.

†Report of R. L. Belford and the Placement and Chemistry Advising Office.

III. Graduate Programs

A. Enrollment Trends and Degrees Granted

Graduate enrollment data for the fall semester of the past five years are summarized below. Spring semester totals are also given. Two or three students registered in absentia are included. The total graduate enrollment hit a new high last fall, largely because of a combination of random fluctuations in several areas.

Total Graduate Enrollments by Department and Area*

Dept.-Area	1974-75	1975-76	1976-77	1977-78	1978-79
Biochemistry	68	75	84	87	85
Chem. Engr.	59	51	52	59	61
Analyt.	53	51	49	43	37
Biophysical	4	4	6	8	12
Inorg.	65	63	64	57	71
Org.	83	82	102	107	113
Phys.	63	67	59	55	55
Ch. Phys.	13	8	9	7	6
Undecided	4	9	12	16	10
T. of Chm.	3	1	2	0	0
Chemistry	288	285	303	293	304
Semester I	415	411	439	439	450
Semester II	403	393	389	421	429

*It is estimated that the total number of graduate students in the School will be about the same this fall as last.

The numbers of degrees granted this year are comparable with previous years and probably reflect a steady-state total of 65±10 PhD's after the all-time high for 1969-70 (107) and the sharp drop in the succeeding year.

Summary by Department of Advanced Degrees Granted

	1974-75	1975-76	1976-77	1977-78	1978-79
Biochemistry					
MS	14	7	11	8	8
PhD	8	4	9	9	7
Chemical Engr.					
MS	12	15	10	16	12
PhD	7	9	7	11	10
Chemistry					
MS	26	29	31	25	29
†PhD	59	56	39	53	47
Total					
MS	52	51	52	49	49
PhD	74	69	55	73	64

†PhD degrees in chemical physics are included here.

B. Graduate Student Recruitment and Admissions*

Biochemistry--There were 50 completed applications for 1979 admission--down considerably from the 62 completed last year. Sixteen students have accepted our offer compared to 15 last year and 20 two years ago. A total of 15 students accepted for admission into our doctoral program visited our department, 10 of those accepted our offer.

Chemical Engineering--Twenty-six graduate students entered from August 1978 to June 1979. The August 1979 group will be 12 resulting from the following:

Number of inquiries = 238 U.S. + 590 foreign	= 828
Completed applications	= 112
Offers made	= 48
Offers accepted = 10 U.S. + 2 foreign	= 12
Amount of 12-month support for 1978-79	= $5850 to $7225

Chemistry--The results of this past year's graduate student recruiting efforts in the Department of Chemistry are mostly about the same as for the previous year. The total number of students accepting offers for admission in June and August was 74 (versus 78 for the preceding year) and the overall acceptance rate was 43% (versus 42%). (The number of students coming is about average and the acceptance rate is about the average for the past six or seven years.) This was accomplished in spite of an apparent drop in the supply of students interested in graduate work in chemistry as indicated by a 15% drop in inquiries about graduate work and a 7% drop in applications received. Comments from faculty in other institutions indicate that this drop in interest and supply is a nationwide rather than just a local problem.

One of the most encouraging results this past year was a significant increase in the acceptance rates for fellowship offers. The rate for offers of top-level fellowships was 35% (versus 6% for the previous year) which is the highest in recent history. The rate for second-level fellowship offers was up from 35% to 48% which approaches previous highs. Two factors are thought to be influential here. One is that significantly greater efforts were made by some areas to get the better students interested in Illinois by asking specific faculty in other schools to call Illinois to the attention of their better students. A second factor is thought to be greater care in handling the visits of prospective students. In connection with the latter, the acceptance rates for visitors with fellowship offers increased substantially this past year from 14% to 58% for top-level fellows and 45% to 67% for second-level fellows.

Although the bulk of the statistics for this past year are favorable, there are a couple of areas of potential concern that ought to be noted. One is the big drop in acceptance rate for analytical offers from 63% to 33%. However, since the application pool for analytical chemistry was quite large, the size and quality of the incoming class were still quite reasonable. Of greater concern is the fact that, in spite of an increase in the number of fellows coming in, the overall grade-point-average of the new class is about the same as last year (4.52 versus 4.51). Possibly the early statistics that showed a decrease in the application pool prompted a less hard-nosed attitude about admitting borderline cases. Whether or not this is indeed the case should be evident by the end of the fall semester.

*Taken from reports of the departments.

School--Students entering in June and August, 1979, and the totals for each of the four years preceding are summarized in the table below for the School as a whole.

Graduate Student Acceptance of Admission Offers*

Dept.-Area	1975-76	1976-77	1977-78	1978-79	1979-80
Biochemistry	24	19	20	15	16
Chemical Engr.	9	20	19	26	12
Analyt.	9	11	2	10	9
Inorg.	7	16	8	18	12
Org.	22	38	22	28	21
Phys.	19	17	19	13	19
Ch. Phys.	2	3	-	-	-
Undecided	8	9	9	9	13
T. of Chem.	1	2	-	-	-
Chemistry	68	96	60	78	74
Total	101	135	96	119	102

*The 1975-79 figures are actual enrollments, including students entering in February. The 1979-80 data do not include January admissions. Biophysical students are listed under physical, organic and biochemistry; and chemical physics students usually appear initially under physical.

C. Fellowship and Traineeship Support

1. Fellowship and Traineeship Support - These nonassistantship appointments were held by only 99 graduate students this year, a new low for the decade following the high of 197 in 1967-68. Many of the earlier federal graduate student support programs (NDEA, NSF and NIH) have either been cut back sharply or eliminated. Most unrestricted, industrial grant-in-aid funds continue to be committed for student support to offset the impact of the reductions in federal funding. A synopsis of the numbers of students supported by the various programs is given in the table below for the past five years.

Type of Appointment	1974-75	1975-76	1976-77	1977-78	1978-79
NDEA Traineeship	0	0	0	0	0
Natl. Science Foundation					
National Fellow	11	6	6	9	5
Trainee	1	3	10	4	1
U.S. Public Health Serv.					
Trainee	44	49	28	25	24
	56	58	44	38	30
Institutional Fellowships					
University	21	19	25	25	25
Industrial - Dept.	48	33	41	40	43
Other	0	4	7	1	1
Total	125	114	117	104	99

The distribution of these appointments among the three departments in 1978-79 is given in the next table. It's virtually the same as for last year except for the drop in NSF national fellows from 13 to 6.

Department	NSF	NIH	Univ.	Indust.	Total
Biochemistry	0	19	3	0	22
Chemical Engr.	4	0	4	16	24
Chemistry	2	5	18	27	52
	6	24	25	43	98

2. Industrial Support - A synopsis is given below of the industrial donors who have made "unrestricted" grants during 1978-1979, to support graduate fellowships and/or research in one of the departments. The list does not include the smaller undergraduate scholarship grants nor industrial grants and contracts to support a particular faculty member's research. The amounts received total about $70,000 for chemical engineering as compared with $60,000 for the preceding year, and $120,000 for chemistry for both years. Most of these funds are being used for graduate fellowships and start-up costs of new faculty.

Biochemistry

None

Chemical Engineering

Allied Chemical Company
American Oil Company
Atlantic Richfield
Consejo National de Cienca y Technologia
†CPC International
Dow Chemical Company
†DuPont Company
Exxon Education Foundation
General Electric Foundation
IBM Company
†Mobil Foundation
†Mobay
Monsanto Foundation
National Steel Corporation
Shell Oil Company
Standard Oil of California
Union Carbide

Chemistry

Atlantic Richfield
Conoco
Dow Chemical
†DuPont Company
Eli Lilly & Company
Lubrizol
Merck
†Minnesota Mining & Manufacturing
Mobay
Mobil Oil Company
Owens Corning
Procter & Gamble
†Rohm & Haas
†Sherwin Williams (seminars)
Sohio
Union Carbide

†Departmental grants-in-aid that can be used for purposes other than graduate fellowships.

Industrial support of the research of particular faculty members or of a particular program is also noteworthy. In chemical engineering, it totaled $64,000 in 1978-1979 from Exxon, General Foods, National Steel, Standard Oil and IBM. In chemistry, it was $213,000 from the following companies: Bristol Labs, Mamamatsu Corporation, Mobil Oil, Exxon, American Chemical Society, Research Corporation, A. P. Sloan Foundation, American Heart Association, and the Illinois Heart Association.

D. Postdoctorates

Given below is a five-year synopsis of the numbers of postdoctorates in each department of the School. The numbers fluctuate appreciably during the year as individuals come and go almost at random, so the figures given are the total numbers appointed at some time during each year. After a high of 86 in 1973-74 the total appears to have bottomed out at about 60.

Department	1974-75	1975-76	1976-77	1977-78	1978-79
Biochemistry	16	16	16	22	16
Chemical Engr.	2	1	2	2	2
Chemistry	52	44	44	38	39
Total	70	61	62	62	57

E. Special Lectures and Seminars During 1978-79

A number and variety of activities related to the graduate research programs of the School took place during the year. They are enumerated below, starting with the three name lectureships sponsored by the School, the John C. Bailar, Ada Doisy and W. A. Noyes lectures.

1. John C. Bailar, Jr., Lecture

Daryle H. Busch, Ohio State University, December 11 and 12, "Totally Synthetic Heme Protein Models Based on Synthetic Macrocyclic Derivatives" and "Distinctive Coordination Chemistry of Complexes of Macrocyclic Ligands"

2. Ada Doisy Lectures in Biochemistry

Donald Brown, Carnegie Institution of Washington, April 26, "In Vitro Genetics with Purified Genes"

Herbert Boyer, University of California at San Francisco, April 27, "Recombinant DNA Techniques in the Genetic Analysis of a Plasmid Promoter and a Replication Origin"

3. W. A. Noyes Lecture

John Deutch, Department of Energy, April 25, "Energy Research and Development"

4. Sherwin-Williams Seminars

Jerome Berson, Yale University, May 3, "Biradicals: Molecules with Broken Bonds"

William H. Miller, University of California at Berkeley, May 8, "Recent Progress in the Semiclassical Theory of Electronically Nonadiabatic Collision Processes"

Richard B. Bernstein, Columbia University, May 9, "Laser Multi-photon Ionization and Fragmentation of Molecular Beams"

5. Alpha Chi Sigma Krug Lecture

Harry B. Gray, Cal Tech, "Will Chemistry Ever Beat Biology in Solar Energy Conversion?"

6. Wednesday Night at the Lab ("popular" lectures organized by Alpha Chi Sigma, supported by funds from DuPont)

Russell Buchanan, U. S. Department of Agriculture, September 20, "Oil and Hydrocarbon Producing Plants"

Clifford N. Mathews, University of Illinois, November 8, "Chemical Evolution: Protons to Proteins"

Max G. Gergel, Columbia Organic Chemicals, February 21, "How to Run a Small Chemical Company Profitably"

Felix Sebba, Virginia Polytechnic Institute, "Is Life Just a Manifestation of Surface Energy?"

Joseph I. Routh, University of Iowa, May 2, "The Aspirin vs. Tylenol Controversy"

7. Local ACS Section Lectures

Speakers included Orville Chapman of UCLA (Reactive Intermediates), Charles Sleicher of the University of Washington (Aerosol Deposition in the Human Lung), E. Soloman of MIT (Spectroscopic Studies of Active Sites), Eli Grushka of SUNY at Buffalo (HPLC via Solute-Metal Interactions) and Robert Pecora of Stanford (Dynamic Light Scattering from Macromolecules).

8. First William C. Rose Lecture in Biochemistry and Nutrition

Dr. Minor J. Coon, Professor and Head of the Department of Biological Chemistry, University of Michigan School of Medicine, delivered the first William C. Rose Lecture in Biochemistry and Nutrition on October 6 at the University of Illinois. Professor William C. Rose was in the audience to join in honoring his former student. The title of Dr. Coon's lecture was "Oxygen Activation in the Metabolism of Lipids, Drugs and Carcinogens."

In April, 1977, students, colleagues and friends of W. C. Rose gathered in Urbana to honor him on the occasion of his 90th birthday and to establish the Rose Lectureship, a national award, which is being administered by the Nutrition Foundation, Inc., 489 Fifth Avenue, New York, N.Y. 10017. Nominations for this annual lectureship are invited and should reach Dr. William J. Darby, President, Nutrition Foundation, by March 1 of each year. Future lecturers will be chosen by the Selection Committee for this award, and future lectureships will be held at the institutions of the awardees. The W. C. Rose Lectureship will include an honorarium of $1,000 and expenses for the awardee and support funds for the host institution.

The W. C. Rose Lectureship honors the discoverer of threonine, the last major amino acid found in proteins, for his outstanding example of excellence in research and teaching, much of it at the University of Illinois.

9. Visiting Speakers in Seminars

The number and variety of seminars by visiting secientists was up discernibly from the 100 level in preceding years. There were at least 135 such visitors, seventeen of whom were from other countries. Talks were distributed among the various areas as follows, where the first number gives the talks by U.S. visitors and the second by foreign visitors: Biochemistry (26,4), Chemical Engineering (16,2) and in Chemistry--Analytical (11,2), Inorganic (12,2) Organic (13,4) and Physical (24,2). In addition there were 6 lectures on polymers, 10 of a biophysical character, and 1 on chemical education.

IV. Instructional Program

A. Curricular Matters

1. Courses and Curricula Committee*

The most significant curricular development in the School this year has been the revision of the course requirements for PhD candidates in organic chemistry and of the 400-level courses in organic. The previous requirement of two 1-unit courses, 431 and 432, has been increased to three 1-unit courses, numbered 430, 431, and 432. Chem 430 is a new course on structure and spectroscopy, topics previously covered mainly in 432. Chem 431 remains a course on reaction mechanisms. Chem 432, now free of the structure and spectroscopy, has been expanded to a full semester on synthesis.

To keep the total course burden constant for the organic graduate students, the requirement of 3 units of work outside the major has been reduced to two. At the same time, the requirements for PhD candidates in inorganic chemistry have been revised to permit a similar transfer of one unit of minor work into the major area, to be approved for individual students by their research advisors.

At the chemistry faculty meeting at which these changes were discussed, it was pointed out by the Head that two adverse side effects have resulted from the steady de-emphasis of formal course work for graduate students during the last decade or so. Students initially admitted to the PhD program who flunk out or decide to leave with a Master's degree often have difficulty meeting the minimal, 8-unit requirement for a course-work Master's, much less having a coherent program. Furthermore, despite the emphasis upon research, few of those leaving have accomplished enough research for a Master's thesis, even though virtually none leave before the end of the second year and many stay for three years. A second, related point is that too little attention is being paid to the results of the registration exams. Deficiencies often are disregarded, and students with them are permitted to register in advanced courses where they do poorly.

Continuing the recent trend toward relaxed foreign language requirements at the graduate level, the requirement for PhD candidates in inorganic chemistry has been revised from a simple 8 semester hours or equivalent in German, French, or Russian, to permit German, French, or Russian 400 alone to meet the requirement. A synopsis of the total School situation now is that organic still has a requirement in German; inorganic, analytical and biochemistry have a requirement in German, French, or Russian; and physical, chemical physics, biophysical chemistry, and chemical engineering have no language requirement.

The Department of Chemical Engineering did some extensive housekeeping in its course offerings. Revised course outlines were submitted for Chem Engr. 377, 381 and 384. Three new courses were created on topics that had been dealt with more or less regularly in the Selected Topics course. The new courses are Chem Engr. 387 (Applied Chemical Kinetics and Catalysis), 388 (Electrochemical Engineering), and 389 (Chemical Process Control and Dynamics).

It would be difficult not to mention in this report that the LAS College has during the year extensively revised its general education requirements for students in the

*Report of the committee chairman (D. E. Applequist), except for the third paragraph.

Sciences and Letters Curriculum (including our chemistry and biochemistry concentrators), changes which are to be phased in during the next couple of years. No action has been taken yet by us, but it seems likely that some responses by us in the form of curricular changes will be necessary in the next year. The principal changes imposed upon our concentrators appear to be an increase in the humanities requirement from 6 hours to 12 or 15, a reduction in the biological science requirement from 6 hours to 3, and the elimination of psychology courses from the list of social sciences electives. The effects of the changes will be greatest for undergraduate majors in biochemistry where there is not (as yet) a "professional curriculum."

2. General Chemistry Program†

The General Chemistry Program has continued, with great success, to employ the teaching system which involves the central use of video tapes and teaching assistants for classroom teaching. This unique program, which has been developed over the last ten years at UIUC, has received national (Journal of Chemical Education, April 1978) and international attention. The 1978 American Chemical Society award in chemical education cited this program, and it has been the subject of invited lectures in Australia (UNESCO), South Africa, Japan, and Korea. The Koreans, in particular, have shown a keen interest in the possibility of adopting the video tape chemical education system. Visitors for one month to one semester are coming to examine our program. Graeme Gerrans from the University of the Witwatersrand in South Africa was here in Spring, 1979, and visitors from Indianapolis and Japan are due in the fall.

Plans are underway to prepare tapes for use in Chemistry 102P and for an ongoing program of evaluation and revision of tapes now in use.

Chemistry TIPS, a program for computer-assisted self-help with chemistry, will be set up and tried experimentally in Chemistry 102P (for engineers) in the fall.

The PLATO system is used extensively in Chem 100 to provide drill, to administer weekly quizzes, and to provide laboratory simulations to prepare students for lab work.

A program to review high school chemistry for entering students with marginal scores on the Chemistry Placement Examination was organized by Elizabeth Rogers in the summer of 1978. The purpose of this program is to allow some students who would ordinarily be required to take Chem 100 to start with Chem 101 instead, and for those at the low end of the Chem 101 qualifiers to strengthen their chances of success in Chem 101. Since the results of the initial program were encouraging, it was expanded for the summer of 1979.

Laboratory - The lab and lecture portions of the service courses (101-102) were recombined as of Fall, 1978, but with two senior staff members assigned to each course: one with primary responsibility for the lecture and the other to run the laboratory. This system should provide the attention required to continue the improvements in the laboratory program.

The major problem with the laboratory portions of 101-102 seems to be pre-lab preparation and post-lab reinforcement of the principles studied. In many cases,

† Report by G. P. Haight, Jr.

students have different quiz and lab TAs, and even when they are the same, little time is available in the quiz session to discuss the laboratory work. The large, noisy laboratories make lecturing to individual sections in the lab almost impossible, and since convenient, large rooms are not available, short video-taped lectures have been prepared weekly to be shown on the lab monitors at the beginning of the lab session. This has helped, but preparation of the students before the experiment and follow-up after the experiment remain as problem areas.

Chemistry 109 and 110 continue to be taught as separate lab courses to accompany 107 and 108. Classical quantitative analysis is stressed in Chem 109 with applications of analytical techniques in project-type experiments emphasized in Chem 110.

Professional Activities - Gil Haight received the ACS Award in Chemical Education for 1979 at the Spring ACS meeting in Hawaii where he presented an award address. This award recognizes Dr. Haight's distinguished contributions to the field of chemical education.

Elizabeth Rogers organized the annual articulation conference for high school teachers in conjunction with Engineering Open House and the Spring meeting of the Illinois Association of Chemistry Teachers. Russ Drago and Steve Zumdahl were the speakers.

Gil Haight and Steve Zumdahl attended the 1979 meeting of the newly organized Forum for Directors of General Chemistry Programs at Texas A&M in College Station, Texas on June 1-2.

Professor Haight has been serving ACS as a member of the Education Commission and he is also a liaison member of the Science Commission from the Education Commission.

Several staff members took part in a conference on lecture demonstrations at Western Illinois University on May 4-5.

B. Overall Registration

Comparisons of total instructional units, and, separately, of those in General Chemistry are given below on a semester basis for the 1974-79 period. The main point to note is that fall-semester enrollments jumped up again by another 5% after leveling off in 1974-77 at about 20,000 IUs following two years of 10%/year increases in 1972-74. The new increase relects continued shifts in undergraduate enrollment patterns (to ag and engineering) rather than an increase in the number of undergraduates on campus (which has been stablized at about 25,000 for several years). The relatively small number of IU's (25,530) for the spring semester is about 1,200 below the actual demand. Nearly 300 students were turned away from Chem 101 because of accumulated deficiencies in funding plus a shortage of TAs (possible appointees being discouraged by excessive TA loads in 1977-78 and last fall).

Semester	1974-75	1975-76	1976-77	1977-78	1978-79
			Total Instructional Units in All Courses*		
I	26,520	24,955	25,638	26,683	27,872
II	24,116	24,631	24,407	27,268	25,530
Total	50,636	49,586	50,045	53,951	53,402
			Instructional Units in General Chemistry		
I	12,174	10,426	11,689	12,006	12,193
II	11,249	11,497	11,473	13,016	10,440
Total	23,423	21,923	23,162	25,022	22,633

*An instructional unit is a student semester credit hour or equivalent (one graduate unit equals four semester hours).

C. Teaching Loads

The leveling off in enrollments during 1974-77, after the sharp increases for 1972-74, enabled some recovery from the excessive teaching loads for TAs in the two-year earlier period of increased enrollments. However, the 8% enrollment increase in 1977-78 was met with a 5% increase in TAs, so the loads increased again. The higher loads continued last fall because of the "unexpected" enrollment increase and were reduced in the spring to a tolerable level only by turning 300 students away, as noted in Section B. The following table lists the FTE TAs we've used in each semester for the past five years, and gives the ratio of IUs to them. This ratio was about 250 in the late '60s and early '70s.

Semester	1974-75	1975-76	1976-77	1977-78	1978-79
			Graduate Teaching Assistants Employed		
I	101.75	92.10	97.45	98.12	102.80
II	88.17	94.19	93.61	101.82	96.01
Average	94.96	93.14	95.53	99.97	99.41
			Ratio of Total Instructional Units to FTE Teaching Assistants		
I	261	271	263	272	271
II	274	262	261	268	266
Average	267	267	262	270	269

The ratios of instructional units to FTE TAs do not allow explicitly for changes in faculty size; however, the latter have been negligible compared with registration changes and with changes in FTE TAs. Therefore, the ratios are a valid indicator of the amount of instruction delivered by TAs in the School over the period.

D. Teaching Evaluation and Awards*

The revised procedures of the Office of Instructional Resources in processing instructional evaluation forms worked smoothly for SOCS in the academic year 1978-79. Scored forms have been returned promptly to the School and to the individual instructors. The forms in use for several years were used again without change. The results obtained this year for the senior staff are summarized at the bottom of the page.

Based upon nominations by the Committee, the Kodak-du Pont teaching awards for 1978 were presented in August to David Reichgott (chemistry) and Mark Stadtherr (chemical engineering) of the faculty, and to teaching assistants Kirk A. Simmons, Jack A. Kramer, and Dennis J. Hoover. Each award consisted of $500.

Faculty interest in the campus teaching awards dropped to a new low, this being the first year of the awards (beginning in 1975) that we had no nominations. The terms of the competition tend to restrict the number who are even eligible for nomination, and the low success rate of the past (only two faculty awards and no teaching assistant awards in SOCS) probably provides additional discouragement. Nominations are still being solicited actively by the Committee, however, and a further effort to submit completed nominations to the College will be made in 1980.

Top Twenty Percent of Faculty Instructors in 1978-79

Form FL (lecture)	Sem I	Sem II
100-level	107 Deck	199 Melhado, Lee
		108 Deck
200- and 300-level	339 Katzenellenbogen	350 Clark
	342 Marquart	397 Hummel
	350 Conrad	390 Melhado, Evan
		346 Gennis
400-level	407 Hendrickson	449 Chandler
Form FB (laboratory)	Sem I	Sem II
100-level	109 Zumdahl	110 Zumdahl
	181 Smith	
300- and 400-level	322 Faulkner	422 Faulkner
	377 Stadtherr	337 Applequist

*Report submitted by D. E. Applequist, chairman of the ad hoc committee.

V. Services and Facilities

A. Chemistry Library*

A major problem of the library has been overcrowding both in terms of journal storage and user seating capacity. Expansion which has been planned and should soon be implemented will help significantly to alleviate this problem. One addition which should be made to the library is a microfiche reader printer since there is a growing file of fiche which receive limited use because of the availability of only a reader. In view of the pressure of new books and journals any method of reducing the volume of stored material is highly desirable.

On-line computer searches have increased at a steady rate. The librarian, Dr. Lucille Wert, has been most helpful in encouraging development of this part of the library service.

The automated Library Circulation System (LCS) has been implemented this year. Accompanying this change much effort has been made in weeding, replacing missing books, updating monograph collections and in general bringing better organization and accuracy into the library records.

Limited resources have led to somewhat decreased library hours, particularly during major vacations. This has produced occasional bursts of displeasure from the senior staff and it is hoped that the problem can be partially alleviated by the availability of a few additional library keys (for the senior staff).

The University Library policy of lending journals which were "sufficiently old" has caused some distress among the faculty since in general chemists are as likely to need a journal twenty years old as one five years old.

On balance the library has been developing well under its new management and the expansion to take place within the next few months should be a great asset.

B. Placement Office†

Recruiting - The 1978-79 recruiting year was active, especially for the new director. The excellent support of Mrs. Seibold, Mrs. Eriksen and company representatives aided in the smoothness of the busy season and the functioning of the office.

The following composite data (Fall and Spring) compare this year with the preceding two years of recruiting:

	1976-77	1977-78	1978-79
Employer Visits Scheduled	194	211	214
Cancellations	14	19	22
Employer Visits Completed	180	192	192
Number of Employer Days	337	364	309
Total Student Interviews	3205	3059	3631
Resumes Sent (Overflow)	310	186	324
Average Interviews/Employer per day	9.5	8.4	11.8

*Report of the committee chairman, D. Y. Curtin.

†Report of Rebecca Simon, Director of the Placement Office.

Many of the twenty-two cancellations of recruiting schedules this year were because of insufficient interest on the part of students in the employer and job opportunities. For each cancellation, resumés of those candidates who had signed on the schedule were sent to the company for review.

Placement Data for BS Students - The following data were collected from several sources. These data reflect information reported by baccalaureate graduates from August 1978 through May 1979, and the (incomplete) totals are usually less than the number actually graduating. The main change from previous years is the near doubling in the number of engineering graduates.

Baccalaureate Graduates	Chem. Curric.	Science & Letters Chem. & Biochem.	Chem. Engr.
Employed	3	10	80
Graduate/Professional School	7	19	11
No Definite Information	0	1	5
Seeking Employment	3	11	4
Seeking Graduate School	0	7	0
Totals	13	48	100

Workshops - Prior to each recruiting season, the Placement Office and Phi Lambda Upsilon sponsored a workshop for students. Information concerning preparation for interviews, the plant visit and decision making was presented and discussed by company representatives from Rohm & Haas, Exxon, Eastman Kodak and General Motors.

Resumé Book - The production of the resumé book in the fall with an update in the spring continues to be well received by employers. The supply of 72 volumes was quickly depleted. Current plans are to split the single volume into a separate BS/MS and a PhD volume to better serve the employers who recruit from only one group of candidates and to cut down on printing/mailing costs.

PLATO - The major change in the Placement services was the use of the PLATO system for signup for interviews. The program was designed by Dr. Karl Wiegers with the generous use of Dr. Stanley Smith's facilities.

The system was designed in an attempt to 1) eliminate long lines and early morning signups, and 2) provide a fair and equal opportunity for all candidates to interview the companies of their first choice. The pilot program was initiated in the Fall Semester with 89 PhD and postdoctoral students using the program. In the interim between the recruiting periods, the program was refined and developed to include 114 BS/MS candidates and 28 PhD/Postdocs for the Spring recruiting season.

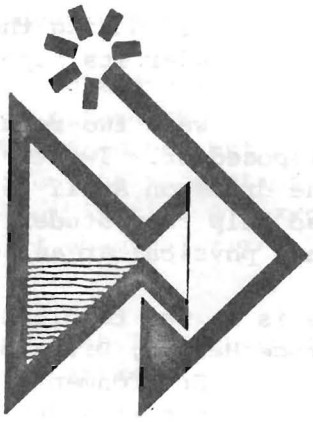
One of the design features of the PLATO program is to print out those candidates on first and/or second and/or third choices of companies. Where large overflows appeared as a result of the computer run, there was sufficient time to notify companies to establish additional full or partial schedules.

In checking the final interview schedules, approximately one-half of all on overflow were able to eventually secure interview times with preferred companies. Only in cases where companies could not or did not provide additional schedules were candidates prevented from interviewing by being on overflow.

As a whole, feedback from students about the PLATO signup process was very positive. The program has been further modified in anticipation of its use in future recruiting seasons.

Placement Logo - Another new addition to the Placement Office is the logo designed by Professor James E. Simon, Department of Architecture. The logo will be included on all information given to students regarding the office. The hope is that all will come to recognize and associate the symbol with placement information that is important to them.

The overall impression of an arrowhead moving toward the future is made up of a stylized representation of a liquid, solid and gas. The dashes at the top of the logo represent the traditional areas of the School: biochemistry, analytical, inorganic, organic, physical and chemical engineering.



C. Shops and Service Facilities*

Personnel - Several important personnel changes were made in the service facilities operation of the School during the year. Dr. Arthur Gaylord joined us as a member of the Computer Service Facility. His major tasks will be to implement the use of the new VAX-11 central computer for the School. Dr. David Wright joined the staff of the Molecular Spectroscopy Laboratory. His principal assignment will be in the development of new instrumental capabilities. Professor Roger Schmitz chaired a small committeee which undertook an investigation of our drafting facilities, and recommended that the School acquire the services of a full-time draftsman. That recommendation has been implemented, and Mr. Eldon Boatz is now on board as a full-time draftsman.

Instrumentation - The new VAX-11 central computer for the School of Chemical Sciences represents the major instrumentation addition for this past year. This instrument was acquired mainly with funds from the National Science Foundation through the Chemical Instrumentation program. The year saw a change in the operating policies of the instrumentation program at NSF, in that proposals from departments are now entertained on a continuing rather than annual basis. In addition, there seems to be an increased emphasis on support of instrumentation for smaller groups of research workers. For example, during this past year funds were awarded for the purchase of a Mössbauer spectrometer for the inorganic faculty group, and for a substantial addition of equipment to the laser facility based on a proposal originated by Ken Kaufmann and Gary Schuster.

*Mainly from the report of the committee chairman, T. L. Brown.

Although the School was unsuccessful in its initial application for funds for a regional instrumentation facility, a substantially new proposal was put together this Spring by Eric Oldfield for a high-field NMR facility. The informal word is that the new proposal will be funded, probably with a starting date of October 1, 1979. It will have a four-year budget of about $1.2 million.

Also, it should be noted that the General Medical Sciences program of NIH has given a new five-year grant (K. L. Rinehart, principal investigator) to support the Mass Spectrometer facility. The total recommended for the five years is about $650K. It will do much to keep the facility at "state of the art," as well as help out with some of the operating costs. Equipment provided in the first year is a new computer system for data analysis and chemical ionization accessories for the 311A.

D. Safety Activities*

Though no formal meetings were held during the year, the Safety Committee wishes to report the actions and concerns under its supervision.

Chemical Waste Clean-Up - There were two regular chemistry clean-ups in which waste chemicals were packaged and disposed of. Twenty-five drums of waste were collected on October 19, 1978 and thirty-one drums on April 16 through April 19, 1979. Cope Hubert directed this operation and had help from students of the analytical, biochemistry, general, inorganic, organic, and physical areas as well as from part-time employees.

At the present time, there is no way to dispose of toxic, pyrophoric, explosive, and unknown materials. Mr. Bruce Hertig, Division of Environmental Health and Safety, is working on this problem with the Environmental Protection Agency. It has been proposed that these materials be burned at a designated location on the South Farms. A small storeroom is being prepared at the northeast end of Davenport Hall to store the above mentioned materials until they can be disposed of.

Safety - Miss Jean Sheets of the Division of Environmental Health and Safety presented a safety movie made by Fischer Scientific entitled "28 Grams of Prevention." This film seems to be an effective introduction to safety in the chemical laboratory and was shown during the orientation meeting for new graduate students in August, 1978. Also, the Fire Department presented a film showing the proper use of ABC, BC, and C fire extinguishers.

Eye-wash stations were tested on a routine basis.

The safety showers in all SCS facilities were checked twice during the year.

Accidents - A review of the accidental injury reports filed during the year indicated that there were no serious accidents.

A summary of all the reported accidents is given below:

*Report of the Safety Committee chairman, R. F. Nystrom.

1. Cuts, bodily injury, and thermal burns

Cuts	20	
Bodily injury	4	
Thermal burns	5	
Total		29

2. Chemical burns

Acids	6	
Chemical burn to eyes	3	
Liquid N_2 burn	1	
Total		10
		39

The total of 39 is an improvement over the preceding year's 52.

Fires - During the reported period there were twenty-four fire calls. One explosion of a sufficiently serious nature to mention occurred on August 6, 1978 in 260 Noyes Laboratory. No one was injured, but about $500 worth of damage resulted. The explosion occurred during the routine regenation of a dry train connected to a vacuum-atmosphere glove box. The combination of oxygen and hydrogen caused the explosion. The 24 calls included 11 chemical fires, 6 electrical fires, 4 gas odors, and 3 miscellaneous.

The foam device located in the volatile storage room in RAL was checked three times during the year by the Fire Department. It was also checked monthly by SCS personnel.

E. Building and Space*

The amount of remodeling and renovation work completed during 1978-79 was up considerably over past years from a level of about $70,000 a year to about $100,000 in 1978-79. The main reasons for this were the large backlog of air-conditioning projects authorized in the preceding year that were carried over into 1978-79 and some hurry-up work needed to prepare two areas of Noyes Lab (the library expansion area and the physical chemistry area in the northeast corner on the first floor) for major renovation to be completed by an outside contractor. Unfortunately, the Capital Development Board delayed in issuing the contracts for those latter jobs and the projects were running six months behind at the end of the school year. However, both should be completed this fall.

The jobs completed this past year involved the usual mix of remodeling and repair work with air conditioning jobs taking a somewhat larger share than usual. There is a trend towards somewhat more stringent and year-round temperature control requirements in some areas and many of the central systems installed ten to fifteen years ago are failing and requiring replacement. These trends are expected to continue.

*Report of the committee chairman, J. P. Hummel

One specific project that bears mentioning is that the old liquid nitrogen storage tank at RAL was sent in for reconditioning during the year and has now been installed at Noyes Lab. This should provide Noyes with a much more reliable and ample supply of liquid nitrogen than in the past and also provides some relief for the receiving room personnel who have wrestled the transfer vessels back and forth from RAL during the past several years.

F. Dispensing of Supplies*

The main activity of the Supplies Committee during the past year was to formulate and initiate a plan for the controlled reduction of supplies inventories in the School's dispensing stations. A plan was proposed in August, 1978 (primarily by Larry Hess and John Hummel) and it was reviewed and discussed thoroughly by members of the supplies committee and by the budget and operations personnel in the School. Input was also obtained from Harold Poindexter of the campus office of financial affairs. Initiation of the plan was begun in October via a coordinating group consisting of Hummel, Hess, Jim Waters of the business office, and storekeepers Russ Brown, Dean Hoffman and John Mullen.

The purpose of the plan is to obtain greater control over the stock levels in the School's dispensing stations so that wasteful duplication of stock is eliminated and more rational total stock levels are maintained. This requires an item-by-item review of the stock levels and sales of the 18,000 different items stocked in the School. Needless to say, this will require several years to accomplish.

The effort during the initial phase is primarily being concentrated on identifying slow moving items in each station and arranging for them to be transferred to other dispensing stations or disposed of by selling them to some other unit or by giving the items away if there is no market for them. By the end of the year, evidence of stock reductions approaching $40,000 could be seen.

Progress on this project is necessarily slow as each item must be evaluated for its potential use before a decision can be made on a proper stock level in it. This must be done in coordination with the faculty supervisors of the various stations to insure that the supplies inventory will adequately meet the needs of our teaching and research programs. Nonetheless, it appears that substantial progress has been made and the project will continue pretty much as outlined during the coming year.

As a footnote from HSG, it should be remembered that the inventory reduction is mandated by the State's compliance audit. Most of their more pernicious and counter-productive criticisms have been argued down during the past three years with the help of Campus and University-level staff. What we are doing does have some rational basis and hopefully will forestall more drastic mandates.

*Report of the committee chairman, J. P. Hummel.

VI. Administration

A. Affirmative Action Program*

Our efforts to increase the numbers of minority students and women in the School have continued in much the same pattern as before. There has been a slow and stady increase in the number of such undergraduates in the specialized curricula and also in the LAS majors. At present the breakdown at the undergraduate level is:

	Total	Women	Minority members[a]
Chemistry	319	78	28
Chem Eng.	490	83	51
Biochem.	182	50	18

[a]Blacks, Asians and Spanish surnames.

At the graduate level the fraction of women continues to increase. This may be seen by comparing the composition given below of the incoming class with that of all current graduate students.

	Total	Women	Minority members
Present enrollment	429	69	5
Entering in 1979-80	75	21	2

Our recruitment of minority graduate students has continued as in the past by contacting 43 predominantly black colleges by letter and by telephone. During the past year, members of our faculty visited one of these schools. Dr. Katzenellenbogen gave a seminar at Tougaloo College in Jackson, Mississippi. For the third year, the Graduate College Minority Student Affairs Office held a seminar to which were invited faculty members of predominantly minority schools. Among those attending these seminars are chemists from both the U of I and the minority schools. Another is planned for the fall of 1979. It is hoped that this effort will increase a spirit of mutual concern between the U of I and these schools, resulting in more minority applicants to our graduate school.

B. Financial Support

1. State Support - The School's state budget continued to lag farther behind inflation and the enrollment trends. As mentioned in Section IV.B, student demand for chemistry courses was up by about 5% from the previous year's "norm." Furthermore, in the spring of 1978, Dean Rogers and Vice Chancellor Weir agreed that the 1978-79 budget for the School was inadequate and that we would not be expected to handle additional students without additional resources.

*Report of J. A. Katzenellenbogen, the chairman of the School's Affirmative Action Committee.

Unfortunately, budget management for the College and the Campus in the previous year had produced overdrafts which more than wiped out what might otherwise have been reserves or reallocated funds in 1978-79. As a consequence, although we optimistically met virtually all of the student demand in the fall semester, the additional resources provided and the TAs available for the spring were inadequate by about 5%, and we ended up turning away about 1200 IUs. Internal discussions led to the conclusion that the inconvenience to students would be least if enrollments were restricted in Chem 101, and about 300 students were not registered for that course who wanted to take it.

What ordinarily would have been a difficult situation was aggravated by two communication failures. Without telling us, the Engineering College apparently began urging their students to take the P version of 102 rather than the B which many of them had been taking. Thus, there were too many B sections and not enough P, with the latter requiring an additional lecturer who was not available. Also, Rogers and Weir apparently did not accept the School's enrollment/budget projections for Sem II; at least in the late fall they advised the Engineering College that the School would be able to handle all comers. In any event, the "flap" about the engineering students turned away from 101, who were about 30% or 100 of the total, was an order of magnitude greater than from biology, which has had recent enrollment/budget problems of its own, or from ag, both of which are larger sources of chemistry enrollments.

One consequence of the flap was an appeal to Chancellor Gerberding for a review of the School's situation. That review led to a recurring increase in the School's budget of $150,000 for 1979-80, with a promise of at least $150,000 for the following year. Also, $65,000 in non-recurring funds were provided for remodelling ($25K) and instructional equipment ($40K). Of the $150K in recurring funds, $55K was allocated for TAs, $40K for faculty and academic/professional salaries and $55K for operating expenses ($30K to Wages and $25K to Equipment).

Although most of the enrollment increases have been at the undergraduate level they have not been limited to lower division courses. About half of our increase is due to the surge in chemical engineering enrollments, which has put severe strains on advanced lab courses such as Chem 385. Premed enrollments have begun to drop off a bit, but not nearly enough to offset substantial increases in ag and engineering (other than chem engr.). The total number of undergraduates on campus has been 25,000 $\pm$ 500 for a decade, so the enrollment problems are caused by shifts in student interests, which have become very sensitive to the job market. Some effort is being made to dampen such shifts by more careful control of admissions, but we have argued against any drastic cut back in chemical engineering because ours is the only program at a state university in Illinois.

2. Outside Support - Our problems with the state budget were exacerbated by the small (3%) increase in federal grants which are the main outside source of funds. The sources and amounts of funds are summarized below. The only item with a noteworthy change is the Graduate Research Board. The 75% increase is due in good measure to "funny money" for use of the Campus computing facilities, especially for "bulk" usage of the new Cyber system.

SOURCES OF OUTSIDE RESEARCH SUPPORT EXPENDITURES

Six Year Synopsis*

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
NIH Research Grants	1,660	1,688	2,036	2,149	2,420	2,585
NIH Training Grants	208	272	323	282	367	317
NIH Postdoctoral Allowances	4	---	---	15	17	15
TOTAL NIH	1,872	1,958	2,359	2,446	2,804	2,917
Environmental Protection	52	65	---	---	---	---
National Science Foundation	1,303	1,364	1,426	1,552	1,502	1,558
MRL (ERDA/DOE)	78	77	67	136	283	285
MRL (NSF)	129	175	130	122	192	180
MRL (AFOSR)	119	78	46	32	---	---
Army Research Office	75	57	20	5	---	---
Department of Energy	---	---	---	---	30	51
Air Force Office of Scientific Research	28	22	29	35	37	39
Office of Naval Research	27	48	23	61	107	87
TOTAL U.S. GOVERNMENT:	3,683	3,844	4,100	4,389	4,955	5,117
Grants from Private Sources	214	232	314	425	451	482
Graduate Research Board**	194	208	187	180	238	417
GRAND TOTAL:	4,091	4,284	4,601	4,994	5,644	6,016

NOTES: The data are given in thousands of dollars.
*Projections based on first ten (10) months actual expenditures.
**Includes computer allocation.

C. Home Rule Now?

In 1970, when the then Department of Chemistry and Chemical Engineering was reorganized as a School within the LAS College, it was recognized that the reorganization in effect inserted another administrative layer (the School) in the management structure. Initially, the "extra" red tape was not too onerous, in part because the functions of Director and Head of the Chemistry Department have been performed by the same individual, a circumstance which may well change in a few years. Moreover, in recent years the administrative burden has increased greatly, in large measure because of the national view that regulation is the solution to all problems. Taken in combination with the size, complexity and diversity of the LAS College, the College review of School recommendations has become time consuming and often frustrating even though the School's recommendations have virtually never been reversed.

For such reasons the School developed during the winter a position paper proposing that it become "free-standing," i.e. that the School, to be still called a School--not a College, report directly to the Vice Chancellor for Academic Affairs instead of to the Dean of LAS. Partially in response to the proposal, Chancellor Gerberding appointed a campus-wide committee (the Pines Committee) to study the general question of LAS organization. The Committee reported in June, 1979, making a recommendation inter alia to "Eliminate the redundant College-level review in promotion and tenure, (appointments?), budgeting, and course and curricular matters already reviewed at an intermediate level." The effective implementation of this recommendation could do

much to address the concerns of the School. However, the issue unfortunately has been coupled with the search for a new Dean of the College, and it remains to be seen just how much substantive change will be made, if any. If it appears that little or no change will be initiated by the College, the School's "Home Rule Now" proposal will be submitted to the Campus Senate which has the statutory authority to review such matters.

A different but similar set of problems exists in connection with gifts from individuals and organizations to the University and to the U. of I. Foundation for the use of the School or some part of it. Management by the University of these funds has become increasingly a source of frustration.

A relatively minor point (~$20K/yr) is the income from our balances in University non-state accounts, which we do not get. Ron Brady's office says: "As regards the investment of nonstate funds, the University is obligated, per agreement with the Legislative Audit Commission, to cause income to flow back to its source if the principal is invested. If this does not occur, the earnings must be deposited in the Income Fund. Because of the large number of gifts, grants, and contracts received by the University, investment earnings are, in effect, pooled for the benefit of the entire campus and the "whole" University. I believe this administrative policy is consistent with the fact that gifts are received and accepted by the University, not by the individual departments, centers, and institutes."

A more substantive issue is the steady erosion in the flexibility with which we can use funds in the Foundation. Here again Brady's office is not encouraging: "As you know, the Foundation was established to seek contributions in support of the University of Illinois, particularly in areas where State and Federal support is not available--arts, museums, libraries, recruitment, staff development, distinguished chairs, lectureships, etc. The Foundation was not created to do things the University should not do. All gifts received are to be expended in accordance with established policies and procedures. Corporate gifts and grants do not replace State and Federal funds, but are used for the purpose of extending or enhancing basic support. . . . I do not believe that it is the University's intent to overly restrict the use of gifts and grants, but the simple truth is that we are under increasing pressure to ensure the "reasonable" use of these funds for educational purposes."

Unfortunately, several of our recent proposals for use of Foundation funds have not been viewed as "reasonable." For example, giving an advance or loan to a new faculty member and to a new TA; and buying a set of hand tools and precision gauges to replace those stolen from one of the machinists in our shop. Because of such restrictions, plans are being developed to set up a Chemistry Fund not subject to University or Foundation control.

VII. Alumni

A. Activities*

The annual Alumni Newsletter was sent out in the spring. This is somewhat later than we had hoped, but, nonetheless, it brought good response.

The funds to which alumni of the School contribute showed the following balances at the end of May, 1979. The C. S. Marvel Fund is a new addition to the list; it was established by his students and colleagues. This year's total is about $60,000 more than in February, 1978.

Illini Chemists Fund	$ 530
John and Florence Bailar Fund	22,700
Roger Adams Fund	144,300
C. S. Marvel Fund	16,100
L. F. Audrieth Fund	1,000
R. C. Fuson Fund	45,200
W. H. Rodebush Fund	10,900
Total	$240,730

The usual Tuesday luncheon was held at the Fall ACS meeting at Miami and a social hour ("free" drinks and hors d'oeuvres) at the Spring meeting in Honolulu. The latter included a celebration of John Bailar's 75th birthday, with a presentation from several Japanese associates.

B. Awards*

Of the awards and other major professional recognition to our alumni and former faculty during the past year, the following have come to our attention:

Fred Basolo (PhD, 1943), now a professor at Northwestern University, has been elected to the National Academy of Sciences.

In February, R. Byron Bird (BS, 1947), a professor of chemical engineering at the University of Wisconsin, was a member of a delegation to the People's Republic of China. The purpose of the trip was to evaluate the educational system in that country, and to arrange for cultural exchanges.

Evan C. Horning (PhD, 1940) has won the 1979 ACS Award in Chromatography. This award is sponsored by Supelco, Inc. Dr. Horning is being honored primarily for his studies in the use of chromatography in the analysis of such compounds as steroids, alkaloids, and drugs. He is director of the Institute for Lipid Research, and professor of chemistry at Baylor College of Medicine.

Stanley Kirschner (PhD, 1954), a professor at Wayne State University, was awarded the J. Heyrovsky Medal by the Czechoslovakian Academy of Science, in honor of the inventor of the polarograph.

*Taken largely from the report of J. C. Bailar, Jr., the chairman of the Alumni Affairs Committee.

An endowed chair in organic chemistry has been established at Notre Dame University honoring Ervin C. Kleiderer (BS, 1928; MS, 1930; PhD, 1933) and his wife, Margaret Pezold Kleiderer (PhD, 1934). Until his retirement in 1964, Ervin Kleiderer was director of research, development, and control at Eli Lilly and Co., in Indianapolis. He died in 1976, and his wife in 1977.

Thomas Koenig (MS, 1961; PhD, 1963), now Professor at the University of Oregon, has been awarded a John Simon Guggenheim fellowship and will study at the University of Paris next year.

Dean F. Martin (Staff, 1959-1964), now professor of chemistry and affiliate professor of biology at the University of South Florida in Tampa, has received the F. J. Zimmerman Award in Environmental Science, sponsored by the Central Wisconsin Section of the ACS and Zimpro, Inc. The award is given in recognition and encouragement of research on the protection of the environment.

On October 27, George Washington University dedicated the Naeser Memorial Lecture Hall in honor of Charles R. Naeser (MS, 1933; PhD, 1935). Professor Naeser taught chemistry at George Washington for forty-one years, retiring two years ago.

Charles G. Overberger (PhD, 1944), Vice President for Research of the University of Michigan, has been selected to receive the 1979 International Award in Plastics Science and Engineering, given by the Society of Plastics Engineers. Also, he received the Charles Lathrop Parsons Award of the ACS for outstanding public service.

C. C. Price (Staff, 1937-1946) has been granted an honorary doctor's degree by the Philadelphia College of Pharmacy and Science. Also, he has retired from the faculty at the University of Pennsylvania.

Gary Rechnitz (PhD, 1961), Unidel Professor of Chemistry at the University of Delaware, has received the Van Slyke Medal, which is sponsored by the New York Metropolitan Section of the American Association for Clinical Chemistry. He was recognized for his contributions to bioanalytical chemistry, especially in connection with membrane electrode systems.

Bassam Shakhashiri (Postdoctorate, 1967; Staff, 1968-1970), associate professor and coordinator of the general chemistry program at the University of Wisconsin (Madison), received an Award in Chemical Education from the Manufacturing Chemists Association.

Klaus D. Timmerhaus (BS, 1948; MS, 1949; PhD, 1952) has received the 1978 Founder's Award for Professional Achievement of the American Institute of Chemical Engineers. He is a former president of that organization, and in 1968, received the Alpha Chi Sigma Award for his work in cyrogenics.

Arthur D. F. Toy (BS, 1939; MS, 1940; PhD, 1942) was chosen by the New York Section of the ACS for its 1978 Award for Outstanding Service to the Section. He is Director of the Eastern Research Center of the Stauffer Chemical Company.